

Climate Change Office



Energy Emissions Reduction and Resilience Plan 2024–2029

Released under RTI

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 and present.

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Rendered image of Hydrogen bus. Photo: shutterstock_1886550028

Minister's message



Madeleine Ogilvie
Minister for the
Environment

The *Energy Emissions Reduction and Resilience Plan 2024-29* is the first legislated Plan for the energy sector under the *Climate Change (State Action) Act 2008*. This Plan builds on significant funding commitments and investment of over \$270 million in recent years to increase renewable energy development in the state, support Tasmanian customers to manage their energy use, including improving energy efficiency, and help the industry to prepare for the impacts of climate change.

This Plan has been developed in consultation with business, industry and the community, and across government. I would like to thank everyone who contributed to this Plan, including my colleague the Hon Nick Duigan MLC, Minister for Energy and Renewables, who is also responsible for the continued delivery of many existing initiatives to support emissions reduction and resilience in the energy sector.

Since the commissioning of the Granville Harbour wind farm in 2020, Tasmania has the capacity to be 100 per cent self-sufficient in renewable electricity generation. However, some Tasmanian industries, businesses and households rely on fossil fuels and there is still more we can do to reduce emissions in the energy sector. In fact, Tasmania's energy sector (excluding transport) currently accounts for over one-fifth of Tasmania's greenhouse gas emissions, excluding the land use, land use change and forestry (LULUCF) sector.

Tasmania can increase the supply of renewables by supporting development in the state of both electricity generation and renewable alternatives like hydrogen and bioenergy. We can assist customers in the transition, and partner with businesses to help them achieve their decarbonisation goals.

In the transition to a net zero economy, and as our climate continues to change, the energy sector will face new challenges. It is essential that we support the sector to prepare for these changes, for example by supporting Tasmanian businesses and households to prepare for potential outages and work with our network provider to improve the resilience of our electricity infrastructure.

This five-year Plan brings together new and existing commitments across government to provide a coordinated, strategic approach to emissions reduction and resilience in our energy sector. It has been developed in consultation with relevant businesses and industry, local government, Tasmania's three energy businesses, and the broader community.

This Plan will build on the Tasmanian Government's recent funding commitments and investments of over \$270 million in the state's energy sector. This funding is in addition to over \$82 million of new funding the Tasmanian Government has committed in 2024. The funding will complement investment by our energy businesses, including Hydro Tasmania's commitment to invest \$1.6 billion on capital works, and the target to create 7 gigawatts (GW) of generation already committed by the private sector.

This Plan will guide additional strategic investment over the next five years. We will work with industry, the community and the Australian Government to access any funding that may become available at the national level to support this transition. This Plan also includes relevant actions already underway in the energy and renewables portfolio.

This Plan is one of six sectoral Plans. Together, the Plans for our transport, waste, energy, industrial processes, agriculture, and land and forestry sectors set out our pathway to achieve our target of net zero emissions, or lower, from 2030, support businesses and industry to transition to a low emissions economy, and build resilience to the impacts of climate change.



Photo: ReCFIT

Tasmania's energy sector

The energy sector is essential to Tasmania's continuing prosperity, sustainability and resilience. Energy keeps our homes warm during the winter months, enables the operations of local businesses, supports the growth of our industries, and provides countless other essential services.

The energy sector in Australia is undergoing a rapid transition, as countries around the world are looking for cleaner, renewable sources of energy to decarbonise their economies. Tasmania, as a leader in renewable energy, is continuing to set clear policies to reduce greenhouse gas emissions, promote renewable energy, and transition away from fossil fuels.

Tasmania is better positioned than any other Australian jurisdiction to meet this transition and capture new economic opportunities from the energy transition. Tasmania is one of the few jurisdictions worldwide that has claimed 100 per cent self-sufficiency in renewable electricity. That is, we have sufficient installed renewable electricity capacity to meet our demand, on average. Tasmania also has a target to increase renewable energy generation to 21,000 gigawatt hours per annum by 2040, doubling our 2020 baseline.

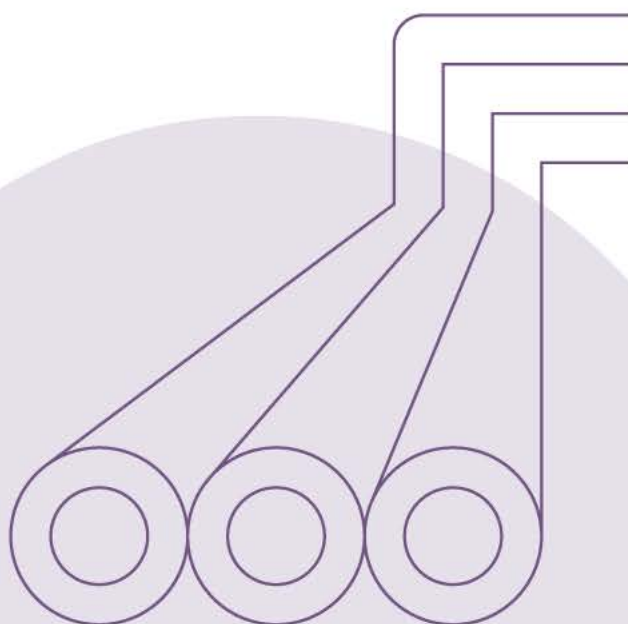
Population growth and electrification in the business and transport sectors are expected to increase future energy demand. Sufficient investment in new renewable energy generation and transmission will ensure we can meet Tasmania's growing energy needs.

Investment will also ensure that Tasmania is able to take full advantage of the opportunities offered by the energy transition – as an attractive investment destination with a pathway to competitively-priced, reliable and clean energy.

Project Marinus will support investment in new generation by providing further connection to the mainland National Electricity Market (NEM). The state's ability to store electricity via its hydro system means we are able to firm variable renewable production both in Tasmania and across the NEM, providing new streams of income to the state. We can also provide an opportunity to help decarbonise the NEM by replacing coal- and gas-fired generation with reliable 'as required' renewable electricity from Tasmania. Marinus Link is expected to save up to 140 million tonnes of carbon dioxide equivalent gases by 2050.

Alternative, low-carbon energy sources, including hydrogen and bioenergy, are also being developed and have the potential to strengthen Tasmania's energy security and contribute to reduced greenhouse gas emissions.

Tasmania's industry and businesses recognise the shift and market risk, and are looking to set ambitious targets to transition to a low emissions future.



Energy in Tasmania: a snapshot

Our electricity generation is dominated by renewable sources. Hydro-electric is the primary source of generation, followed by wind. Tasmania's generation mix is relatively stable but does vary from year to year, particularly for gas-fired generation. Electricity generation in 2022-23 is shown below.

Some Tasmanian businesses and households rely on fossil fuels for their energy needs. This is common in industries such as agriculture, forestry, mining, and manufacturing, and for cooking in households.

Fuels such as gas and liquid fuels are imported. Coal is both imported and mined on-island.

There are also fuels sourced locally, such as wood used for domestic heating, and agricultural and other waste streams used to produce bioenergy.

Electricity generation 2022-23



Source: Office of the Tasmanian Economic Regulator Energy in Tasmania Report 2022-23 and ReCFIT calculations.

Emissions from energy¹

Emissions from the energy sector are broken down into the following sub-sectors: electricity generation, direct combustion, fugitive emissions, and transport. Emissions from the transport sub-sector are addressed in the *Transport Emissions Reduction and Resilience Plan 2024-29*.

Electricity generation

Due to the dominance of renewables in Tasmania's electricity grid, the state has very low emissions from electricity generation compared to other jurisdictions. The latest data show emissions from electricity generation accounted for just over 1 per cent of Tasmania's total emissions in 2022.¹

Non-renewable electricity sources in Tasmania:

- The main source of emissions is the Tamar Valley Power Station (TVPS) which generates electricity from gas combustion.²
 - Use of TVPS depends on a range of factors, such as the availability of hydro and wind generation, relative electricity prices and demand in Tasmania and Victoria, availability of lower priced gas on the spot market, and rainfall.
- Diesel and petrol generators are another source of Tasmania's electricity generation emissions:
 - Nine diesel generators operate to supply electricity on the Bass Strait Islands.
 - Generators are also used across Tasmania where electricity is not accessible from the network or where a back-up electricity supply is needed.

Tasmania imports and exports electricity to and from Victoria depending on power prices and demand. The emissions intensity of imported electricity is included in the scope 2 emission factor for Tasmanian businesses that are required to report their electricity consumption and associated emissions through the National Greenhouse and Energy Reporting (NGER) Scheme.

Direct Combustion

Tasmania's direct combustion sub-sector is far more diverse in emissions sources than the electricity generation sub-sector. The latest data show that 5 per cent comes from gas use and 9 per cent is coal use through the two active coal mines operating in the Fingal Valley. The remaining sources are from liquid fuels including diesel, petroleum and aviation fuel (the volumes of some fuels are confidential and not reported) and bioenergy from the burning of organic material.

Direct combustion accounted for 21 per cent of total emissions (excluding LULUCF) in 2022. Emissions increased by 90 kt CO₂-e (approximately 5.3 per cent) between 1990 and 2022.

Fugitive emissions

Fugitive emissions are greenhouse gases that are released during the extraction, processing and delivery of fossil fuels to the point of final use. Tasmania's fugitive emissions are not disclosed by the Australian Government. However, Tasmania's coal seams typically have relatively low gas content. This means that the fugitive emissions from Tasmanian coal mining operations are relatively insignificant and not considered material to Tasmania's emissions inventory.

1 Tasmania's latest reported greenhouse gas emissions were released in April 2024 as part of the Australian Government's *National Inventory Report 2022*. The Australian Government reporting framework is consistent with UNFCCC and Paris Agreement reporting rules. National inventory reporting runs two years behind the current date, and represents the most recent official data in Australia on annual emissions.

2 Australia's National Greenhouse Accounts, Paris Agreement Inventory 2022 and ReCFIT calculations.

3 There are some methane emissions associated with Hydro Tasmania's dams. These emissions are accounted for as part of the LULUCF sector.

Photo: ReCFIT



Climate-related risks and opportunities for the energy sector

Climate change impact	Risks and opportunities for Tasmania's energy sector
Technological changes 	The adoption of low emissions technology and the shift towards renewable energy sources for businesses, that may require significant investment. The slow rate to commercialise means renewable alternatives may not be available at sufficient scale and cost of implementation is likely to be high. There are opportunities for Tasmania to benefit from the development of new technologies as alternatives to fossil fuels such as a green hydrogen (hydrogen produced using renewable energy) industry. Implementing new technologies and processes that reduce greenhouse emissions can improve productivity and economic outcomes for businesses. As Tasmania has a strong renewable energy sector, we are well-placed for businesses to trial and test new low emissions technologies.
Changing consumer and investor sentiment 	There is an increasing expectation from markets and consumers for businesses to reduce emissions and create environmentally and socially responsible products. Companies that do not take genuine steps to reduce their emissions may face reputational risks. These changes in sentiment can also bring opportunities for Tasmanian businesses to benefit from Tasmania's renewable energy, increase productivity, reduce costs and explore new revenue streams.
Policy and regulatory changes 	Businesses are increasingly being required to measure, report and reduce emissions by markets and governments in Australia and our trading partners. Businesses may have increased costs to comply with regulations, including the requirements for large emitting facilities to reduce emissions in line with reforms to the Safeguard Mechanism.⁴ Tasmanian facilities subject to the Safeguard Mechanism will become liable to pay a financial penalty if they fail to keep their emissions below an emissions limit (baseline).
Market changes 	There is an opportunity for businesses to take advantage of international demand for low emissions products and services as a result of Tasmania's renewable electricity generation. Organisations that cannot transition to renewable fuels face a range of risks, including reduced demand for emissions-intensive products.

Climate change impact	Risks and opportunities for Tasmania's energy sector
Increased renewable energy generation 	Given peak demand and supply conditions in Tasmania and other parts of the NEM do not tend to correlate, new renewable energy generation will provide Hydro with the opportunity to increase firming support when there is limited availability of wind and solar generation in the NEM.
Rise in annual average temperatures 	Increased temperatures can lead to increased water loss from hydro dams, and drier soils mean that more rain evaporates rather than running into streams and rivers. Decreased freshwater could result in reduced or more intermittent generation capacity in Tasmania's hydro system. Increased temperatures can also reduce capacity of both transmission and distribution networks and increase the number of asset overloading failures.
Significant change in rainfall patterns 	Due to Tasmania's reliance on hydro-electric generation, decreased inflows and droughts could lead to an overall reduction in power generation capacity and could have an impact on power generation. Flooding can cause damage to electricity transmission and distribution infrastructure.
Longer fire seasons, more days of high fire danger  Increase in storms, creating coastal erosion 	Tasmania's electricity networks are likely to face increased disruptions as a result of more frequent and severe weather events. Increased frequency of storms and intense bushfires will mean an increased risk of damage and disruption to infrastructure, including roads, and transmission and distribution networks, causing disruption to energy supply. Severe weather events may also create hazardous conditions for workers. As our transport systems, businesses and households electrify, the impacts of any disruptions to electricity networks will be greater.

4 The Safeguard Mechanism is the Australian Government's policy for reducing emissions at Australia's largest industrial facilities. It sets legislated limits—known as baselines—on the greenhouse gas emissions of these facilities.

New commitments to reduce emissions and build resilience in the energy sector

The Tasmanian Government has committed to deliver several key new initiatives:

- Develop information and resources to support improving energy efficiency in Tasmanian households, with a focus on supporting landlords to improve energy efficiency in rental properties.
- Work with partners to support households to make informed decisions about reducing or electrifying their gas and other fossil fuel use.
- Work with partners to deliver workshops for community sector professionals to assist vulnerable clients to manage their energy use and power bills.

We recognise the importance of ensuring our Tasmanian communities are supported and benefit from action to decarbonise the energy sector. For example, reducing our reliance on fossil fuels can lead to improved energy efficiency, which will reduce the impacts from climate hazards by keeping people healthy and safe during times of cold and extreme weather. Better energy efficiency will also help Tasmanians save costs on their energy bills, helping to relieve cost of living pressures.

Given Tasmania's major industries are large energy users, two new initiatives will play an important role in supporting the transition to low emissions for both the energy and IPPU sectors:

- Map the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes to support government and industry to plan for the transition.
- Expand the current engagement with Tasmanian major industrial businesses to support our large emitters to reduce emissions and achieve their decarbonisation plans.

We will also continue to progress a range of existing initiatives, particularly to develop new renewable electricity generation in the state. These initiatives will support electrification and emissions reduction in our industries, transport system, homes, and businesses. Initiatives include:

- Implementing Tasmania's Renewable Energy Action Plan and Renewable Hydrogen Action Plan.
- Progressing Marinus Link and the North West Transmission Developments will support new energy generation in Tasmania by increasing interconnection between Tasmania and the National Electricity Market.
- Implementing the Renewable Energy Approvals Pathway to streamline regulatory approval processes for renewable energy projects.
- Developing a framework for a coordinated approach to renewable energy development and an alternative option for transmission delivery through a renewable energy zone.
- Establishing a compensation framework for landholders impacted by renewable energy projects.
- Implementing the Tasmanian Renewable Energy Coordination Framework (RECF) which sets out actions to prepare for growth in renewable energy required to achieve the Tasmanian Renewable Energy Target (TRET), including exploring regional community benefit schemes.
- Establishing a Green Hydrogen Hub in Bell Bay, to support investment in shared infrastructure such as port facilities, water supply and electricity network, and the activation of a domestic market.

We will also seek to maximise the opportunities for Tasmania by working with the Australian Government on a range of national initiatives, including:

- Capacity Investment Scheme which will provide, through a Renewable Energy Transformation Agreement, underwriting support for new renewable energy and dispatchable capacity projects in Tasmania.
- Safeguard Mechanism requiring Australia's highest greenhouse gas emitting facilities (including six Tasmanian facilities) to keep their emissions below an emissions limit (baseline).
- Sectoral Decarbonisation Plans, which are aimed at providing granular analysis of Australia's emissions reduction pathways, and the role of each sector in supporting Australia's transition to net zero.
- Rewiring the Nation, which includes a negotiated commitment to provide low-cost finance to Marinus Link and the North West Transmission Development.
- The National Energy Transformation Partnership, which aims to provide a framework for national alignment and cooperative action by governments to support the smooth transformation of Australia's energy sector.
- The National Hydrogen Strategy, which provides a framework to guide Australia's production, use and export of hydrogen.
- The National Energy Workforce Strategy to build the skills and capability we need to reach net zero emissions by 2050.
- The Community Batteries for Household Solar program.

Supporting business and industry to reduce emissions, transition to lower emissions and build resilience

We have developed *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* to show the links between all sectoral plans and Tasmania's first statewide climate change risk assessment.

There are common challenges and opportunities across all sectors in Tasmania. As part of the Roadmap we will introduce:

- **Climate Change Business Innovation Grant Program** to support businesses to take action on climate change, focusing on local innovation, collaboration and partnerships.
- **Business and Industry Climate Change Innovation Forum** to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.
- **Climate Change Champions Program** to recognise innovative, best practice climate action across all sectors.
- **Climate Reporting Support Program** to support small- to medium-sized businesses to better understand climate-related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.

These cross-sectoral opportunities have been identified based on feedback from consultation on all sectoral plans.

See *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* for more information.

About this Plan

This Plan for the energy sector focuses on Tasmania's major sources of energy emissions, as described under the United Nations Framework Convention on Climate Change (UNFCCC) reporting framework.

The scope of this energy Plan includes emissions from the following sub-sectors: electricity generation, direct combustion, and fugitive emissions. The transport sub-sector is accounted for in a separate Plan due to the significance of that sub-sector. Tasmania already has low emissions from its electricity generation due to our hydro-electric and wind resources. The primary source of emissions for the energy sector is direct combustion of a range of emissions-intensive fuels such as coal, gas, agricultural waste, and liquid fuels, which continue to be used in the state.

Due to the nature of the energy sector and the UNFCCC reporting framework, there is significant overlap between the energy and industrial processes and product use (IPPU) sectors. Emissions associated with the stationary energy and combustion of fossil fuels used in industrial production processes are accounted for in the energy sector, while the emissions from the processes themselves are accounted for in the IPPU sector. For many of Tasmania's major industrial facilities the current opportunities to reduce emissions from their processes and product use are limited and costly. Transitioning their energy use to renewables will therefore be a significant opportunity for these businesses to reduce their emissions.

This Plan also includes ways we can build resilience to the impacts of climate change on our energy sector, and how the sector can be supported in the transition to net zero. This Plan aims to ensure Tasmania's energy sector and businesses can continue to operate successfully in the changing environment.

Work is underway, both nationally and at a state level, to support the energy sector to decarbonise, with a key focus on supporting the development of new renewable energy generation. This Plan aims to complement and build on that work to ensure Tasmania's changing energy needs can be met with renewables.

Actions also focus on areas such as barriers for customers to adopt renewable alternatives, improving energy efficiency, and driving action through partnerships and collaboration. The Australian Government has recently introduced the Safeguard Mechanism which will impact six Tasmanian facilities. Supporting these businesses to achieve their decarbonisation goals, including through alternative energy sources, will be important for Tasmania to reduce our emissions and continue to grow our economy.

While options such as electrification are available now, many renewable alternatives are emerging technologies and not yet available or being produced at sufficient scale. A flexible approach has been adopted to ensure the diverse needs of all Tasmanian energy users are met and that we can make the most of opportunities presented by existing and emerging technologies. The new actions in this Plan have been designed in collaboration with our businesses, industry, and key government departments to ensure they align with existing commitments and our renewable energy and emissions reduction goals.

Our Plan to reduce emissions and build resilience in the energy sector is made up of five focus areas:

- 1** We will support renewable energy development in Tasmania.
- 2** We will support Tasmanians to transition their energy use to renewable alternatives, improve energy efficiency and reduce emissions.
- 3** We will de-risk the transition to a low emissions economy.
- 4** We will build resilience to the impacts of climate change.
- 5** We will drive action through partnerships and collaboration.

Photo: ReCFIT

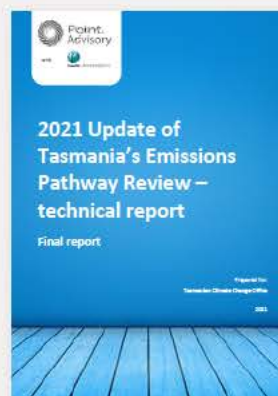


Research and alignment with relevant policies

There is significant work underway by governments, business, industry and the community to sustainably grow the sector, reduce its emissions, support it in the global transition, and build resilience to the changing climate. This Plan brings together the work already underway or committed, with proposed new work programs, to provide a coordinated approach to reducing emissions and building resilience in the energy sector. We have considered:

- alignment with existing Tasmanian Government policies, including:
 - our Tasmanian Renewable Energy Target (TRET) to increase Tasmania's renewable electricity production to 21,000 gigawatt hours per year by 2040, which is double the 2020 baseline.
 - the commitment that Tasmania will become a significant producer of renewable hydrogen for local use and export by 2030 through Tasmania's Renewable Hydrogen Action Plan
 - *Tasmanian Future Gas Strategy* and *Bioenergy Vision*
- our legislated target to ensure Tasmania's emissions are net zero, or lower, from 2030
- the other objects of the *Climate Change (State Action) Act 2008*, including adaptation, contribution to international, national and local government action, and supporting a consultative partnership approach to climate change action
- the 2021 *Tasmanian Emissions Pathway Review*
- the *State of the Environment Report 2024*, including Recommendation 15 which recommends the Tasmanian Government continues efforts to reduce greenhouse gas emissions across all sectors

- 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 *Tasmania's Climate Change Action Plan 2023-25*)
- analysis of additional resources and policies, including initiatives being implemented in other jurisdictions.



Targets

Tasmanian Government

- Tasmania has an economy-wide target of net zero emissions, or lower, from 2030. This target recognises the risks to Tasmania's current net zero status, for example from major bushfires, which could change our emissions profile by reducing the carbon sink in our forests.
- Tasmanian Renewable Energy Target to reach 150 per cent renewable electricity generation by 2030, and 200 per cent by 2040. This means that by 2040 Tasmania will produce 21,000 GWh of electricity, twice as much as its 2020 baseline.
- The Tasmanian Renewable Hydrogen Action Plan sets out a vision for Tasmania to become a leader in large-scale renewable hydrogen production and from 2030 to be a significant global supplier of renewable hydrogen for export and domestic use.

National targets

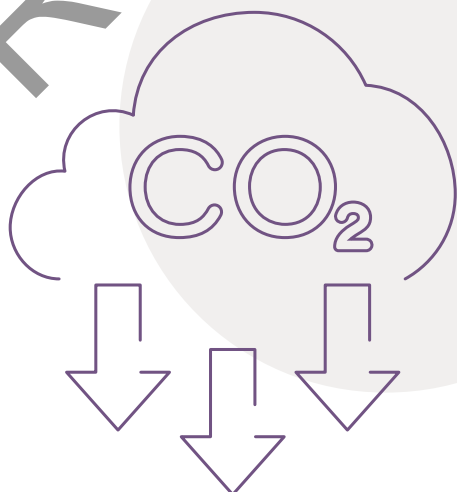
- The Australian Government has legislated an emissions reduction target of 43 per cent by 2030 and net zero emissions by 2050.
- The Australian Government has set a target to deliver 82 per cent renewables into the grid by 2030.

Government business targets

- Hydro Tasmania, as part of its Toward Net Zero Plan, has set a target of net zero scope 1 and 2 emissions, and quantification and tracking of scope 3 emissions from 1 June 2025.

Industry targets

- Grange Resources, the owner of the Port Latta iron ore pellet plant and Savage River iron ore mine, has targets to reduce emissions by 50 per cent by 2030 and net zero scope 1 and 2 emissions by 2035.
- Norske Skog has committed to achieve net zero greenhouse gas emission by 2050, and a 55 per cent reduction in CO₂ emissions per tonne of paper by 2030 from a 2015 baseline.
- Cement Australia is committed to achieving a carbon reduction of 40 per cent by 2030 and net zero emissions by 2050.
- Rio Tinto, the owner of Bell Bay Aluminium, is committed to a 15 per cent reduction in emissions by 2025, 50 per cent by 2030 and net zero by 2050. Achieving these targets will require short-term changes in processes, medium-term actions such as transitioning to renewable fuels and electric vehicles, and long-term transitioning to new technologies as they become commercially available for the sector.
- GFG Alliance, the owner of Liberty Bell Bay ferromanganese plant, has a goal to become carbon neutral by 2030.



Potential emissions reduction from Tasmania's energy sector

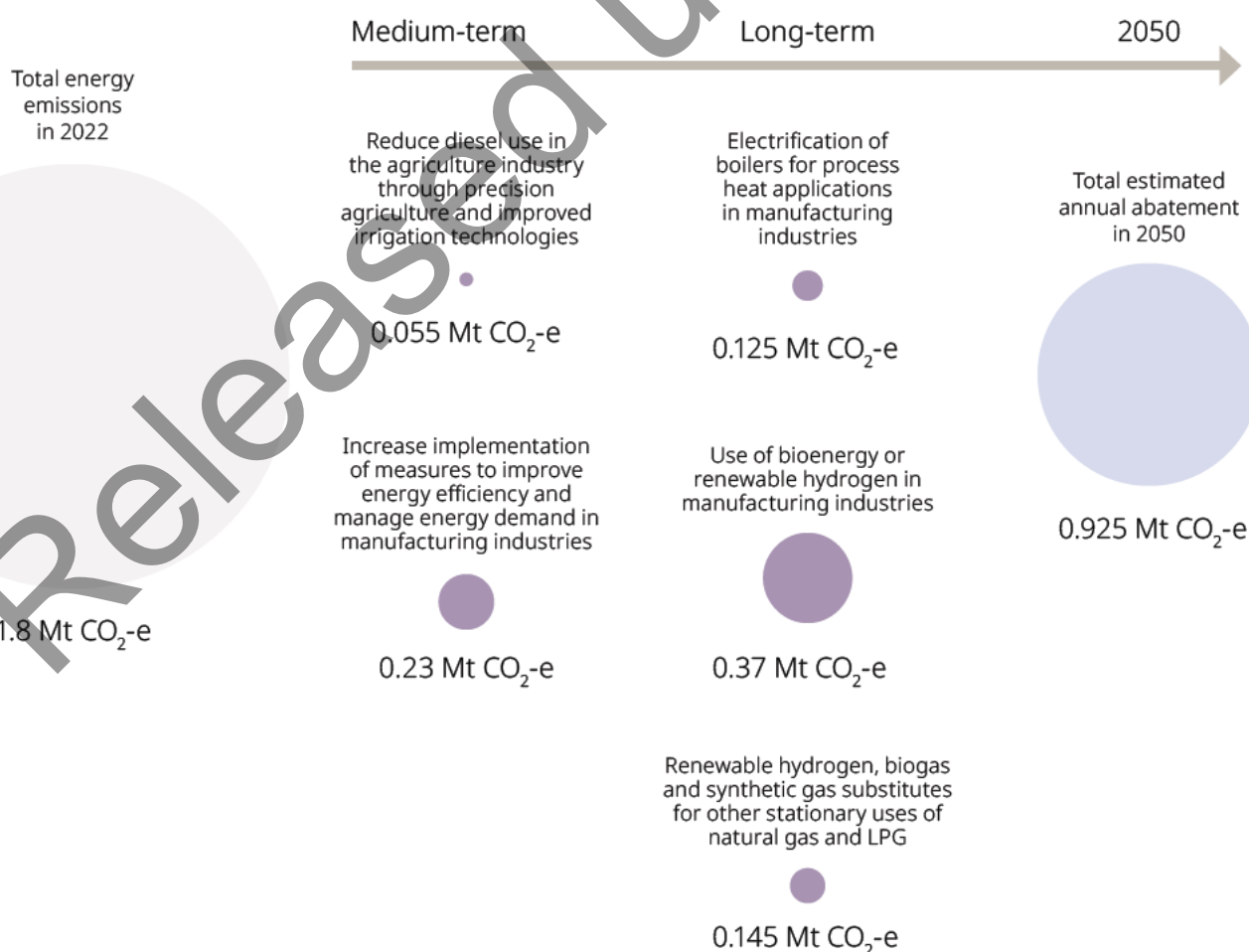
The *2021 Tasmanian Emissions Pathway Review*⁵ identified 16 "best-fit" opportunities for emissions reduction in Tasmania, five of which directly relate to the energy sector (excluding transport) under the UNFCCC emissions accounting framework.

Key opportunities for the energy sector focus on reducing emissions through demand management and energy efficiency (particularly in the manufacturing industry), and fuel switching with electricity, bioenergy and other renewable sources.

This Plan aims to enable businesses to reduce their emissions through opportunities like those identified above by:

- ensuring sufficient supply of renewable sources of energy generation are available
- addressing barriers to adopting renewable energy alternatives
- supporting businesses to access funding opportunities for capital costs of conversion, demand reduction and energy efficiency
- working with business and industry to achieve their decarbonisation plans
- helping consumers to understand their energy use and the potential opportunities and benefits of decarbonising
- supporting households to reduce their energy use and swap fossil fuel use for electric.

Emissions reduction opportunities



5 www.recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf

Estimating the impact of the sectoral plans on our emissions and resilience

This Plan includes existing, new and future actions to support the uptake of the best-fit emissions reduction opportunities for Tasmania. Many of the actions are aimed at increasing renewable energy generation, addressing barriers to adopting renewable energy alternatives, improving energy efficiency in households, and partnering with business to help them achieve their decarbonisation goals and build resilience. Actions such as

these are essential to ensuring Tasmanians have the confidence to invest in low emissions technologies and make changes to their lifestyles or business operations. By their nature, these types of initiatives will not deliver direct emission reductions or increased resilience. They will instead encourage reductions indirectly by supporting Tasmanian businesses, industries and the community to make changes.

Photo: ReCFIT



Consultation – What we heard

Targeted consultation with business and industry commenced in November 2023, and public consultation was open between September and October 2024. Fifty submissions were received through the public consultation process. We also held one-on-one meetings with a number of stakeholders, including community groups, throughout this process.

Consultation participants included:

- Tasmanian Government agencies
- local government
- energy providers
- major users of energy (major industrials and manufacturing businesses)
- renewable energy businesses
- relevant non-government organisations and research institutions
- members of the community and community organisations.

Key themes from consultation, in order of the number of times raised, and actions in this Plan to address them, are summarised below. All public submissions are published on the ReCFIT website at www.recfit.tas.gov.au/consultation

Photo: shutterstock_1182372940



Key themes from consultation	Raised by	What we are doing
Ensure sufficient supply of renewable energy, including renewable alternatives (including hydrogen and bioenergy)	Business and industry	• Tasmanian Renewable Energy Target • Tasmanian Renewable Hydrogen Action Plan • Tasmanian Renewable Energy Action Plan • Renewable Energy Approvals Pathway • Renewable Energy Transformation Agreement (working with the Australian Government) • Renewable Energy Coordination Framework (RECF) including Renewable Energy Zones (REZ) working with Tasmanian communities to improve buy-in of renewable energy development • Bioenergy Vision
Increase investment in distributed energy resources such as rooftop solar and community batteries	Community	• TasNetworks community battery trial for Tasmania • Energy Saver Loan Scheme (ESLS)
Invest in infrastructure to support renewable generation and allow businesses to electrify	Business and industry	• Marinus Link • North West Transmission Developments • REZ to provide alternative options to transmission development
Support fuel switching and the adoption of new technologies (including electrification, bioenergy and hydrogen)	Business, industry, and community	• Mapping the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes to support government and industry to plan for the transition • Support for Tasmania's largest energy users to access funding through national programs • Hydrogen electric bus trial • Green Hydrogen Price Reduction Scheme
Improve energy efficiency in households and businesses	Business, industry, and community	• Energy Efficiency Audit Grant program for businesses • ESLS • Business Energy Efficiency Scheme • Tasmanian Future Gas Strategy
Embed in the <i>Climate Change (State Action) Act 2008</i> a requirement for early and broad community engagement in development of plans	Community	• Completing the next independent review of the <i>Climate Change (State Action) Act 2008</i> in 2025 as required under the Act

Key themes from consultation	Raised by	What we are doing
Increase partnerships, engagement and information sharing between government and industry	Business and industry	- Working with the Department of State Growth's Economic Development team to further engage with major industrial businesses, supporting Tasmania's largest emitters to reduce emissions and access funding opportunities through the Australian Government - Climate Change Innovation Forum - Establishment of a Renewable Energy Services Hub at Bell Bay - Tasmanian Energy Transition Forum
Consider scope 2 and 3 (supply chain) emissions	Community	Developing a framework to build capacity of government agencies to consider climate change and developing a government operations emissions reduction and resilience plan. As a large purchaser, the government can play an important role in buying local, environmentally sustainable products.
Increase focus on community-led projects	Community	- Community Climate Change Action Grants - Early community engagement and exploring options for regional Community Benefit Schemes through Renewable Energy Zones
Reduce transition risks, including skills development and capacity building, to support the transition to lower emissions	Business, industry, and community	- Developing a renewable energy skills hub in north west Tasmania - Delivering the 2025 Building a Skilled Workforce Grant Program - National Energy Workforce Strategy - Renewable Energy Services Hub
Consider the impacts of climate change on infrastructure and supply chains	Business, industry, and community	- Updating Tasmania's fine-scale climate projections - User-friendly resources about climate-related risks and opportunities
Set sectoral emissions reduction targets	Community	- Legislated economy-wide emissions reduction target of net zero emissions, or lower, from 2030. - This target recognises the risks to Tasmania's current net zero status, for example from major bushfires, which could change our emissions profile by reducing the carbon sink in our forests.

Other feedback identified through the consultation process included fit-for-purpose and targeted use of hydrogen and bioenergy, faster phase out of fossil fuel use, including gas, and removal of wood heaters in built up areas.

How we are taking action

The Emissions Reduction and Resilience Plans will guide Tasmania's action on climate change in the transport, waste, energy, industrial processes and product use, agriculture, and land use, land use change and forestry sectors for the next five years.

Some actions are fully funded and ready to implement, and some are already underway. Other opportunities require additional funding to become available throughout the life of the Plans before they can be progressed.

This energy Plan includes funding from *Tasmania's Climate Change Action Plan 2023-25* for new actions to support emissions reduction and resilience in the sector.

The status of each action in this Plan is shown as follows:

NEW
New initiatives that are being funded through the Plan or recently announced.



NEW CROSS-SECTORAL COMMITMENT
New initiatives that will support emissions reduction and resilience in all sectors.



IN PROGRESS
Initiatives that are already being progressed by ReCFIT or the relevant department.



FUTURE FUNDING PRIORITY
Initiatives that require additional funding before they can be progressed.





Photo: ReCFIT



**Our pathway to
reduce emissions
and build resilience
in the energy sector**



We will increase renewable energy development in Tasmania

Sufficient supply of new renewable energy will be key to ensuring Tasmanians can adopt the right renewable options at the time that best suits their needs.

Tasmania is in the enviable position of having an electricity grid that is almost exclusively generated from renewable sources. A large proportion of our emissions in the energy sector can instead be attributed to a small number of businesses that rely on fossil fuels. New generation will be needed as these businesses look to transition away from fossil fuel use. Electricity demand is also expected to increase, through population growth and electrification of our homes and transport. We will need to ensure this new demand can also be met with renewables.

Investment in renewable energy projects will benefit all Tasmanians by improving the security and reliability of our energy system and providing broader economic and employment opportunities. Access to affordable, reliable and clean energy is a key competitive advantage that will both allow Tasmanian businesses to transition to renewables and attract new industries and jobs to the state.

Development of new commercial-scale renewable electricity generation has been slow in Tasmania, and across the country, as projects face a range of challenges. These challenges include cost escalation, supply chain pressures, revenue uncertainty, transmission development, delays in planning and approval processes, and community opposition. The actions in this focus area are designed to address these challenges and importantly take advantage, where possible, of Australian Government programs, policies and funding opportunities. For example, Tasmania is working with the Australian

Government to maximise opportunities for Tasmanian projects under the Capacity Investment Scheme (which aims to accelerate investment in renewable energy).

Recognising the impact renewable energy development can have on communities, actions include implementing the Guideline for Community Engagement, Benefit Sharing and Local Procurement. The Guideline sets clear expectations for how projects engage with communities and how the positive returns of renewable projects can be shared with those most impacted. Greater community acceptance can lead to a smoother path through approvals and therefore bring new transmission and generation into operation more quickly.

Hydro Tasmania can play an important role in ensuring the state's emerging energy needs are met. In July 2024, the government issued a new Ministerial Charter to Hydro Tasmania that establishes the government's expectation for Hydro Tasmania – that its principal purpose is “to support the lowest possible power prices for Tasmanians and to enable economic growth and job creation in Tasmania”. The new Ministerial Charter provides clear direction that Hydro Tasmania should build and deliver energy projects that focus on low-carbon emissions and align with Hydro Tasmania's competitive advantages that add to Tasmania's economic prospects, including by entering into firming contracts, partnerships or offtakes with developers and other energy generators.

Development of renewable alternatives such as bioenergy and hydrogen and its derivatives will be important for industries where electrification is not a viable option. Alternative, low-carbon sources of energy have the potential to contribute to reduced greenhouse gas emissions, strengthen Tasmania's energy security, and create new industries for Tasmania.

To best address the challenges for these emerging industries, actions are focused on financial and regulatory support, and mechanisms to help create demand and accelerate development. For example, providing support to access the Australian Government's Future Made in Australia initiatives under the

National Interest Framework. Tasmania already has a significant amount of work underway to increase renewable energy generation. We will continue to consider current policies and regulations, any potential gaps, and what will work best in the unique Tasmanian context.

Case study

Renewable Energy Zones (REZ)

REZ is a delivery model that will allow the state to build the significant amount of new transmission and generation required to achieve the Tasmanian Renewable Energy Target, in the most coordinated way. A REZ model seeks to manage social licence risks, ensure new infrastructure is minimised, and ultimately ensure that the lowest cost new electricity is delivered for customers in the state.

The Tasmanian Government has undertaken extensive work in the north west of Tasmania to identify the best areas to host renewable energy zones in the region. This work includes complementary network developments (principally the North West Transmission Development), spatial (locational) assessment of the suitability of local land to host renewables, market design analysis, and a range of community engagement activities.

The government has also released draft legislation for REZ for public consultation.

The proposed framework will allow the government to declare suitable areas of Tasmania as REZ and for a custom legislative framework to then apply, particularly with respect to how the critical transmission is built and who funds it. Under a REZ model, a regional community benefit scheme will also be established to ensure the returns of renewable energy development are shared with local communities.

The government will consider all feedback received on the Proposed North West REZ and draft legislation from a range of key stakeholders, including industry, our government energy businesses, peak bodies and the community, and determine next steps for REZ in Tasmania.

Actions

Objective	Summary	Status	Delivered by
Support renewable electricity generation development	Work with the Australian Government as part of its Capacity Investment Scheme to maximise opportunities for Tasmanian projects. This includes negotiating a Renewable Energy Transformation Agreement to support a further Scheme allocation for Tasmania.	 IN PROGRESS	Australian Government / ReCFIT
	Developing a framework for a coordinated approach to renewable energy development and an alternative option for transmission delivery through a renewable energy zone.	 IN PROGRESS	ReCFIT
	Support the development of offshore wind by working with the Australian Government to declare an offshore renewable energy zone and establish a Renewable Energy Service Hub.	 IN PROGRESS	ReCFIT
	Continue to implement the Renewable Energy Coordination Framework (RECF), including promoting the Guidelines for Community Engagement, Benefit Sharing and Local Procurement and working with Tasmanian communities to improve buy-in of renewable energy projects and ensure communities share in the returns of renewable development.	 IN PROGRESS	ReCFIT
	Work with Hydro Tasmania to leverage their experience, capability and assets to partner with renewable energy proponents, including through entering into firming contracts, partnerships or offtakes with developers and other energy generators in line with the government's expectations set out in the Ministerial Charter.	 IN PROGRESS	ReCFIT / Hydro Tasmania



Case study

Tasmanian Green Hydrogen Hub

In January 2024, the Tasmanian and Australian governments announced that they had executed the Grant Agreement for \$70 million in funding from the Australian Government's Regional Hydrogen Hubs program for the Tasmanian Green Hydrogen Hub (TGHH) project. Work on the project is now underway.

The TGHH project aims to provide common use, open access infrastructure to the precinct, which will reduce capital costs for the production of hydrogen (and its derivatives such as methanol) for prospective proponents looking to commence export-scale production.

The Tasmanian Government is leading the project and is supported by TasPorts, TasNetworks, Tasmanian Irrigation, TasWater and the Bell Bay Advanced Manufacturing Zone.

The TGHH project will foster domestic uptake of green hydrogen across marine and maritime, transportation, heavy industrial and manufacturing, gas networks, agriculture, and Antarctic sectors, through procuring projects that will use green hydrogen to support future offtake.

Photo: shutterstock_1854686467

Objective	Summary	Status	Delivered by
Support renewable electricity generation development (continued)	Implement the Renewable Energy Approvals Pathway to streamline regulatory approval processes for renewable energy projects.	 IN PROGRESS	ReCFIT
	Investigate options to contract a proportion of government load from new generation projects.	 FUTURE FUNDING PRIORITY	ReCFIT
Develop enabling infrastructure	Continue to progress Marinus Link (the proposed electricity and telecommunications interconnector between Tasmania and Victoria) to help unlock Tasmania's renewable energy and storage potential.	 IN PROGRESS	ReCFIT / Marinus Link / Australian Government / Victorian Government
	Continue to progress the North West Transmission Developments, including upgrades to Tasmania's electricity transmission lines and other energy infrastructure to support Marinus Link and further renewable energy developments.	 IN PROGRESS	ReCFIT / TasNetworks
	Work with the landholders to establish a compensation framework for landowners impacted by renewable energy projects.	 IN PROGRESS	TasNetworks / ReCFIT
	Provide government funding of up to \$50 million to underwrite the construction of the transmission line from Burnie to Hampshire Hills in the Proposed North West REZ.	 IN PROGRESS	ReCFIT
Support hydrogen production and use in Tasmania	Continue to support the development of a renewable hydrogen industry in Tasmania through the actions in the Tasmanian Renewable Hydrogen Action Plan.	 IN PROGRESS	ReCFIT

Objective	Summary	Status	Delivered by
Support hydrogen production and use in Tasmania (continued)	Establish a Green Hydrogen Hub in Bell Bay to support both investment in shared infrastructure, such as port facilities, water supply and electricity network, and the activation of a domestic market.	 IN PROGRESS	ReCFIT / industry partners
	Support the Blue Economy Cooperative Research Centre (CRC) to install Tasmania's first electrolyser to produce renewable hydrogen in the state, including supplying the hydrogen bus trial.	 IN PROGRESS	ReCFIT and Blue Economy CRC
Increase bioenergy production and use in Tasmania	Continue to implement the Bioenergy Vision for Tasmania, including supporting the bioenergy sector through government procurement, industry and community awareness, exploring opportunities to deploy bioenergy, developing a more sophisticated and diverse bioenergy industry, and ensuring an enabling environment.	 IN PROGRESS	ReCFIT
Support the development of renewable gases	Explore if, and how, targets could be established to support Tasmania's transition away from fossil gas, including any other suitable mechanisms that will support the transition.	 IN PROGRESS	ReCFIT
	Continue to review regulatory frameworks to ensure there are no barriers to the development of new renewable generation technologies.	 IN PROGRESS	ReCFIT
Promote Tasmania as an attractive location for new renewable industries	Explore if, and how, targets could be established to support Tasmania's transition away from fossil gas, including any other suitable mechanisms that will support the transition.	 IN PROGRESS	ReCFIT

We will support Tasmanians to transition their energy use to renewables and improve energy efficiency

Ensuring our industries, businesses and households can transition to renewables and reduce their energy use will not only lower emissions but will also provide a range of benefits for Tasmanians.

The Tasmanian Emissions Pathway Review identified energy efficiency, demand reduction (particularly in manufacturing) and fuel switching as key emissions reduction opportunities for the energy sector. Permanently reducing fossil fuel energy use has additional benefits such as increased business productivity and reduced energy costs. For households, energy efficiency can also reduce the impacts from climate hazards. Upgrades such as better insulation, window glazing and more efficient appliances can ensure homes are not as susceptible to extreme temperatures and condensation is reduced, which helps keep people healthy and safe during times of extreme weather.

For small businesses and households looking to electrify, the upfront cost of appliances, equipment and installation is a key challenge. In addition, some energy consumers have very limited control over their fixed appliances and energy efficiency of the buildings they occupy, for example where they are renters or low-income households. Initiatives such as the Energy Saver Loan Scheme are important to support households to electrify or increase energy efficiency. Improved energy efficiency can lead to cost savings and improvements in the wellbeing of Tasmanians and the state's housing stock.

A preference for gas appliances and a lack of information and understanding around the potential savings and benefits of transitioning to electric appliances are also barriers to adoption.

Ensuring user-friendly information is available on the benefits of electrification and energy efficiency is a key focus. For our larger energy users, the costs of electrification are high and often prohibitive. Actions in this Plan focus on supporting these businesses to access the larger national funding opportunities and provide support navigating the unique Tasmanian operating environment.

There can also be added barriers, including technical limitations (for example in industries that use industrial heating) and cost to connect to the electricity grid. Where electrification is not an option and businesses are looking to adopt renewable alternatives (bioenergy, renewable hydrogen, biogas and synthetic gas substitutes), new technologies can either have long lead times to commercialisation, are currently a more expensive alternative, tend to have high up-front costs to install and commission, and come with additional investment risks. There is a range of existing actions to support the development of these emerging industries.

We will also deliver a Climate Change Business Innovation Grant Program to support businesses in all sectors to take action on climate change, including a focus on local innovation, collaboration and partnerships.

Case study

Supporting households and businesses to improve energy efficiency

The Energy Saver Loan Scheme⁶ (ESLS) provides interest-free loans of up to \$10,000 for Tasmanians to invest in energy efficient products, including solar panels, battery systems, reverse cycle air conditioning (heat pumps), insulation, and efficient electric hot water systems.

The ESLS has been extremely popular with Tasmanian households and eligible small businesses.

As at September 2024, over \$38.3 million in loans has already been approved for 4,599 applicants. There have been 6,151 ESLS applications received and 5,248 of those have been approved.

There have been over 4,200 applications for solar PV systems. Heating upgrades, double glazing, and hot water systems are the next most popular upgrades through the Scheme.

The range of eligible products was recently extended to include retrofit insulation, and electric vehicle chargers. The *Transport Emissions Reduction and Resilience Plan 2024-29* includes a new action to include e-bikes into the Scheme

Photo: iStock.com/Nirian



Actions

Objective	Summary	Status	Delivered by
Enable businesses to electrify and improve energy efficiency	Establish the Climate Change Business Innovation Grant Program to support businesses to take action on climate change, including a focus on local innovation, collaboration and partnerships.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Increase support for Tasmanian businesses to access funding through existing Australian Government schemes, including: • Powering the Regions Fund and Safeguard Mechanism support • Australian Renewable Energy Agency funding (ARENA) • Clean Energy Finance Corporation • Australian Carbon Credit Unit (ACCU) scheme	 NEW	State Growth / ReCFIT
	Continue to deliver the Business Energy Efficiency Scheme (BEES). BEES is a Tasmanian Government scheme that supports electricity customers with annual consumption of more than 150MWh to invest in energy efficiency, and electrification opportunities.	 IN PROGRESS	ReCFIT
	Deliver the Energy Efficiency Audit Grants Program to provide grants of up to \$1,000 for small businesses to conduct energy efficiency audits.	 IN PROGRESS	ReCFIT
	Explore options to establish a competitive grants program to provide funding to medium to large Tasmanian businesses to reduce their fossil fuel use.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Improve energy efficiency and reduce fossil fuel use in households	Develop information and resources to support improving energy efficiency in Tasmanian households, with a focus on supporting landlords to improve energy efficiency in rental properties.	 NEW	ReCFIT (CCO)
	Work with partners to deliver workshops for community sector professionals to assist vulnerable clients to manage their energy use and power bills.	 NEW	ReCFIT (CCO)
	Work with partners to support households to make informed decisions about reducing or electrifying their gas and other fossil fuel use.	 NEW	ReCFIT (CCO)
	Continue to deliver the No-Interest Loan Scheme to assist concession-holders with subsidies of up to 50 per cent toward the cost of energy efficient appliances, and a no-interest loan for the balance.	 IN PROGRESS	NILS Tasmania
	Continue to deliver the \$16.6 million Homes Tasmania Energy Efficiency Program to deliver energy efficiency measures to over 1,600 social housing properties in the state.	 IN PROGRESS	Homes Tasmania
	Provide financial support to reduce fossil fuel use in homes from appliances such as gas stoves, barbecues and petrol power tools.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Accelerate the adoption of alternative renewable fuels	Work with Metro Tasmania to share project learnings from the Zero Emissions Bus trial, including learnings from testing the regulatory framework and developing local skills in hydrogen production, refuelling, safety and vehicle operation and maintenance to support delivery of future projects.	 IN PROGRESS	ReCFIT
Replace diesel use in remote power stations	Explore options to provide financial support to farmers and agribusinesses to reduce emissions and make the most of co-benefits such as reduced energy costs and increased business resilience through electrification and energy efficiency.	 FUTURE FUNDING PRIORITY	ReCFIT / Hydro Tasmania
Reduce stationary diesel consumption in the agriculture sector	Explore options to provide financial support to agribusinesses to reduce emissions and make the most of co-benefits such as reduced energy costs and increased business resilience through electrification and energy efficiency.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

Case study

Helping farmers to understand and reduce on-farm energy use

The Tasmanian Government delivered a \$750,000 on-farm energy audit and capital grant program from 2018-21, consisting of two components with a total value of up to \$20,000 per applicant:

1. Grants to assist farmers to engage a suitably qualified professional to undertake an energy or irrigation audit on their farm (on a \$2 for \$1 funding basis).
2. Dollar-for-dollar contributions for the purchase of new energy-saving or energy-efficient capital infrastructure to support improved or optimised farm energy efficiency, as recommended by an audit prepared by a suitably qualified professional.

The Program was extremely popular and funding was updated and moved within financial years to accommodate the high demand. Fifty-one audit grants and 57 capital grants were acquitted.

As a result of the funded activities, it is estimated that Tasmanian farmers saved thousands of dollars each year in energy costs. Projects also made many farms more sustainable with the installation of energy efficient infrastructure like solar panels and solar photovoltaic systems and irrigation pumps.

Photo: Fred and Hannah



We will de-risk the transition to a lower emissions economy

As the global energy sector transitions to renewables, it will be important that Tasmania's businesses can take advantage of the opportunities and mitigate against any risks.

Transition risks can arise from changes in policy and regulation, shifts in market preferences, and technological advancements. As energy markets and the regulatory landscape change, businesses and industry will need to consider the impacts and how they will respond to continue to operate successfully.

For example, the Australian Government has passed legislation to introduce climate-related financial disclosure requirements for large businesses, which will commence from 1 January 2025⁷. We have committed to establish a program to support small- to medium-sized business to measure and report on their emissions and climate-related risks.

In Tasmania's electricity generation sector, Tasmania's hydro-electric development means that the state does not face the same risks to reliability and system security as other jurisdictions that are having to rapidly transition from electricity grids dominated by ageing coal-fired generators to a variable renewable energy-based grid. However, Tasmania is seeing an increase in variable energy sources like wind and solar, which means there are likely to be more instances where variable renewable energy generation is high at the same time demand is very low (known as Minimum System Load). This situation can pose a risk to system security. Electricity networks operate at their best when supply aligns with customer demand. The increasing need for support to keep the grid stable (provision of system strength and inertia) is emerging as a significant challenge in all jurisdictions, including Tasmania.

Because of the legacy of our hydro investments, Tasmania has been an attractive investment destination for energy-intensive major industries, offering competitively-priced, reliable and renewable energy. Tasmania's renewable electricity generation will allow businesses to take advantage of international demand for low emissions products and services. The Australian Government's Guarantee of Origin Scheme is an important mechanism for Tasmanian businesses to be able to demonstrate their green credentials. The Tasmanian Government continues to advocate to the Australian Government to ensure all Tasmanian businesses can fully realise the economic opportunities offered by the global clean energy transition.

Organisations who cannot transition to renewable fuels face a range of risks, including reduced demand for emissions-intensive products, escalating fuel and network costs, supply shortages and stranded assets.

Transitioning to a low emissions economy will require investment in the capacity and capability of the current workforce. There are opportunities for the government to support the sector by building renewable energy skills to deliver major energy projects and preparing the workforce to adopt new renewable technologies.

Strategic land use planning will also be important as we transition to a lower emissions economy. There are ongoing tensions between land uses. It will be important to consider the need to increase renewable energy generation with community social and cultural values, and the need to protect Tasmania's unique biodiversity values.

⁷ For more information see the Australian Parliament website: www.aph.gov.au/Parliamentary_Business/Bills_Legislation/bd/bd2324a/24bd068

Case study

Building a skilled workforce for renewable energy projects

The four-year Energising Tasmania Agreement has supported development of a skilled workforce equipped with the expertise needed for the Battery of the Nation initiative and more broadly the renewable energy and related sectors in Tasmania. Through Energising Tasmania, the Tasmanian Government established:

- A new training grants fund that provided up to 2,500 fully subsidised training places and up to \$1,000 in non-tuition costs per learner for nationally recognised qualifications in priority areas related to the energy sector.
- A new training market development fund to support capacity building of training providers (including trainer recruitment, upskilling trainers, supporting trainers to relocate) as well as developing courses and delivery methods that meet the needs of industry.
- A new workforce development fund to deliver an industry-led workforce development plan to inform and drive priority training and undertake activities identified in the plan that support necessary workforce development.
- A new industry advisory group dedicated to building the skills needed to support the Battery of the Nation initiative, and more broadly the renewable energy and related sectors, that will engage with employers and registered training organisations and support the development of the workforce plan and implementation of activities identified in the plan.

Actions

Objective	Summary	Status	Delivered by
Support Tasmanian businesses to comply with emerging reporting requirements	Work with Business Tasmania and other key partners to deliver a program to support small- to medium-sized businesses to better understand climate-related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO) / State Growth
Build a skilled workforce to enable the transition	Establish a training facility in partnership with industry, with a dedicated focus on renewable energy skills, to deliver major projects across electricity transmission, energy infrastructure, alternative fuels and renewable energy, and preparing the workforce to adopt new renewable technologies.	 IN PROGRESS	Skills Tasmania
	Deliver grants to provide support for nationally recognised training and other support to deliver training for individuals and businesses through the Building a Skilled Workforce Fund.	 IN PROGRESS	Skills Tasmania
	Collaborate with government and industry partners to support them to consider the impacts of climate change on current and future skills and workforce needs and explore opportunities to address these issues.	 NEW	ReCFIT (CCO)
Support strategic decision making in the energy sector	Build capacity to consider climate change through the development of a whole-of-government framework to embed climate change in decision making. This framework can play a role in supporting proactive planning and enabling government decision makers and broader teams to better support renewable energy projects and the energy industry to adapt through policies and programs.	 IN PROGRESS	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Support strategic decision making in the energy sector (continued)	Continue to work with the State Planning Office to ensure Tasmania's planning policies, regional land use strategies and regulations consider the role of land use planning in emissions reduction and resilience while also considering other environmental, economic and social outcomes.	 IN PROGRESS	ReCFIT (CCO)
	Collaborate with partners to map the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes. This will assist transition planning across the state and guide work to ensure infrastructure and systems are in place to enable business to reduce their emissions. For example, this mapping will identify the technological advancements, energy generation and transmission infrastructure that will be needed to transition major energy users to renewable alternatives. It could also consider issues such as electrification of vehicle fleets and skills and workforce needs.	 NEW	ReCFIT / Industry partners
Support businesses to grow and thrive in changing conditions	Establish a Climate Change Champions Program to recognise innovative, best practice climate action across all sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Deliver the \$1 million Enabling Business Grant Program to support businesses to grow, adapt and innovate.	 IN PROGRESS	State Growth
Ensure Tasmania has a reliable energy supply in the national transition to renewables	Continue to work with the Australian Government to ensure the effective operation of the east coast gas market and manage any transition impacts.	 IN PROGRESS	ReCFIT

We will build resilience to the impacts of climate change

Ensuring that the energy industry understands, and is preparing for, the physical impacts of climate change is important to ensure the industry can both manage risks and access opportunities, now and into the future.

The projected changes to the Tasmanian climate will increase physical risks for Tasmania's energy supply, infrastructure and facilities. Impacts and events caused by the changing climate will include severe weather events, prolonged dry periods, flooding, bushfires, storms, and record marine and land heatwaves.

Tasmania's hydro-electric generation system is susceptible to risks from the changing climate that impact rainfall, run-off, evaporation and in-flows to dam storages. The Energy Security Risk Response Framework operates in Tasmania to mitigate against supply risks and ensure water storages remain above predetermined levels. Following the 2015-16 summer, after a period of low rainfall followed by a protracted outage of the Basslink interconnector, the Tasmanian Energy Security Task Force was established to advise the government on how it could better prepare for, and mitigate against, the risk of future energy security events. The Task Force's recommendations were accepted and adopted by the government and the resulting Energy Security Risk Response Framework has been working effectively since that time.

Tasmania's electricity networks are likely to face increased disruptions as a result of more frequent and severe weather events. Increased frequency of storms, flooding, and intense bushfires will mean an increased risk of damage and disruption to infrastructure, including roads, and transmission and distribution networks, causing disruption to energy supply.

Tasmania is a relatively small market and some industries are heavily reliant on imported fuels. This makes Tasmanian households and businesses vulnerable to supply disruptions on mainland Australia and internationally. Vulnerability to supply means Tasmanians are also susceptible to price volatility of imports like gas and liquid fuels. Low carbon liquid fuels can be produced in Tasmania to increase resilience and reduce reliance on current fossil fuel and gas imports.

Integrating the findings of the statewide climate change risk assessment and updated fine-scale climate projections into future planning and risk mitigation strategies will be key. State-level coordination will be critical. We are committed to ensuring we have accurate, up-to-date and user-friendly information and data to allow the effective consideration of climate risk in decision making at all levels.

Case study

Tasmania's Risk Assessment for Climate Change 2024 – risks and opportunities for Tasmania's energy sector

Tasmania's Risk Assessment for Climate Change 2024 (the Risk Assessment) is the first comprehensive statewide climate change risk assessment undertaken for our state. It provides analysis of climate-related hazards and influences in Tasmania. The Risk Assessment assesses the interaction with exposures, vulnerabilities and responses across all parts of Tasmania.

The Risk Assessment identifies the following risks and opportunities for Tasmania's energy sector in the transition to a low emissions economy, and as our climate continues to change:

- opportunity to improve financial wellbeing, and health and wellbeing through energy efficient housing for low-income households
- risks and opportunities related to renewable energy development
- risks to social cohesion, and health and wellbeing due to existing services being insufficient to meet the needs of a growing population (driven by renewable energy development and new industries that support emissions reduction in Tasmania).

The Risk Assessment also noted some additional opportunities for Tasmania which are a lower priority for further

action in the next five years, though continual monitoring is suggested. These include opportunities to increase skills and employment with renewable energy development and new industries, increased economic growth through renewable energy supply, and improved flexibility within electricity infrastructure.

The Risk Assessment identifies four key areas considered to be critical as part of any adaptation response:

- state-level coordination for local efforts
- co-ordination across strategies to address the intersection of climate change and health and wellbeing
- education is vital to successful climate adaptation and increased resilience for future generations
- development of, and investment in, additional data collection is required to better inform risk based decision making.

Further information on government action to address the risks and opportunities for Tasmania is in the government's formal response to the Risk Assessment, available on the ReCFIT website: recfit.tas.gov.au/cc-risk-assessment

Actions

Objective	Summary	Status	Delivered by
Ensure we have up-to-date, accessible data to inform decision making	Update Tasmania's fine-scale climate projections to provide the most up-to-date future climate information to Tasmanians and inform the development of climate change adaptation initiatives and investment.	 IN PROGRESS	ReCFIT (CCO)
	Develop resources that meet user needs to support the energy sector to make informed decisions about managing climate risks and opportunities. Resources will include user-friendly information about the findings of the statewide climate change risk assessment and the updated fine-scale climate projections.	 IN PROGRESS	ReCFIT (CCO)
	Undertake an independent review of the emergency response to the severe weather events in Tasmania in August 2024. This review will include examining TasNetworks' contingency planning for these types of events, how it manages during those events, and the arrangements for restoration of supply.	 IN PROGRESS	ReCFIT (CCO)
Plan for the impacts of climate change on the energy sector	Work with partners to support businesses to identify national and international supply chain vulnerabilities and enhance resilience to future climate-related network disruptions.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Increase emergency preparedness, response and recovery	Provide an Emergency Preparation Toolkit to support businesses to plan for extreme weather events. The Toolkit includes considerations such as preparing businesses for power outages, reviewing insurance policies, ensuring data is backed up, and considering planning for alternative trading methods and business dependencies.	 IN PROGRESS	State Growth
	Collaborate with key partners across state, national and local government and the private sector to increase emergency preparedness, response and recovery.	 IN PROGRESS	ReCFIT (CCO)
Increase resilience in Tasmania's electricity system through Tasmania's energy businesses	Continue to work with the Tasmanian Economic Regulator and Hydro Tasmania to monitor and assess water storages against the Energy Security Risk Response Framework. The Energy Security Co-ordinator will oversee any response required, in line with the framework.	 IN PROGRESS	ReCFIT / OTTER / Hydro Tasmania
	TasNetworks to continue to explore options to improve resilience of the electricity network, including trialling new technologies and increased monitoring of weather extremes.	 IN PROGRESS	TasNetworks
	TasNetworks to continue to develop understanding of new technologies and pilot projects that focus on demand response, distributed energy orchestration and trials of Electric Vehicle charging arrangements.	 IN PROGRESS	TasNetworks

Tasmanian businesses are already recognising the market risk in continuing to use fossil fuels and are actively exploring opportunities to decarbonise their energy use. Government has an important role to play in assisting businesses to overcome challenges, through partnerships, collaboration and information sharing.

Tasmania's energy market is relatively small compared to other jurisdictions, our electricity generation is dominated by renewable sources, and we have a small number of large industrial users accounting for a relatively high proportion of emissions in the energy sector. This provides an opportunity for government to not only increase engagement with Tasmanian businesses, but adopt a more targeted approach to engagement with some of Tasmania's biggest energy users and emitters. This could include building on existing engagement, for example the Memorandum of Understanding between the government and Rio Tinto to work together on a range of priorities, including energy use and emissions reduction.

Depending on factors such as size, industry and strategic goals, each business has varied and changing priorities. Tailored engagement to support businesses to overcome barriers, both within government processes and regulation, and outside of government, is more likely to lead to positive outcomes for both the business and Tasmania's emissions reduction goals, as well as building capability of Tasmanian workers.

Continuing the government's collaboration with renewable energy projects will be important and includes providing a first point of contact for renewable energy proponents needing help connecting with the right government agencies and regulators. This interaction is then ongoing over the life cycle of projects and allows for proponents to provide feedback on key policy and process improvements that may be made to help deliver new generation. Examples include information sharing around project timing and sequencing, technical operation of the network, incentive mechanisms and renewable energy zones.

The most significant government funding programs to support decarbonisation are administered at a national level. Supporting businesses to access funding to switch to renewable energy alternatives is an important opportunity. For example, there are several streams of dedicated funding supporting the Safeguard Mechanism reforms.

We have also committed to introduce a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.

Case study

Memorandum of Understanding (MOU) between Tasmanian Government and Rio Tinto Aluminium (Bell Bay)

- The Tasmanian Government has fostered a strong and ongoing working relationship with Bell Bay Aluminium (BBA), the largest consumer of electricity within the state. BBA continuously draws around 335 megawatts and accounts for more than 25 per cent of Tasmanian grid demand.
- In 2022, the Tasmanian government and BBA signed a Memorandum of Understanding (MOU) which aims to secure long-term economic growth for our state, increase employment and secure a clean energy future.
- The MOU aligns with the 200 per cent Renewable Energy Target by 2040, using existing renewable energy capacity and the investigation of potential future green energy production. The MOU's seven focus areas for investigation are:
 - decarbonising the Tasmanian Economy
 - certainty over the future of BBA
 - investment in new, high-impact industries
 - demand-side flexibility
 - an orderly sequence of investment in new renewables generation
 - a low cost of energy (over its lifetime) for new energy generation
 - affordable transmission infrastructure.
- Since signing the MOU, the government and BBA have worked collaboratively on a range of objectives, including pursuing decarbonisation of BBA's smelters and exploring uptake of innovative technologies to support operations at the Bell Bay site.

Actions

Objective	Summary	Status	Delivered by
Improve engagement with major industrial businesses	Expand the current engagement between the Department of State Growth and industry through the Tasmanian Advanced Manufacturing Action Plan and existing Memorandum of Understanding with Tasmanian major industrial businesses to support our large emitters to reduce emissions and achieve their decarbonisation plans.	 NEW	ReCFIT (CCO) / State Growth
Improve engagement with renewable energy generation projects	Continue to collaborate with industry by acting as a first point of contact for renewable energy proponents needing a help connecting with the right agencies and regulators.	 IN PROGRESS	ReCFIT
	Continue to work with the Clean Energy Tasmania Group to collaborate on policy development regarding new generation and transmission in Tasmania.	 IN PROGRESS	ReCFIT
	Work with Hydro Tasmania, TasNetworks, the Australian Government, and industry to trial future grid technologies that would support the transition to greater penetration of variable renewable energy.	 FUTURE FUNDING PRIORITY	ReCFIT
Collaborate to contribute to research and innovation	Partner with Blue Economy Cooperative Research Centre to deliver an Offshore Renewable Energy Systems Program focused on continuing production of low cost, reliable and clean energy – with green hydrogen a part of this innovation.	 IN PROGRESS	ReCFIT / Blue Economy CRC
	Partner with research institutions and CRCs to support research to reduce emissions across the energy sector.	 NEW	ReCFIT (CCO) / industry

Objective	Summary	Status	Delivered by
Work together to address issues and barriers to emissions reduction in the sector	Establish a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Partner with industry and research institutions to deliver industry roundtable meetings with Tasmanian businesses, peak industry bodies, government and research organisations that focus on specific issues and barriers for the sector to reduce emissions.	 NEW	ReCFIT (CCO)
Ensure Tasmania's unique challenges and opportunities are considered in national programs	Continue to work with the Australian Government to progress national priorities to reduce emissions from energy and ensure the best outcomes for Tasmania, including through Energy and Climate Change Ministers' Meetings. For example, the agreement by Energy Ministers to incorporate an emissions reduction objective in the National Energy Objectives. These objectives guide the work of the energy market bodies as the national market transitions.	 IN PROGRESS	ReCFIT (CCO)

Next steps

Implementation

Some actions in this Plan are fully funded and ready to implement and some are already underway. Other opportunities require additional funding before they can be progressed. These opportunities are labelled 'future funding priorities'. The status of each action is identified in this Plan.

Monitoring and reporting

We will determine whether actions in this Plan have been effective by monitoring and evaluating individual actions. Monitoring will be based on the approach identified for each of the actions. Evaluation methods will vary, as they will be tailored for each action.

Every year, we will prepare and table in Parliament:

- a climate change activity statement, showing the status of each sectoral Plan and actions in *Tasmania's Climate Change Action Plan 2023-25* (Action Plan) and future action plans
- a greenhouse gas emissions report detailing Tasmania's emissions for each sector.

We will update the plans at least every five years.

Engagement with business, industry and the community

We will continue to engage with key partners and the community on the development and implementation of actions as required.

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

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

Tasmania's Emissions Reduction and Resilience Roadmap

Tasmania's Emissions Reduction and Resilience Roadmap 2024-29 connects Tasmania's six sectoral emissions reduction and resilience plans and Tasmania's first statewide risk assessment for climate change.

We recognise that there is a lot of overlap between the six sectors, and that there are some parts of Tasmania's economy and community that are not covered by the sectoral plans.

The Roadmap includes new commitments to support businesses and industries in all sectors to address common issues and opportunities. It sets out how we will maintain net zero emissions across our economy through to 2030 and beyond.

The Roadmap also outlines which groups in Tasmania are covered in which sectoral plan, and identifies future focus areas for action over the next five years.

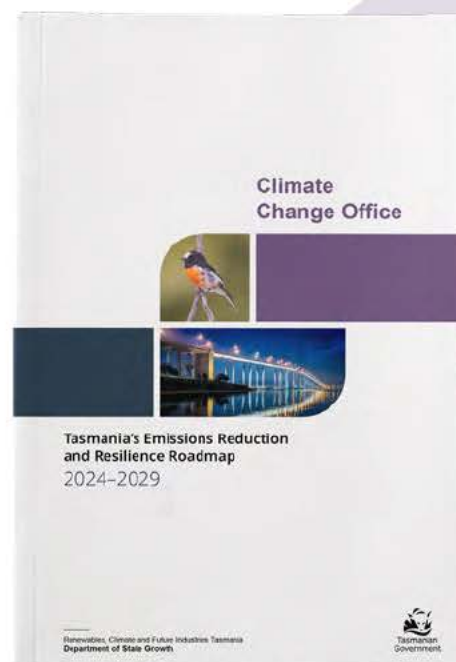




Photo: ReCFIT

Glossary and acronyms

Term	Description
ACCU	Australian Carbon Credit Unit. One ACCU represents one tonne of carbon dioxide equivalent (CO ₂ -e) that is stored or avoided due to a project. ACCUs are issued by the Clean Energy Regulator for eligible projects registered under the Emissions Reduction Fund.
Bioenergy	A form of renewable energy produced using biomass (plant, algae or animal material). Bioenergy can include electricity, heat, gas and transport fuel.
Biogas	Gas created from the anaerobic decomposition of organic matter (plant, algae or animal material). Biogas is principally a mixture of methane and carbon dioxide.
Biomass	The mass of organisms including plants, animals and micro-organisms.
Carbon offsets or credits	Carbon offsets or carbon credits, such as Australian Carbon Credit Units, are tradable financial products used by organisations to compensate for their emissions. Carbon offsets are generated by projects outside the organisation that reduce, remove or capture emissions from the atmosphere.
CNG	Compressed natural gas
CO₂	Carbon dioxide; a greenhouse gas
CO₂-e	Carbon dioxide equivalent. This is a standard unit for measuring greenhouse warming potential of gases. Each different greenhouse gas is represented in terms of the amount of CO ₂ that would create the same amount of warming.
Direct combustion	Burning of fuel(s) for energy predominantly in manufacturing, mining, residential and commercial sectors.
Electricity generation	The process of generating electric power from sources of primary energy.
Embodied carbon	Embodied carbon refers to the greenhouse gas emissions associated with the manufacture and use of a product or service, regardless of where that occurs. For example, for buildings and infrastructure this means the emissions associated with the extraction, manufacture, transport, construction, maintenance and disposal of the materials used.
Emissions	Greenhouse gas emissions
Fugitive emissions	The 2006 IPCC Guidelines for National Greenhouse Gas Inventories define fugitive emissions as the intentional or unintentional release of greenhouse gases that occurs during the extraction, processing and delivery of fossil fuels to the point of final use.

Term	Description
IPCC	Intergovernmental Panel on Climate Change, an independent body that assesses the scientific, technical and socioeconomic information relevant to understand the risk of human-induced climate change. The IPCC develop guidelines for national greenhouse gas inventories which are used under the UNFCCC.
IPPU	Industrial Processes and Product Use
kt	Kilotonnes. A kilotonne is equivalent to 1,000 tonnes or 1 million kilograms.
LNG	Liquefied natural gas, a gas that is primarily methane which is extracted from the earth and cooled down to the point it becomes liquid.
LPG	Liquid petroleum gas, a gas that is produced during the oil refining process or extracted during the production of natural gas.
LULUCF	Land Use, Land Use Change and Forestry
Methane	A type of greenhouse gas, which contributes approximately 28 times more atmospheric warming than carbon dioxide.
Mt	Megatonnes
MWh	Megawatt hour
Natural gas	Natural gas is an odourless and colourless gas (mainly consisting of methane) formed from the decomposed remains of plants and animals.
NEM	The National Electricity Market is a wholesale market through which generators sell electricity in eastern and southern Australia. It comprises five regional market jurisdictions (Queensland, New South Wales, Victoria, South Australia and Tasmania) connected by a number of interconnectors.
NGER	The National Greenhouse and Energy Reporting Scheme
Nitrous oxide	A type of greenhouse gas, which contributes approximately 265 times more atmospheric warming than carbon dioxide.
OTTER	Office of the Tasmanian Economic Regulator. OTTER is the Tasmanian Government agency responsible for various economic and energy supply regulating actions in the Australian state of Tasmania.
ReCFIT	Renewables, Climate and Future Industries Tasmania

Term	Description
Safeguard Mechanism	The Safeguard Mechanism is an Australian Government policy which requires Australia's highest greenhouse gas emitting facilities to keep their emissions below an emissions limit (baseline). If a Safeguard facility exceeds their baseline, they must manage their excess emissions. They can become liable to pay a financial penalty if they fail to comply with the Safeguard Mechanism.
Stationary Energy	Emissions from the production of electricity and other direct combustion of fossil fuels in industries such as manufacturing and construction.
Substitutes for ozone depleting substances	Ozone depleting substances are chemicals that destroy the earth's protective ozone layer. They were commonly used in products such as fridges, air conditioners, fire extinguishers and aerosols. Synthetic gases are now widely used to replace ozone depleting substances. While they do not damage the ozone layer, they are potent greenhouse gases.
t	Tonnes. 1,000 kilograms.
TVPS	Tamar Valley Power Station
UNFCCC	United Nations Framework Convention on Climate Change



Department of State Growth

GPO Box 536 Hobart

TAS 7001 Australia

Phone: 03 6166 4466

Email: climatechange@recfit.tas.gov.au

Web: recfit.tas.gov.au

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Climate Change Office



Industrial Processes and Product Use Emissions Reduction and Resilience Plan 2024–2029

Released under RTI

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 and present.

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Minister's message



Madeleine Ogilvie
Minister for the
Environment

This *Industrial Processes and Product Use Emissions Reduction and Resilience Plan 2024-29* is the first legislated Plan for the IPPU sector under the *Climate Change (State Action) Act 2008*. This Plan builds on action already underway to support the state's advanced manufacturing sector through the *Tasmanian Advanced Manufacturing Action Plan 2028*, and the *Tasmanian Renewable Hydrogen Action Plan*. We have recently provided over \$4 million to support Tasmanian manufacturers to grow, innovate and compete in global markets. We have committed over \$70 million to the development of a hydrogen industry in Tasmania which will play an important role in decarbonising our industries.

The Plan has been developed in consultation with business, industry and the community, and across government. I would like to thank everyone who contributed to this Plan, including my colleague the Hon Eric Abetz MP, Minister for Business, Industry and Resources, who is also responsible for the continued delivery of many existing initiatives to support emissions reduction and resilience in the IPPU sector.

Tasmania's longstanding investment in hydro electricity generation provides affordable and reliable electricity to consumers. Our renewable energy generation has attracted energy-intensive major industries, including manufacturers of cement, paper, zinc, aluminium, iron ore pellets and manganese (used to produce steel). Tasmania's industrial businesses are critical to Tasmania's economy and are a key provider of high paying skilled jobs.

Tasmania's IPPU sector accounts for around 19 per cent of our total emissions, excluding the land use, land use change and forestry sector. Most of the emissions come from the production of cement, steel and alumina. The emissions from IPPU have increased by 11.9 per cent between 1990 and 2022. This increase has been caused by changes in production levels, due to global commodity fluctuations, and increased use of synthetic greenhouse gases as substitutes for ozone depleting substances.

In the transition to a net zero economy, and as our climate continues to change, the IPPU sector will face new challenges. It is important that we support the sector to prepare for these changes, for example by supporting research and development into new technologies, streamlining regulations and policies, supporting access to funding opportunities, and developing the workforce.

This Plan sets out how we will support the IPPU sector to reduce difficult-to-abate emissions from manufacturing processes, build resilience against future climate risks, and encourage action through partnerships and collaboration. As a small island state, Tasmania has unique challenges and opportunities. Improving the way we work together across the state is central to this Plan.

New commitments in this Plan include working with cooperative research centres and other research institutions to support research and development to reduce emissions from the IPPU sector. We are also committed to improving the way we collaborate across government, and supporting industry to access Australian Government funding for decarbonisation initiatives. We will also work with industry to find ways for the IPPU sector to reduce emissions and build resilience, and provide clarity for business in the transition to a low emissions economy.

This Plan will guide additional strategic investment over the next five years. We will work with industry, the community and the Australian Government to access any national funding that may become available to support this transition. This Plan also considers relevant actions already underway in the advanced manufacturing and other relevant portfolios.

This Plan is one of six sectoral plans. Together, the plans for our transport, waste, energy, industrial processes, agriculture, and land and forestry sectors set out our pathway to achieve our target of net zero emissions, or lower, from 2030, support businesses and industry to transition to a lower emissions economy, and build resilience to the impacts of climate change.



Photo: Joshua Lamont



Tasmania's IPPU sector

The Industrial Processes and Product Use (IPPU) sector includes direct emissions from a range of chemical processes used to manufacture products. The sector also includes emissions from the use of synthetic greenhouse gases and fossil fuels for non-energy purposes.

Tasmania has six major industrial facilities which each have scope 1 emissions over 100,000 tonnes (t) of carbon dioxide equivalent (CO₂-e) per year. The facilities include manufacturers of cement, paper, aluminium, iron ore pellets and ferro- and silico-manganese (used to produce steel), as well as mining.¹ Many of the emissions from these major industrial businesses are accounted for in the IPPU sector, and some in the energy sector.

The manufacturing sector, which includes the businesses responsible for Tasmania's IPPU emissions, contributes over \$2 billion annually to Tasmania's Gross State Product. The manufacturing sector provides high paying, skilled jobs and underpins the economies of large and small communities across the state. Manufacturing directly employs 19,800 people in Tasmania (2021–22), up from 18,000 in 2018–19, and indirectly generates an estimated 33,115 additional local jobs.

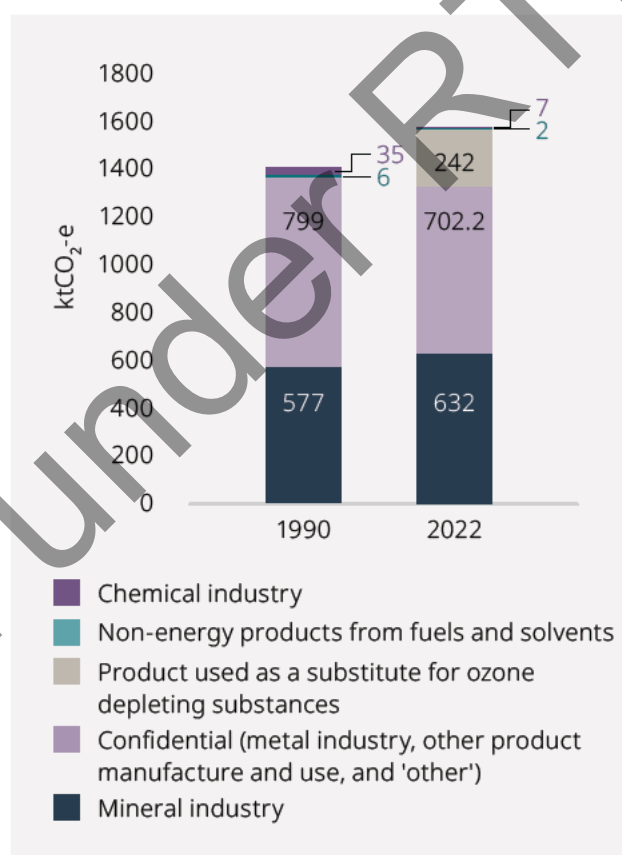
The technology to reduce emissions from processes used to create essential products like cement, aluminium and steel require development, and commercialisation and can be costly. As regulations and global markets change, the IPPU sector needs support to transition to a low emissions future and be prepared for the physical impacts of climate change.

- 1 The Clean Energy Regulator has publicly reported 2021-22 emissions data for six Tasmanian facilities covered by the ERF Safeguard Mechanism. For more information see the Clean Energy Regulator website: www.cleanenergyregulator.gov.au/NGER/The-Safeguard-Mechanism/safeguard-data/safeguard-facility-reported-emissions/safeguard-facility-reported-emissions-2021-22
- 2 Tasmania's latest reported greenhouse gas emissions were released in April 2024 as part of the *Australian Government's National Inventory Report 2022*. The Australian Government reporting framework is consistent with UNFCCC and Paris Agreement reporting rules. National inventory reporting runs two years behind the current date, and represents the most recent official data in Australia on annual emissions.

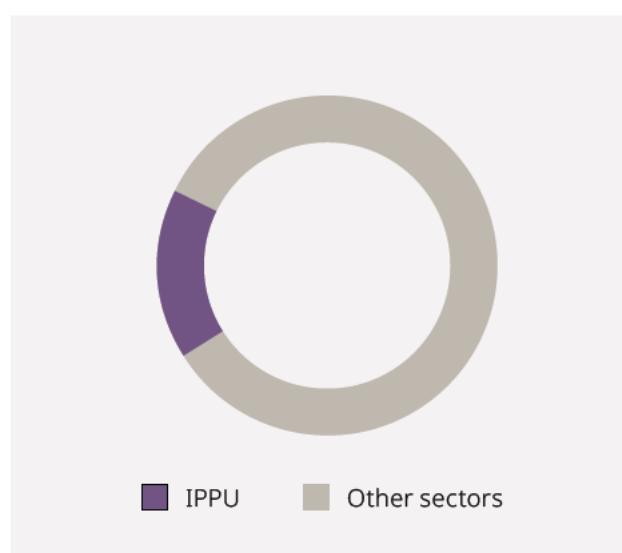
Emissions from IPPU

The latest data show that Tasmania's IPPU sector amounts to 19 per cent of total emissions, excluding the land use, land use change and forestry (LULUCF) sector.²

Source of IPPU emissions 2022



Share of Tasmanian emissions (excluding LULUCF) 2022



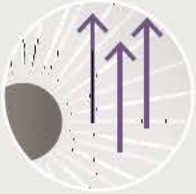
The IPPU sector emits a wide variety of greenhouse gases, including carbon dioxide, methane, nitrous oxide, and perfluorocarbons and synthetic greenhouse gases such as sulphur hexafluoride (SF₆) and hydrofluorocarbons (HFCs). Many of these gases are more potent than carbon dioxide and have a higher global warming potential (GWP).

The sector's emissions have increased by 11.9 per cent since 1990. This increase has largely been driven by changes in production levels due to global commodity fluctuations, and the increased use of products used as substitutes for ozone depleting substances.

Sources of IPPU emissions	
Sub-sector	Description
Chemical industry	Emissions from the chemical industry come from the production of chemicals such as ammonia, nitric acid and carbide. Emissions from the use of nitrous oxide in aerosols and anaesthesia are estimated. However, they are treated as confidential and aggregated.
Non-energy products from fuels and solvent use	The use of fossil fuels as lubricants, paraffin wax, and solvents (for example in paint, for cleaning and degreasing) releases carbon dioxide emissions.
Product used as substitutes for ozone depleting substances	This sub-sector comprises emissions from the use of synthetic greenhouse gases such as HFCs and sulphur hexafluoride (SF ₆). HFCs are used in products such as fridges and air conditioners, fire extinguishers, aerosols and some inhalers, as substitutes for historically-used chemicals that deplete the ozone layer. Commercial and industrial refrigeration are the major contributors to this sub-sector.
Metal industry	The production of metals, including iron, steel and aluminium, involves chemical processes that produce a range of greenhouse gases. Tasmania has one aluminium smelter and two major industrial businesses which manufacture inputs to the steel production process – iron ore pellets and manganese compounds.
Other product manufacture and use	Emission sources in the 'other product manufacture and use' sub-sector include SF ₆ used in electricity supply equipment and distribution networks and other miscellaneous uses. Tasmania's 'other product manufacture and use' emissions are not reported at the sub-sector level to avoid the potential disclosure of commercially sensitive data.
Other	The 'other' IPPU sub-sector includes emissions from carbon dioxide used in the food and beverage industry (for example in carbonated drinks and a small contribution from sodium bicarbonate used in food production). Tasmania's 'other' emissions are not reported at the sub-sector level to avoid the potential disclosure of commercially sensitive data.
Mineral industry	The main contributors to this sub-sector are cement clinker and lime production. Cement production involves heating raw materials, principally limestone, at extremely high temperatures in a cement kiln. This creates cement 'clinker' and carbon dioxide. Lime production involves a heating process to calcinate limestone, which turns the limestone into lime and carbon dioxide. Tasmania has one cement manufacturing facility and a limestone production plant.

Climate-related risks and opportunities for the IPPU sector

Climate change impact	Risks and opportunities for Tasmania's IPPU sector
Technological changes 	The IPPU sector has difficult-to-abate emissions that will require significant investment and research to be implemented at scale. The adoption of low emissions technology and shift towards renewable energy sources will require significant investment for Tasmanian industrial businesses as they adopt new technology to reduce emissions. The slow rate to commercialise means that the cost of implementation is high. There are opportunities for Tasmania to benefit from the development of new technologies such as a green hydrogen (hydrogen produced using renewable energy) industry which could support decarbonisation of the IPPU sector.
Changing consumer and investor sentiment 	There is an increasing expectation from markets and consumers for businesses to reduce emissions and create environmentally and socially responsible products. These changes can bring challenges and risks, but also opportunities for Tasmanian businesses to benefit from Tasmania's renewable energy, increase productivity, reduce costs, and explore new revenue streams.
Policy and regulatory changes 	Businesses are increasingly required to measure, report and reduce emissions by markets and governments in Australia and our trading partners. Costs for businesses may increase as organisations along supply chains adjust to a lower emissions economy.
Market changes 	

Climate change impact	Risks and opportunities for Tasmania's IPPU sector
Rise in annual average temperatures 	Increased temperatures may impact industrial cooling processes and increase ventilation needs. A rise in annual average temperatures may impact working conditions in industrial facilities.
Longer fire seasons, more days of high fire danger 	Significant weather events such as bushfires can disrupt supply chains, damage physical infrastructure and assets, and create hazardous conditions for workers. The increased risks of events such as bushfires and severe storms may also create risks to the insurability of businesses.
Significant change in rainfall patterns 	Decreased rainfall in specific locations will negatively impact industrial sector businesses that use water-intensive processes. Increased rainfall, storms or floods can also impact the sector through disruptions to outdoor working conditions for labourers and supply chain disruptions.
Increase in storms, creating coastal erosion 	Coastal erosion and a rise in sea levels can potentially damage ports and wharves, causing supply chain disruptions for product distribution. Many Tasmanian industrial businesses are located in coastal regions.

New commitments to reduce emissions and build resilience in the IPPU sector

The Tasmanian Government has committed to deliver several key initiatives to reduce emissions and build resilience in the IPPU sector:

- Partner with research organisations and cooperative research centres (CRCs) to fund the development of low emissions technologies for the IPPU sector.
- Partner with industry and research institutions to deliver industry roundtable meetings with Tasmanian businesses, peak industry bodies, government and research organisations that focus on specific issues and barriers for the sector to reduce emissions.
- Map the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes to support government and industry to plan for the transition.

We will also increase our collaboration and coordination across government to:

- Expand the current engagement with industry through the *Tasmanian Advanced Manufacturing Action Plan 2028* and continue to support existing Memoranda of Understanding with Tasmanian major industrial businesses to support our large emitters to reduce emissions and achieve their decarbonisation plans.
- Increase support for Tasmanian businesses to access funding through existing Australian Government schemes.

These actions will build on existing commitments, including:

- Funding of \$450,000 for the Advanced Manufacturing Productivity Grant Program, providing grants of up to \$20,000 to undertake a variety of productivity enhancing activities such as obtaining accreditations and expert advice and developing staff and business skills.
- Funding of \$1 million for the Advanced Manufacturing Accelerating Growth Grants program, providing grants of up to \$100,000 to Tasmanian manufacturing businesses.
- Financial support for nationally recognised training and other support to deliver training for individuals and businesses through the \$12.6 million *Building a Skilled Workforce Fund 2024-25*.
- Funding of \$80,000 to the Tasmanian Minerals, Manufacturing and Energy Council (TMEC) to operate the Tasmanian Manufacturing Centre of Excellence and maintain skills development programs.
- Supporting improved management of construction and demolition material waste to support circular supply chains, through the Waste Management and Resource Recovery Board's \$3.5 million High Priority Infrastructure Grant program.

We will also seek to maximise the opportunities for Tasmania through relevant Australian Government initiatives, including the development of the national sectoral decarbonisation plan for the industrial sector.

Supporting business and industry to reduce emissions, transition to lower emissions, and build resilience

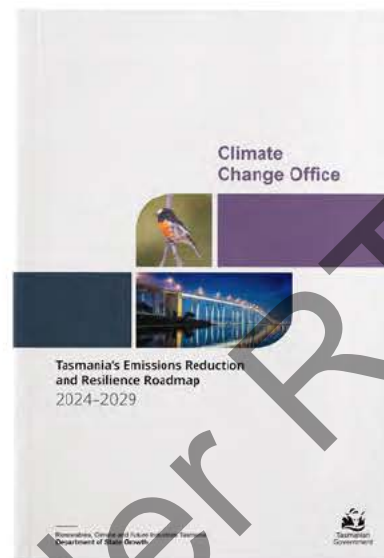
We have developed *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* to show the links between all sectoral plans and Tasmania's first statewide climate change risk assessment.

There are common challenges and opportunities across all sectors in Tasmania. As part of the Roadmap we will introduce:

- **Climate Change Business Innovation Grant Program** to support businesses to take action on climate change, focusing on local innovation, collaboration and partnerships.
- **Business and Industry Climate Change Innovation Forum** to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.
- **Climate Change Champions Program** to develop ways to recognise innovative, best practice climate action across all sectors.
- **Climate Reporting Support Program** to support small- to medium-sized businesses to better understand climate-related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.

These cross-sectoral opportunities have been identified based on feedback from consultation on all sectoral plans.

See *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* for more information.



About this Plan

This Plan for the IPPU sector focuses on Tasmania's major sources of industrial emissions, as described under the United Nations Framework Convention on Climate Change (UNFCCC) reporting framework. Emissions from the IPPU sector include direct emissions from a range of chemical processes used to manufacture products, in addition to the use of synthetic greenhouse gases and fossil fuels for non-energy purposes.

This Plan focuses on the largest IPPU emissions sources for Tasmania. The majority of Tasmania's IPPU emissions are from the manufacture of metals and minerals, followed by the use of synthetic greenhouse gases such as HFCs and SF₆. The Australian Government is responsible for the phase-out of HFCs under the Montreal Protocol. The remaining sub-sectors combined make up less than 1 per cent of total IPPU emissions.

Due to the nature of the IPPU sector and the UNFCCC reporting framework, there is significant overlap between the IPPU and energy sectors. Emissions associated with the stationary energy and combustion of fossil fuels used in industrial production processes are accounted for in the energy sector, while the emissions from the processes themselves are accounted for in the IPPU sector.

This Plan also considers how we can build resilience to the impacts of climate change on the IPPU sector and how the sector can be supported in the transition to net zero as global markets evolve. Examples include how the IPPU sector will adapt to changing consumer preferences for sustainable materials, and the pathway to transition the sector to decarbonise and be more resilient to the impacts of extreme weather events.

The Tasmanian Government has a range of actions underway to assist the manufacturing industry to continue developing sustainably in Tasmania, including increasing renewable energy generation, developing the ability to produce green hydrogen, and funding peak bodies that represent and support businesses.

This Plan will guide additional strategic investment over the next five years. We will work with industry and the Australian Government to access existing and future national funding to support this transition. The Australian Government has committed to support the transition of industry through the *Future Made in Australia Innovation Fund*. This fund includes \$1.7 billion over 10 years to build a green metals and low carbon liquid fuels industry in Australia. As part of reforms to the Safeguard Mechanism, the Australian Government also announced the *Powering the Regions Fund* (PRF) to support industry to decarbonise. The PRF includes streams of funding dedicated to supporting regional industrial facilities, primarily steel, cement, lime aluminum, and alumina industries.

The new actions in this Plan have been designed in collaboration with business, industry, peak bodies, research organisations and key government departments to ensure they align with and complement the *Tasmanian Advanced Manufacturing Action Plan 2028* and existing national commitments.

Our Plan to reduce emissions and build resilience in the IPPU sector is made up of five focus areas:

1 We will support research, development and the adoption of existing and emerging decarbonisation technology.

2 We will support the market for local lower emissions products.

3 We will support the sector in the transition to a lower emissions economy.

4 We will build the resilience of the IPPU sector to the physical impacts of climate change.

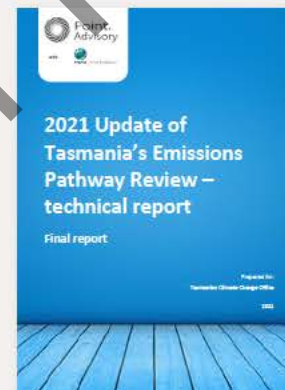
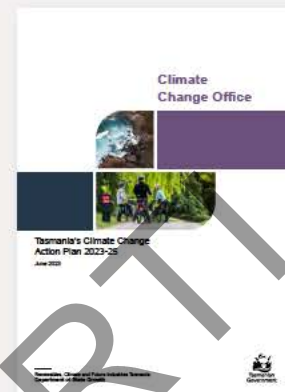
5 We will drive action through partnerships and collaboration.



Research and alignment with relevant policies

There is significant work underway by governments, business, industry and the community to sustainably grow the sector, reduce its emissions, support it in the global transition to net zero, and build resilience to the changing climate. This Plan brings together the work already underway or committed, with proposed new work programs, to provide a coordinated approach to reducing emissions and building resilience in the sector. We have considered:

- alignment with existing Tasmanian Government policies, including the *Tasmanian Advanced Manufacturing Action Plan 2028* and Memoranda of Understanding (MoU) with industrial businesses
- our legislated target to ensure Tasmania's greenhouse gas emissions are net zero, or lower, from 2030
- the other objects of the *Climate Change (State Action) Act 2008*, 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 2021 *Tasmanian Emissions Pathway Review*
- the *State of the Environment Report 2024*, including Recommendation 15 which recommends the Tasmanian Government continues efforts to reduce greenhouse gas emissions across all sectors
- 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, and reports by peak industry bodies such as *Decarbonisation pathways for the Australian Cement and Concrete Sector (2022)* and *HILT CRC Heavy industry low-carbon transition*.



Targets

Tasmanian Government

Tasmania has a legislated economy-wide target of net zero emissions, or lower, from 2030. This target recognises the risks to Tasmania's current net zero status, for example from major bushfires, which could change our emissions profile by reducing the carbon sink in our forests. Access to renewable energy will positively impact the IPPU sector, as its businesses are high energy users in Tasmania. Energy is out of scope for this Plan, although access to renewable energy will assist industrial businesses to decarbonise. The Tasmanian Government has committed to the following targets and actions to improve access to renewable energy in Tasmania:

- Tasmania has a renewable energy target of 200 per cent of 2020 demand gigawatt hours of electricity by 2040, with an interim target to produce 150 per cent of 2020 demand by 2030. This target will secure industry with low-cost, reliable, clean energy.
- The Renewable Energy Approval Pathway (REAP) will support projects such as wind farms, transmission lines, and other renewable energy investment.
- The Tasmanian Renewable Hydrogen Action Plan, including the development of a Tasmanian Green Hydrogen Hub at Bell Bay, will support industrial businesses to decarbonise by providing carbon neutral feedstock from green hydrogen.

Industry

Many of Tasmania's largest emitters have set emissions reduction targets:

- Cement Australia is committed to achieving a carbon reduction of 40 per cent by 2030 and net zero emissions by 2050. Cement Australia is the owner of the Railton cement facility.
- Grange Resources, the owner of the Port Latta iron ore pellet plant and Savage River iron ore mine in Tasmania, has targets to reduce emissions by 50 per cent by 2030 and net zero scope 1 and 2 emissions by 2035.
- Rio Tinto, the owner of Bell Bay Aluminium, is committed to a 15 per cent reduction in emissions by 2025, 50 per cent by 2030 and net zero by 2050. This reduction will be supported by short-term changes in processes, medium-term actions such as transitioning to renewable fuels and electric vehicles, and long-term transitioning to new technologies as they become commercially available for the sector.
- GFG Alliance, the owner of Liberty Bell Bay ferromanganese plant, has a goal to become carbon neutral by 2030.



Potential emissions reduction from the IPPU sector

The *2021 Tasmanian Emissions Pathway Review* identified a total of 26 opportunities for emissions reduction in Tasmania. These opportunities were assessed based on their achievability against economic considerations, technical feasibility and government policy.

Three opportunities for the IPPU sector were identified as having low achievability due to the time to conduct the necessary research, development and commercialisation, and high implementation costs. They were not included in the “best-fit” emissions reduction pathway for Tasmania.³

The estimated emissions reduction of these opportunities, if they become technically and economically feasible over the coming years as a result of ongoing research, development and investment, are outlined on the next page.

The Emissions Pathway Review also identified the use of alternative lower emissions materials, such as wood in construction, as an opportunity to reduce emissions in both scope 1 and scope 3 emissions for Tasmania’s IPPU sector. This opportunity can reduce emissions by substituting timber for more emissions-intensive locally produced or imported products. The estimated annual abatement by 2050 was 0.21 (Mt CO₂-e). While there are opportunities to displace the use of some emissions-intensive products in building

and construction, products such as steel and cement remain essential to the building and construction industry, and these heavy industries are critical to Tasmania’s economy. It is important that this opportunity is considered in the context of supporting the transition of Tasmania’s emissions-intensive industries as low emissions technologies become available.

This opportunity could be considered through a future funding priority area to implement sustainability accreditation for government infrastructure projects, and include climate change consideration in government decision making, which would support more sustainable materials in government construction projects. Existing policy includes the *Tasmanian Wood Encouragement Policy*, which was launched in 2017 and ensures sustainably-sourced wood is considered where feasible in Tasmanian Government procurement, particularly for new buildings and refurbishment projects.

New initiatives in this Plan focus on supporting research and development into low emissions production of metals and minerals, including aluminium, ferromanganese and cement, through collaboration with research institutions and CRCs. The focus is on research and development into opportunities that were identified as medium- to long-term, although have a combined greater abatement potential for Tasmania.

³ For more information see the *2021 Update of Tasmania’s Emissions Pathway Review – technical report* prepared for the Tasmanian Climate Change Office by Point Advisory and Indufor: recfit.tas.gov.au/__data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf

Emissions reduction opportunities

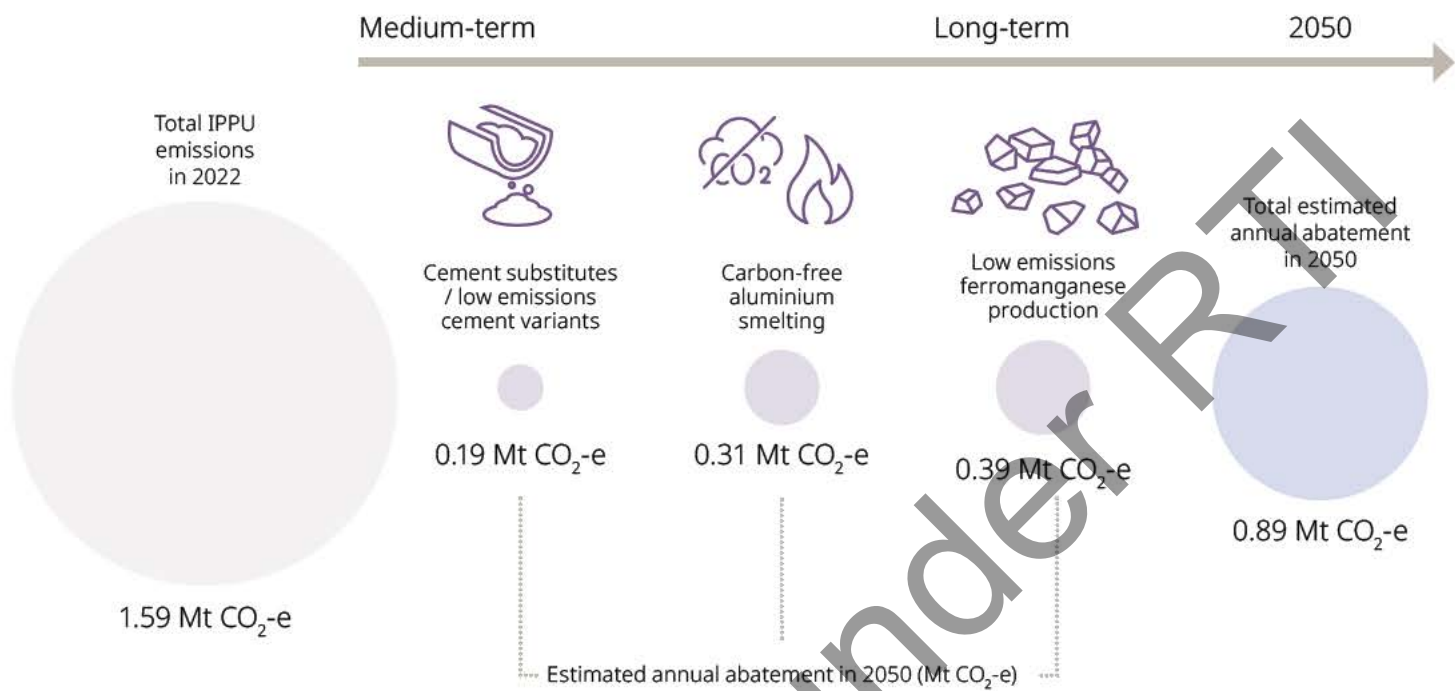


Photo: Rudi de Beer

Estimating the impact of the IPPU Plan on our emissions and resilience

This Plan includes existing, new and future actions to support the uptake of the best-fit emissions reduction opportunities for Tasmania. Many of the actions aim to ensure Tasmania's major industrial businesses have access to the information and tools they need to support the uptake of low emissions technologies and practices, and build resilience. Encouraging action through partnerships and collaboration aims to improve the way we collaborate across government and industry, and can support industry to achieve their decarbonisation plans.

Partnerships and collaboration such as these are essential to ensuring Tasmania's industry have the confidence to invest in low emissions technologies and make changes to their business operations. By their nature, these types of initiatives may not deliver direct emission reductions or increased resilience. They will instead drive reductions indirectly by supporting Tasmanian businesses and industries to make changes.

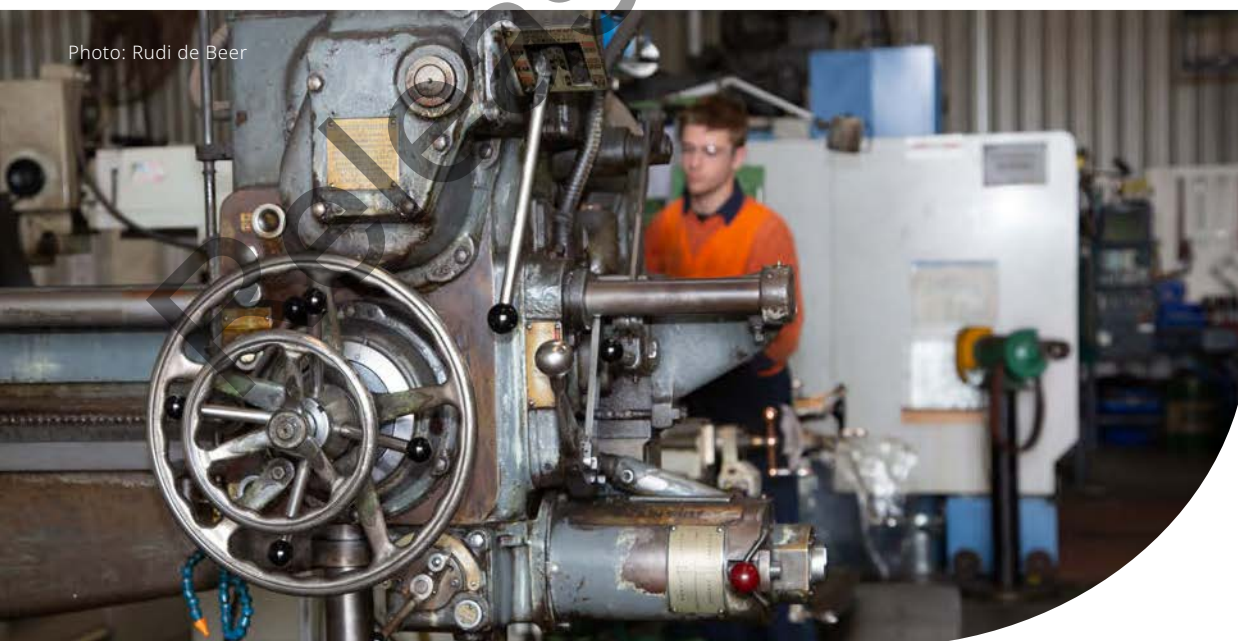


Photo: Rudi de Beer

Consultation – What we heard

Targeted consultation with business and industry commenced in November 2023, and public consultation was open from 3 September to 7 October 2024. Twenty six submissions were received through the public consultation process. We also held one-on-one meetings with a number of stakeholders, including community groups throughout this process.

Consultation participants included:

- Tasmanian Government agencies and businesses
- local government
- industrial and manufacturing businesses in Tasmania
- renewable energy businesses
- relevant non-government organisations and research institutions
- members of the community and community organisations.

Key themes from consultation, in order of the number of times raised, and actions in this Plan to address them, are summarised below. All public submissions are published on the ReCFIT website at www.recfit.tas.gov.au/consultation

Key themes from consultation	Raised by	What we are doing
Access to affordable renewable energy	Business, industry and community	Mapping the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes to support government and industry to plan for the transition. Significant program of work to double Tasmania's renewable electricity generation capacity by 2040.
Advocate to the Australian Government to strengthen the Safeguard Mechanism	Community	Continuing to work with the Australian Government to progress national priorities to reduce emissions from IPPU and ensure the best outcomes for Tasmania.
Better collaboration between Tasmanian industrial businesses on opportunities for decarbonisation	Business and industry	Partnering with research institutions or CRCs to deliver industry decarbonisation roundtable meetings with Tasmanian businesses, peak industry bodies, government and research organisations to share learnings, barriers and solutions for the sector to reduce emissions.
Consider scope 2 and 3 (supply chain) emissions	Community	Developing a framework to build capacity of government agencies to consider climate change and developing a government operations emissions reduction and resilience plan. As a large purchaser, the government can play an important role in supporting products for local, environmentally sustainable products.

Key themes from consultation	Raised by	What we are doing
Embed in the <i>Climate Change (State Action) Act 2008</i> a requirement for early and broad community engagement in development of plans	Community	Completing the next independent review of the <i>Climate Change (State Action) Act 2008</i> in 2025 as required under the Act.
Improved business resilience to climate change impacts	Business and industry	Updating Tasmania's fine-scale climate projections. Developing user-friendly resources to support Tasmanian businesses, industry and communities to make decisions about the changing climate.
Research, development and trialling new low emissions technologies	Business, industry, community	Partnering with research institutions or CRCs to fund research and development of new technologies. Delivering a Business Innovation Grant Program. This is a cross-cutting action that will benefit multiple sectors to support trials of new technologies.
Streamlining government regulatory frameworks	Business and industry	Working with the Environment Protection Authority and the Department of Natural Resources and Environment Tasmania to review regulations, and consider updating policies to align with other jurisdictions. Building on the Renewable Energy Approvals Pathway (REAP) to ensure low emissions technology can be implemented effectively. Continue to work with the Australian Government to progress national priorities, including regulatory reform to reduce emissions from IPPU and ensure the best outcomes for Tasmania.
Support for a future skilled workforce to enable the transition to low emissions	Business, industry and community	Developing a renewable energy skills hub in the north west of Tasmania. Delivering the 2025 Building a Skilled Workforce Grant Program.
Support to access Australian Government funding opportunities	Business and industry	Working with the Department of State Growth's Economic Development team to further engage with major industrial businesses, supporting Tasmania's largest emitters to reduce emissions and access funding opportunities through the Australian Government.
Set sectoral emission reduction targets	Community	Legislated economy-wide target of net zero emissions, or lower, from 2030. This target recognises the risks to Tasmania's current net zero status, for example from major bushfires, which could change our emissions profile by reducing the carbon sink in our forests.

How we will take action

The Emissions Reduction and Resilience Plans will guide Tasmania’s action on climate change in the transport, agriculture, waste, energy, industrial processes and product use, and land use, land use change and forestry sectors for the next five years.

Some actions are fully funded and ready to implement, and some are already underway. Other opportunities require additional funding to become available throughout the life of the Plans before they can be progressed.

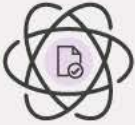
The IPPU Plan includes funding from *Tasmania’s Climate Change Action Plan 2023-25* for new actions to support emissions reduction and resilience in the sector.

The status of each action in this Plan is shown as follows:

NEW
New initiatives that are being funded through the Plan or recently announced.



NEW CROSS-SECTORAL COMMITMENT
New initiatives that will support emissions reduction and resilience in all sectors.



IN PROGRESS
Initiatives that are already being progressed by ReCFIT or the relevant department.



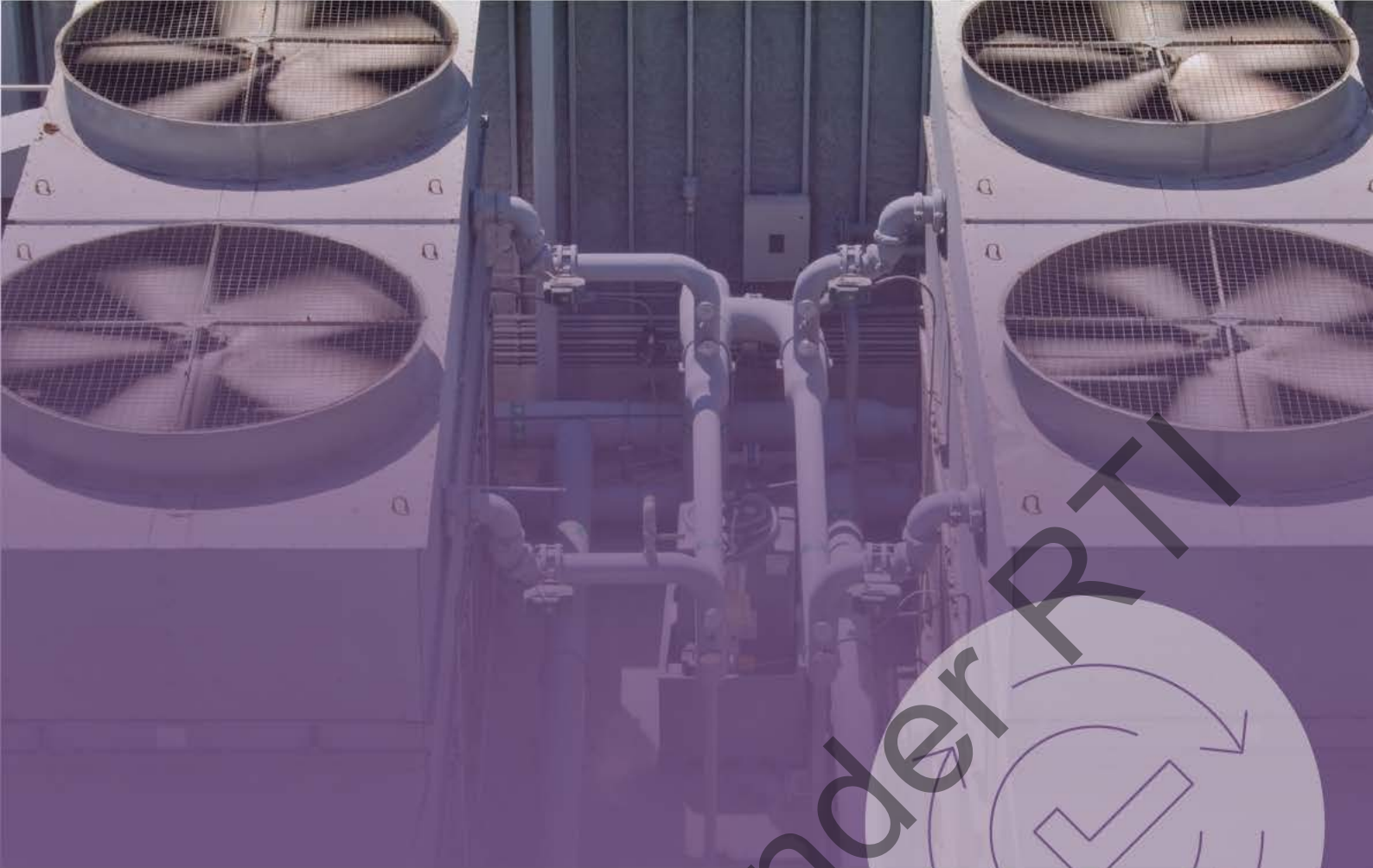
FUTURE FUNDING PRIORITY
Initiatives that require additional funding before they can be progressed.







Photo: Al Bett



**Our pathway to
reduce emissions
and build resilience
in the IPPU sector**

We will support research, development and the adoption of existing and emerging technology

Research and development of new low emissions technology will help reduce emissions from processes used to create metals and minerals, assisting industry to decarbonise difficult-to-abate emissions.

Regulatory frameworks also play a key role in enabling businesses to trial and adopt new low emissions technologies.

The low emissions technology and substitutes for most production processes are at varying stages of development, and many of the process emissions are difficult to abate. The technology will take significant time to be commercialised and become economically feasible to implement at scale. This Plan focuses on supporting the research and development of these processes to be implemented in Tasmanian businesses.

Other emerging technological opportunities include the use of automation, advanced data analysis and artificial intelligence to support decarbonisation of industry.

The adoption of the available technology will be important for Tasmanian industrial businesses to remain competitive in the transition to a low emissions economy, and to enable them to continue to meet the requirements of the Safeguard Mechanism.

Consultation identified that regulatory approvals processes are a barrier to implement or trial new low emissions technology. There needs to be a balance between strong regulatory frameworks that protect the Tasmanian community and developing innovative solutions and adapting to changing market conditions. The Tasmanian Government can guide Tasmania's industrial businesses through the regulatory approvals processes and support them to choose the most appropriate way to trial low emissions technologies.

Benefits of research, development and extension for new decarbonisation technologies

- The potential to create new jobs and skills in Tasmania, especially in regional areas.
- Increasing energy efficiency from implementing new technologies and processes can improve productivity and economic outcomes for businesses and reduce greenhouse gas emissions.
- As Tasmania's emissions are currently net zero and we have a strong renewable energy sector, we are well-placed for businesses to trial and test new low emissions technologies.

Actions

Objective	Summary	Status	Delivered by
Support Tasmanian industrial businesses to adopt low emissions technologies	Establish the Climate Change Business Innovation Grant Program to support businesses to take action on climate change, including a focus on local innovation, collaboration and partnerships.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Increase support for Tasmanian industrial businesses to access funding for decarbonisation through Australian Government schemes, including: • Australian Renewable Energy Agency funding (ARENA) • National Reconstruction Fund • Clean Energy Finance Corporation • Australian Carbon Credit Unit (ACCU) Scheme • Powering the Regions Fund.	 NEW	State Growth (Economic Development) / ReCFIT (CCO)
Support development of low emissions technologies	Partner with research organisations and cooperative research centres (CRCs) to fund the development of low emissions technologies for the IPPU sector.	 NEW	ReCFIT (CCO)
Reduce SF₆ use in Tasmania	Support trials of low emissions alternatives to sulphur hexafluoride (SF ₆). SF ₆ is used in electricity supply equipment and distribution networks and other miscellaneous uses.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)
Reduce regulatory barriers to adoption of low emissions technologies	Work with the Environment Protection Authority (EPA) and the Department of Natural Resources and Environment Tasmania (NRE Tas) to review regulations, and consider updating policies to align with other jurisdictions.	 FUTURE FUNDING PRIORITY	EPA / NRE Tas / ReCFIT (CCO)
	Build on the Renewable Energy Approvals Pathway (REAP) to ensure low emissions technology can be implemented effectively.	 FUTURE FUNDING PRIORITY	ReCFIT

2

We will support the market for local low emissions products

The Tasmanian Government can lead by example and use low emissions materials in government infrastructure projects, both supporting the market for low emissions materials and reducing emissions.

The global shift to net zero emissions will present opportunities as well as challenges and risks for Tasmania's IPPU sector. For example, there will be increasing markets for sustainably produced metals and other low emissions products.

The building and construction sector accounts for 39 per cent of global emissions, and represents an important opportunity to assist in the transition to a lower emissions economy.⁴ Embodied emissions in the production of building materials are responsible for most of the emissions from

the building and construction sector. There are opportunities for Tasmanian-based businesses to produce low emissions building and construction products, including green metals and minerals and low emissions concrete.

The Tasmanian Government could support the market for local low emissions products by integrating sustainability and climate change considerations into decision making about competitive procurement processes for building and construction projects. The building and construction industry is already implementing sustainability considerations into design and construction. This change would provide incentives for lower emissions products to be produced if they are more widely used in significant government projects. The actions in this Plan consider how the Tasmanian Government can support the production of lower emissions metals and minerals.

Actions

Objective	Summary	Status	Delivered by
Support markets for low emissions building and construction products	Build the capacity of Tasmanian Government agencies to consider climate change in their decisions, policies and programs. This framework can play a role in supporting government decision makers to better support sustainable material use.	 IN PROGRESS	ReCFIT (CCO)
	The Tasmanian Government can lead by example to implement sustainability accreditation for large government infrastructure projects. This leadership could support the uptake and use of low emissions materials and processes in government projects.	 FUTURE FUNDING PRIORITY	State Growth (Infrastructure Tasmania)

⁴ www.cefc.com.au/media/ovrkk5l3/australian-buildings-and-infrastructure-opportunities-for-cutting-embodied-carbon.pdf

Case study

Island Block and Paving – Sustainable Products for the Future

Island Block and Paving's "Sustainable Products for the Future" range is an example of local innovation to reduce emissions from the production of masonry products used in building and construction.

Island Block and Paving is an independent manufacturer of sustainable masonry products in Tasmania. Their most recent "Sustainable Products for the Future" range is made from recycled glass aggregate and has achieved both Carbon Neutral and Greentag certifications. Island Block and Paving is the first Australian masonry company to achieve the carbon neutral net zero milestone across their entire sustainable product range.

The Sustainable Products for the Future range includes a unique, environmentally friendly range of bricks, retaining wall blocks, building blocks and paving.

This range is manufactured with at least 37.6 per cent recycled glass aggregate, which is a by-product of recycled glass container bottles. All glass is sourced from Tasmanian kerbside recycling.

The aggregates usually used, such as sand and metal dust, are replaced in manufacture by a problem landfill product. Finely crushed recycled glass reduces cement use by 10 per cent, which reduces the total carbon dioxide emissions.

Approximately 8,000 tonnes of Tasmanian container glass are used annually in production. The products are also manufactured using 100 per cent solar energy, on-site captured water, cement replacements, and natural 24-hour curing methods, which reduces energy use. Island Block and Paving has a 2050 emissions reduction plan in place.

Production of the Sustainable Products for the Future range (left) and a house made using products from the range (right).
Photo: Island Block and Paving.



3

We will support the sector in the transition to a lower emissions economy

Tasmania's industrial businesses will need to make a range of changes to their business to meet new and emerging demands from markets, governments and trading partners. Businesses that demonstrate efforts to reduce emissions are likely to be well-placed to make the most of the opportunities, and respond to the challenges, associated with the global transition to lower emissions.

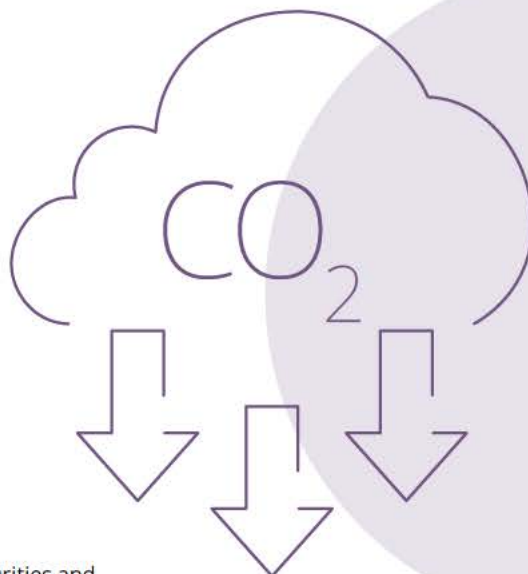
Transition risks for the IPPU sector include an increasing need for industrial businesses to demonstrate environmentally sustainable practices to comply with changing regulations, including the climate-related financial disclosure requirements which will commence in Australia for large businesses from 1 January 2025.⁵

Tasmanian companies are recognising the market risk in producing emissions-intensive products. Reforms to the Australian Government's

Safeguard Mechanism commenced on 1 July 2023, and include setting emissions baselines for facilities covered by the scheme that will reduce by 4.9 per cent each year.

To prevent 'carbon leakage' in countries with strong emissions reduction measures, many countries are considering implementing Carbon Border Adjustment Mechanisms (CBAMs). These mechanisms are a tariff on imported products that is broadly equivalent of the carbon cost faced by domestic producers. A high proportion of Australia's alumina and steel is exported. CBAMs could reduce the overseas and domestic competitiveness of material produced in Australia.

Transitioning to a lower emissions economy will require collaboration across government and industry to ensure effort is not duplicated, and support is provided to reduce impacts on businesses and communities. Investment in the capacity and capability of the current workforce, and attraction and training of new workers, are avenues to support businesses to develop the capacity to transition.



⁵ For more information visit the Australian Securities and Investment Commission website at: <https://asic.gov.au/regulatory-resources/sustainability-reporting/>

Case study

Tasmanian Green Hydrogen Hub – providing zero emissions energy for industrial processes

As the industrial business in Tasmania are also major energy users, access to renewable energy is a key issue for the sector to be able to transition to a lower emissions economy. Green hydrogen is hydrogen produced from renewable energy or non-fossil fuel sources and is an important opportunity to support Tasmanian industrial businesses to decarbonise.

The *Tasmanian Renewable Hydrogen Action Plan* outlines the vision for Tasmania to build on its existing and expanding renewable energy resources. The aim is to become a leader in large-scale renewable hydrogen production and become a significant global supplier of renewable hydrogen for export and domestic use by 2030. The government is delivering a \$50 million package to support the Renewable Hydrogen Action Plan action over 10 years.

The \$300 million Tasmanian Green Hydrogen Hub project under development at Bell Bay has recently commenced, with funding from both the Tasmanian and Australian governments. In January 2024, the Australian Government announced \$70 million for the project. The project will investigate providing hydrogen feedstock for Tasmanian industry. This project will benefit the IPPU sector by providing access to carbon-neutral feedstock and support new manufacturing opportunities in Bell Bay Advanced Manufacturing Zone.

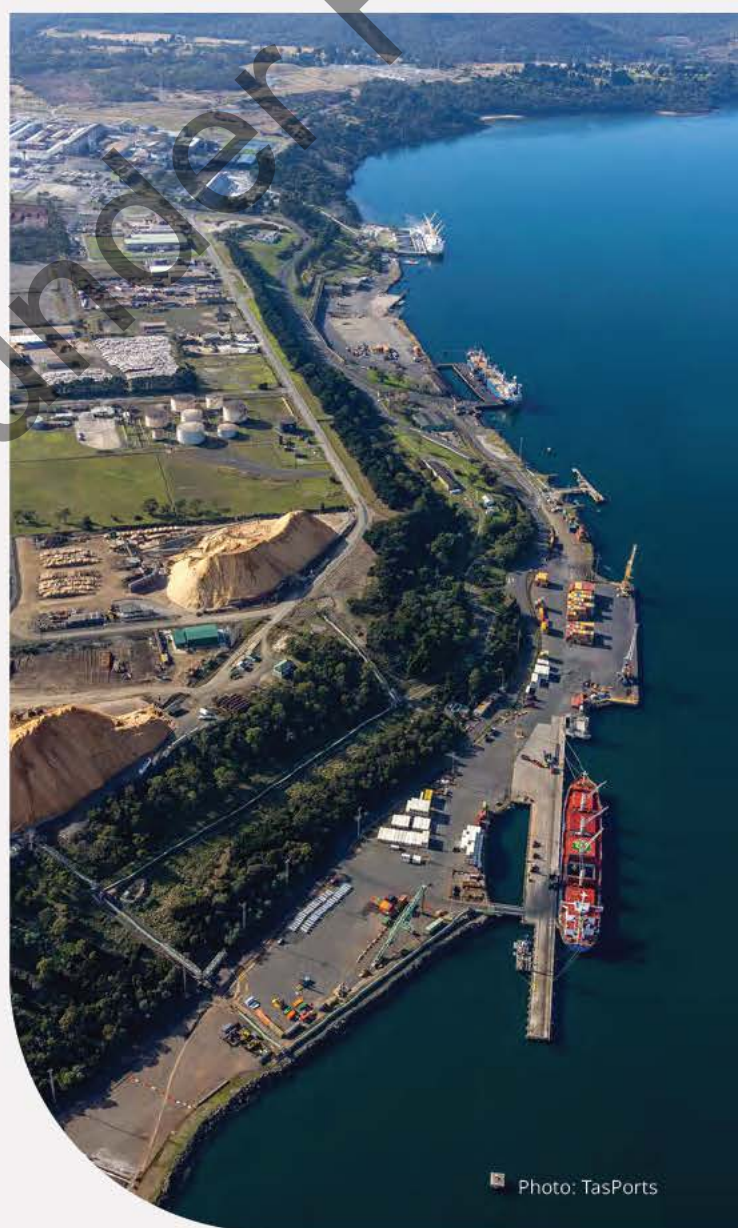
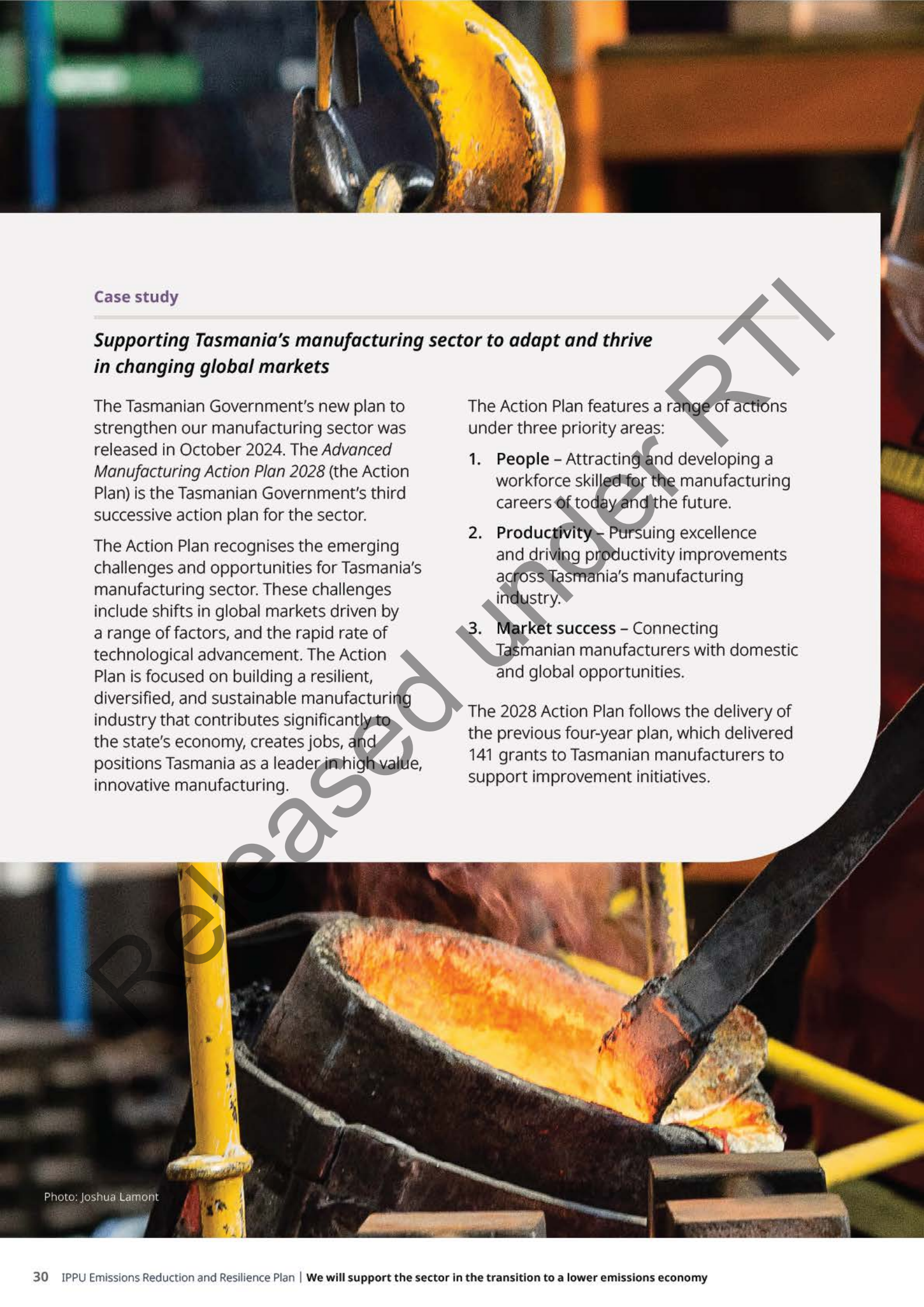


Photo: TasPorts

Actions

Objective	Summary	Status	Delivered by
Strategic planning to enable decarbonisation of the IPPU sector	Collaborate with partners to map the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes. This mapping will assist transition planning across the state and guide work to ensure infrastructure and systems are in place to enable business to reduce their emissions. For example, this mapping will identify the technological advancements, energy generation and transmission infrastructure that will be needed to transition major energy users to renewable alternatives. It could also consider issues such as electrification of vehicle fleets, skills and workforce needs.	 NEW	ReCFIT / industry partners
	Continue to work with the State Planning Office to ensure Tasmania's planning policies, regional land use strategies and regulations consider the role of land use planning in emissions reduction and resilience while also considering other environmental, economic and social outcomes.	 IN PROGRESS	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Support Tasmanian producers to comply with emerging reporting requirements and expectations	Work with Business Tasmania and other key partners to deliver a program to support small-to-medium-sized businesses to better understand climate related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO) / State Growth (Business Tas)
	Establish a Climate Change Champions Program to recognise innovative, best practice climate action across all sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
Build Tasmanian workforce capabilities in renewable and low emissions technologies	Establish a training facility in partnership with industry, with a dedicated focus on renewable energy skills to deliver major projects across electricity transmission, energy infrastructure, alternative fuels and renewable energy, and preparing the workforce to adopt new renewable technologies.	 IN PROGRESS	State Growth (Skills Tasmania)
	Deliver grants to support nationally recognised training and provide other support to individuals and businesses through the Building a Skilled Workforce Fund.	 IN PROGRESS	State Growth (Skills Tasmania)
	Collaborate with government and industry partners to support them to consider the impacts of climate change on current and future skills and workforce needs, and explore opportunities to address these issues.	 NEW	ReCFIT (CCO)



Case study

Supporting Tasmania's manufacturing sector to adapt and thrive in changing global markets

The Tasmanian Government's new plan to strengthen our manufacturing sector was released in October 2024. The *Advanced Manufacturing Action Plan 2028* (the Action Plan) is the Tasmanian Government's third successive action plan for the sector.

The Action Plan recognises the emerging challenges and opportunities for Tasmania's manufacturing sector. These challenges include shifts in global markets driven by a range of factors, and the rapid rate of technological advancement. The Action Plan is focused on building a resilient, diversified, and sustainable manufacturing industry that contributes significantly to the state's economy, creates jobs, and positions Tasmania as a leader in high value, innovative manufacturing.

The Action Plan features a range of actions under three priority areas:

1. **People** – Attracting and developing a workforce skilled for the manufacturing careers of today and the future.
2. **Productivity** – Pursuing excellence and driving productivity improvements across Tasmania's manufacturing industry.
3. **Market success** – Connecting Tasmanian manufacturers with domestic and global opportunities.

The 2028 Action Plan follows the delivery of the previous four-year plan, which delivered 141 grants to Tasmanian manufacturers to support improvement initiatives.

Photo: Joshua Lamont



4

We will build resilience to the impacts of climate change

The impacts of climate change on Tasmania's IPPU sector may include damage to infrastructure and assets, and disruptions to supply chains. It is important that we have up-to-date, user-friendly information and data on the risks and opportunities caused by changes in the climate to guide adaptation actions and reduce the impacts of climate change on business, community, and industry.

Projected changes to the Tasmanian climate will increase physical risks for Tasmania, including industrial processing and manufacturing facilities. These risks could include an increase in bushfires, floods, coastal erosion, and potential extreme weather events that can cause damage to infrastructure and property, as well as damage to the transport infrastructure necessary for exporting goods, causing supply chain disruption.

Businesses will need to take action to reduce the impacts of climate change on their systems. Actions could include strengthening supply chains, understanding and addressing workforce vulnerabilities, infrastructure upgrades, or updated emergency management procedures. Governments also have a role to play, for example by providing information about our future climate, and ensuring regulatory and policy frameworks enable action. As major energy users, secure access to reliable renewable energy will be essential for the IPPU sector in Tasmania. Energy security will be an essential aspect of increasing the resilience of businesses that are included in the IPPU sector. This Plan includes working with Tasmanian energy businesses to ensure electricity supply is resilient to changes in climate.

The Tasmanian Government has several initiatives underway to improve our understanding of the impacts of climate change on Tasmania, including the first statewide risk assessment for climate change. Sharing this information with industry in an accessible way that supports decision making will assist the sector to plan for risks and build resilience against the changing climate.



Case study

Risks and opportunities for Tasmania's IPPU sector

Tasmania's Risk Assessment for Climate Change 2024 is the first comprehensive statewide climate change risk assessment undertaken for our state. It provides analysis of climate-related hazards and influences in Tasmania. It assesses the interaction with exposures, vulnerabilities and responses across all parts of the state.

The Risk Assessment does not identify any specific risks and opportunities for the IPPU sector. However, many of the cross-cutting risks and opportunities will be significant for Tasmania's industrial businesses in the transition to a low emissions economy, and as our climate continues to change. Key risks include:

- risks to businesses and public organisations due to supply chain costs as organisations adjust to a low carbon economy.
- risks to the insurability of businesses, and public and private assets.
- risks and opportunities for business through the implementation of new technology to reduce emissions.

The Risk Assessment also notes the risks and opportunities for the IPPU sector associated with the development of a green hydrogen industry in Tasmania. There is an opportunity for its application in cement and steel production, although this will further increase demand for renewable energy.

The Risk Assessment identifies four key areas considered to be critical as part of any adaptation response:

- state-level coordination for local efforts
- coordination across strategies to address the intersection of climate change and health and wellbeing
- education is vital to successful climate adaptation and increased resilience for future generations
- development of, and investment in, additional data collection is required to better inform risk-based decision making.

Further information on government action to address the risks and opportunities for Tasmania is in the government's response to the Risk Assessment, available on the ReCFIT website: recfit.tas.gov.au/cc-risk-assessment

Actions

Objective	Summary	Status	Delivered by
Ensure we have accurate, up-to-date data about our future climate to inform decision making at all levels	Update Tasmania's fine-scale climate projections to provide the most up-to-date future climate information to Tasmanians and inform the development of climate change adaptation initiatives and investment.	 IN PROGRESS	ReCFIT (CCO)
	Develop resources that meet user needs to support Tasmanian industrial businesses to make informed decisions about managing climate risks and opportunities. Resources will include user-friendly information about the findings of the statewide climate change risk assessment and the updated fine-scale climate projections.	 IN PROGRESS	ReCFIT (CCO)
Increase emergency preparedness, response and recovery	Collaborate with key partners across state, national and local government, and the private sector to increase emergency preparedness, response and recovery.	 IN PROGRESS	ReCFIT (CCO)
Increase resilience in Tasmania's electricity system to support business continuity for major energy users	Continue to work with the Tasmanian Economic Regulator and Hydro Tasmania to monitor and assess water storages against the Energy Security Risk Response Framework. The Energy Security Coordinator will oversee any response required, in line with the framework.	 IN PROGRESS	ReCFIT

Objective	Summary	Status	Delivered by
	TasNetworks to explore electricity network resilience options, including trialling new products, processes and technologies and increasing access to climate change impacts information.	 IN PROGRESS	TasNetworks
	TasNetworks to undertake research and development and explore pilot projects that focus on demand response, community batteries, distributed energy and electric vehicle charging arrangements trials.	 IN PROGRESS	TasNetworks
Plan for the impacts of climate change on the IPPU sector	Provide an Emergency Preparation Toolkit to support businesses to plan for extreme weather events. The Toolkit includes considerations such as reviewing insurance policies, ensuring data is backed up, and considering planning for alternative trading methods and business dependencies.	 IN PROGRESS	State Growth (Business Tasmania)
	Work with partners to support businesses to identify national and international supply chain vulnerabilities and enhance resilience to future climate-related network disruptions.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

5

We will drive action through partnerships and collaboration

It is important that all groups are working together to align decarbonisation actions, ensure they complement each other without duplicating effort, and have mechanisms in place to share information and learnings.

The transition to a low emissions economy requires significant investment, supported by collaborative working relationships between industry, government, the community and research organisations. Challenges, including changing markets, cost constraints and commercial viability of alternative options, can be better managed through collaboration and information sharing to coordinate the approach to decarbonise.

Knowledge sharing networks or groups can bring together differing perspectives and support innovation when managing climate risks and making the most of new opportunities. A regular meeting, network, platform, or group can connect industry stakeholders with each other and support a collaborative approach to adapting to climate change.

The actions below will increase collaboration between governments, business and industry to encourage action in the sector. Many of the actions in other priority areas in this Plan also include a collaborative partnership approach.

HILT CRC project team members at the Grange Resources Port Latta pellet plant. Photo: Dian Olwagen



Case study

Collaboration to investigate emissions reduction opportunities for emissions intensive industries

The Heavy Industry Low-Carbon Transition Cooperative Research Centre (HILT CRC) supports collaboration between industry, research, and government to deliver industry-led research programs to de-risk technology pathways that decarbonise heavy industry.

In 2023, Grange Resources and a number of other industry and research partners started a project assessing how a regional hydrogen hub approach, bringing together hydrogen producers and users in a single location, can reduce costs through shared infrastructure and economies of scale. While hydrogen is considered an essential element of the transition to a low-carbon economy, there are major challenges to commercially sustainable, reliable hydrogen production and delivery.

The project created a detailed cost estimation framework for hydrogen supply across six key industrial hubs aligned to HILT's core industry partners, including Grange Resources. This framework factors

in regional differences in renewable energy availability, hydrogen production costs, storage and transportation infrastructure.

The project found that green hydrogen (produced using renewable energy) costs varied significantly across regions due to geographic factors such as labour costs, the distance between hydrogen production sites and end users, and renewable resource availability. Demand had minimal impact on green hydrogen costs, but for blue hydrogen, costs were significantly influenced by production scale and location-specific factors. (Blue hydrogen is hydrogen produced using natural gas.)

Tasmanian hydrogen prices were attractive compared to other hubs assessed in the project. The project provided an opportunity to share knowledge, expertise and resources and resulted in key learnings and insights. The outcomes of the project are particularly relevant to Grange Resources, which is considering converting its vertical shaft furnaces to hydrogen.

Actions

Objective	Summary	Status	Delivered by
Work together to address issues and barriers to emissions reduction in the sector	Expand the current engagement between the Department of State Growth (Economic Development) and industry through the <i>Tasmanian Advanced Manufacturing Action Plan 2028</i> and continue the existing Memorandum of Understanding with Tasmanian major industrial businesses to support our large emitters to reduce emissions and achieve their decarbonisation plans.	 NEW	ReCFIT (CCO) / State Growth (Economic Development)
	Establish a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Partner with industry and research institutions to deliver industry roundtable meetings with Tasmanian businesses, peak industry bodies, government and research organisations that focus on specific issues and barriers for the sector to reduce emissions.	 NEW	ReCFIT (CCO) / partners
Ensure Tasmania's unique challenges and opportunities are considered in national programs	Continue to work with the Australian Government to progress national priorities including regulatory reform to reduce emissions from IPPU and ensure the best outcomes for Tasmania.	 IN PROGRESS	ReCFIT (CCO)

Next steps

Implementation

Some actions in this Plan are fully funded and ready to implement and some are already underway. Other opportunities require additional funding before they can be progressed. These opportunities are labelled 'future funding priorities'. The status of each action is identified in this Plan.

Monitoring and reporting

We will determine whether actions in this Plan have been effective by monitoring and evaluating individual actions. Monitoring will be based on the approach identified for each of the actions. Evaluation methods will vary, as they will be tailored for each action.

Every year, we will prepare and table in Parliament:

- a climate change activity statement, showing the status of each sectoral Plan and actions in *Tasmania's Climate Change Action Plan 2023-25* (Action Plan) and future action plans
- a greenhouse gas emissions report detailing Tasmania's emissions for each sector.

We will update the plans at least every five years.

Engagement with business, industry and the community

We will continue to engage with key partners and the community on the development and implementation of actions as required.

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

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

Tasmania's Emissions Reduction and Resilience Roadmap

Tasmania's Emissions Reduction and Resilience Roadmap 2024-29 connects Tasmania's six sectoral emissions reduction and resilience plans and Tasmania's first statewide risk assessment for climate change.

We recognise that there is a lot of overlap between the six sectors, and that there are some parts of Tasmania's economy and community that are not covered by the sectoral plans.

The Roadmap includes new commitments to support businesses and industries in all sectors to address common issues and opportunities. It sets out how we will maintain net zero emissions across our economy through to 2030 and beyond.

The Roadmap also outlines which groups in Tasmania are covered in which sectoral plan, and identifies future focus areas for action over the next five years.

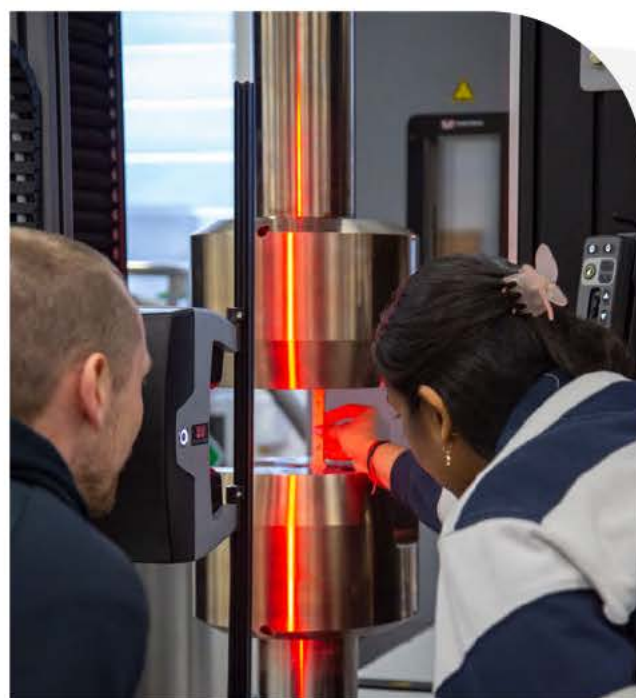


Photo: Rudi de Beer

Glossary and acronyms

Term	Description
ACCU	Australian Carbon Credit Unit. One ACCU represents one tonne of carbon dioxide equivalent (CO ₂ -e) that is stored or avoided due to a project. ACCUs are issued by the Clean Energy Regulator for eligible projects registered under the Emissions Reduction Fund.
ACCU Scheme	Formerly called the Emissions Reduction Fund, the ACCU Scheme is a key element of the Australian Government's climate change policies and is particularly important for emissions-intensive industries. The Scheme provides businesses the opportunity to earn ACCUs for every tonne of carbon dioxide equivalent stored or avoided through the adoption of eligible practices and technologies, and facilitates the trading of ACCUs.
Carbon leakage	Carbon leakage is a situation where large emitters in countries with strong climate policies, where costs of production are increasing, relocate to other countries with less stringent climate policies. The carbon emitted by these businesses is therefore not avoided or reduced but has 'leaked' to another country.
Clinker	Clinker, or cement clinker, is the key component of cement. It is made by heating raw materials, principally limestone, at extremely high temperatures in a cement kiln, which forms the clinker and releases carbon dioxide. The clinker is generally ground into a powder and combined with other materials to create cement.
CO₂	Carbon dioxide; a greenhouse gas.
CO₂-e	Carbon dioxide equivalent. This is a standard unit for measuring the greenhouse warming potential of gases. Each different greenhouse gas is represented in terms of the amount of CO ₂ that would create the same amount of warming.
CRCs	Cooperative Research Centres (CRCs) are an Australian Government initiative that funds industry-led collaborations between industry, researchers and end users.
Emissions	Greenhouse gas emissions.
Embodied carbon	Embodied carbon refers to the greenhouse gas emissions associated with the manufacture and use of a product or service, regardless of where that occurs. For example, for buildings and infrastructure this means the emissions associated with the extraction, manufacture, transport, construction, maintenance and disposal of the materials used.
EPA	Tasmanian Environment Protection Authority. The EPA is an independent statutory authority. Its purpose is to regulate developments and activities that may impact on environmental quality and to promote best practice and sustainable environmental management.
Feedstock	Raw material that is used to produce something in an industrial or manufacturing process.
GWP	Global warming potential. A value that allows direct comparison of the impact of different greenhouse gases in the atmosphere by comparing how much energy one tonne of a gas will absorb compared to one tonne of carbon dioxide.

Term	Description
HFCs	Hydrofluorocarbons. Various synthetic greenhouse gases, mostly used in refrigeration and air conditioning equipment, with high GWP.
IPPU	Industrial Processes and Product Use, one of the sectors in the UNFCCC greenhouse gas reporting framework.
kt	Kilotonnes. A kilotonne is equivalent to 1,000 tonnes or 1 million kilograms.
Lime	Lime is a material used in a range of products and processes including steel, glass and paper manufacturing, agricultural practices, chemical processes, plaster, mortar and other building materials. Lime is produced by heating carbonate materials in a kiln, which releases carbon dioxide.
LULUCF	Land Use, Land Use Change and Forestry, one of the sectors in the UNFCCC greenhouse gas reporting framework.
Methane	A greenhouse gas, which contributes approximately 28 times more atmospheric warming than carbon dioxide.
Montreal Protocol	The <i>Montreal Protocol on Substances that Deplete the Ozone Layer</i> is the landmark multilateral environmental agreement that regulates the production and consumption of nearly 100 man made chemicals referred to as ozone depleting substances.
Mt	Megatonnes. A megatonne is equivalent to 1,000 kilotonnes or 1 million tonnes.
Nitrous oxide	A greenhouse gas, which contributes approximately 265 times more atmospheric warming than carbon dioxide.
NRE Tas	Department of Natural Resources and Environment Tasmania
ReCFIT	Renewables, Climate and Future Industries Tasmania
Safeguard Mechanism	The Safeguard Mechanism is an Australian Government policy which requires Australia's highest greenhouse gas emitting facilities to keep their emissions below an emissions limit (baseline). If a Safeguard facility exceeds their baseline, they must manage their excess emissions. They can become liable to pay a financial penalty if they fail to comply with the Safeguard Mechanism.
SF₆	Sulphur hexafluoride, a synthetic gas used in electrical switchgear which contributes approximately 23,500 times more atmospheric warming than carbon dioxide.
Substitutes for ozone depleting substances	Ozone depleting substances are chemicals that destroy the earth's protective ozone layer. They were commonly used in products such as fridges, air conditioners, fire extinguishers and aerosols. Synthetic gases are now widely used to replace ozone depleting substances. While they do not damage the ozone layer, they are potent greenhouse gases.
t	Tonnes. 1,000 kilograms.
UNFCCC	United Nations Framework Convention on Climate Change

Department of State Growth

GPO Box 536 Hobart

TAS 7001 Australia

Phone: 03 6166 4466

Email: climatechange@recfit.tas.gov.au

Web: recfit.tas.gov.au

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Climate Change Office



Land Use, Land Use Change and Forestry Emissions Reduction and Resilience Plan

2024–2029

Released under RTI

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 and present.

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Photo: Private Forests Tasmania

Minister's message



Madeleine Ogilvie
Minister for the
Environment

The *Land Use, Land Use Change and Forestry Emissions Reduction and Resilience Plan 2024-29* (Plan) is the first legislated Plan for the land use, land use change and forestry (LULUCF) sector under our climate change legislation. This Plan builds on the significant investment we have made in recent years to support sustainable land and forest management practices for the land sector and forestry industry to reduce emissions and increase its resilience to climate-related risks.

The Plan has been developed in consultation with business, industry and the community, and across government. I would like to thank everyone who contributed to this plan, including my colleague the Hon Eric Abetz MP, Minister for Business, Industry and Resources, who is responsible for the continued delivery of many existing initiatives to support emissions reduction and resilience in the LULUCF sector.

According to the latest greenhouse gas emissions data, published by the Australian Government, Tasmania first achieved net zero emissions in 2014 and has maintained its net zero status in the nine reported years since. This achievement is largely due to our longstanding investment in renewable electricity generation and the carbon sink in our managed forest estate.

We understand that our carbon sink is not guaranteed into the future and that climate change will impact the capacity of our forests to store carbon. Tasmania's forests face increased risks from bushfires, heatwaves, drought, flooding, and invasive species and diseases that are likely to impact forest health and productivity, soil quality and carbon storage. We know we must do more to maintain our net zero status by reducing emissions in all sectors, while also increasing the carbon stored in our managed forest estate.

Almost half of Tasmania's land mass is forested, made up of around 91 per cent native forests and 9 per cent plantations. Forest management in Tasmania aims to balance the environmental, social and economic values for current and future generations, while continuing to supply forest products and provide services. Locally sourced long-life wood products provide a low emissions alternative to more emissions intensive building products and construction materials.

The Tasmanian forestry industry plays an important role in its contribution to the state's economy. The industry supports significant numbers of direct and indirect jobs, many of them in regional parts of Tasmania. This is why the Tasmanian Government is investing \$5 million to extend the On-island Processing Program to further grow Tasmania's forest and forest products industry.

Tasmanian landowners, commercial plantation managers and agri-businesses have identified that carbon markets can provide additional revenue streams. There are opportunities for tailored advice to support more land and forest managers participating in new and emerging markets. The transition to a low emissions economy will see increased demand for long-life locally sourced wood products used in place of more emissions intensive building products.

These opportunities are in addition to over \$12 million for Tasmanian Government projects committed or already underway to support the growth of the industry, plant more trees, increase the carbon stored in our forests and build resilience to climate-related risks.

This Plan will guide additional strategic investment over the next five years. We will work with industry, the community and the Australian Government to take advantage of any national funding that may become available to support this transition. This Plan also considers relevant actions already underway in the resources portfolio to increase the carbon storage in our forests.

This Plan is one of six sectoral Plans. Together, the Plans for our transport, waste, energy, industrial processes, agriculture, and LULUCF sectors will set out our pathway to achieve our target of net zero emissions, or lower, from 2030, support businesses and industry to transition to a low emissions economy, and build resilience to the impacts of climate change.

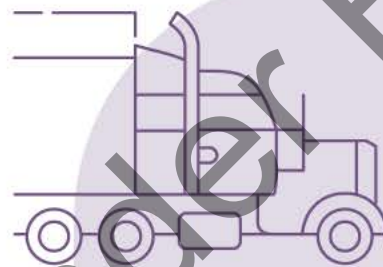


Photo: Private Forests Tasmania

Tasmania's land use, land use change and forestry (LULUCF) sector

Tasmania's forests and forestry production

In 2021, Tasmania had over 3 million hectares of native forest and 282,000 hectares of commercial hardwood (eucalypt) and softwood (radiata pine) plantations. Of the total native forest area, 1.255 million hectares is in conservation and public reserves, 812,000 hectares is on permanent timber production zone land, and 833,000 hectares is on private freehold land.

Tasmania's forestry industry plays an important role in the state's economy and provides direct and indirect employment in regional areas. The aim of the *Strategic Growth Plan for Tasmanian Forests, Fine Timber and Wood Fibre Industry* is to grow the industry value-add to \$1.2 billion in real terms by 2036.

In 2022-23, Tasmanian forests produced a total of over 3.7 million tonnes of wood fibre. Nearly 79 per cent of this came from plantations. The main product from Tasmania's plantation forests is pulpwood, but a growing and increasingly important product is high quality sawlogs.

Production forests in Tasmania are managed to supply a wide range of wood products to local and overseas customers, including high and low-quality sawlogs, high grade domestic peeler logs, special species timbers, pulpwood and firewood. These forests also support other commercial activities, such as bee keeping and tourism ventures, as well as recreational activities. Speciality timbers make up a minor but important component of the native forest harvest.

Emissions from the LULUCF sector

According to the latest emissions data included in Australia's National Greenhouse Accounts for 2022, emissions from Tasmania's LULUCF sector were minus 12.51 megatonnes (Mt) of carbon dioxide equivalent (CO₂-e), which is a reduction of 211 per cent on 1990 levels.¹

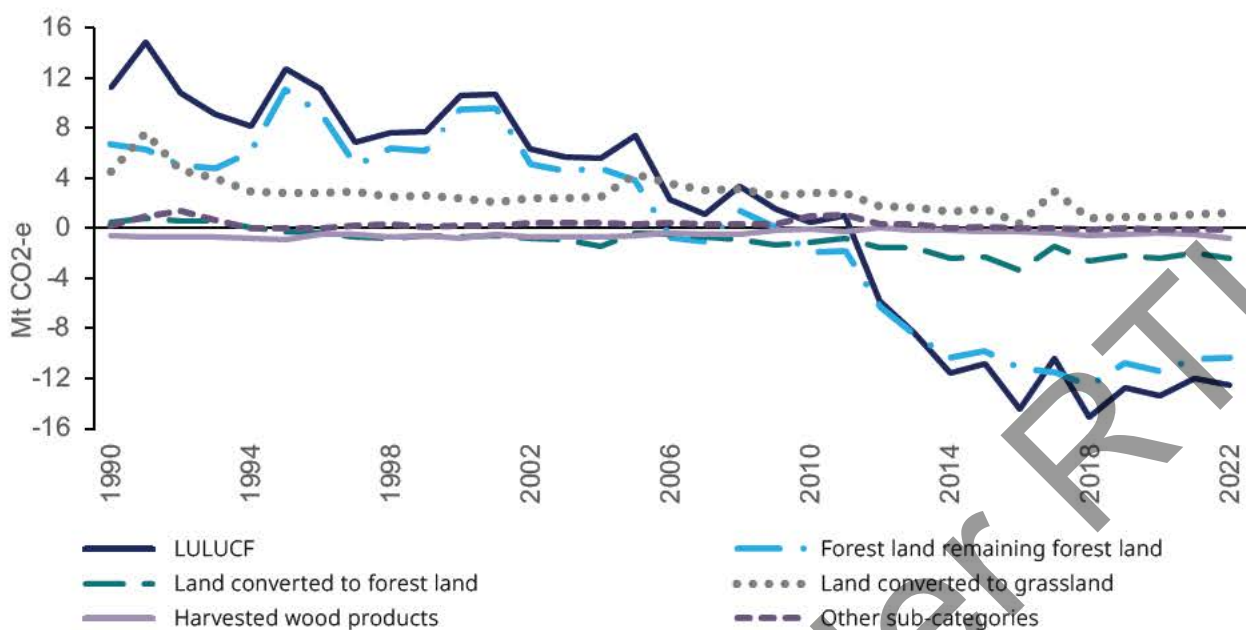
The decrease in LULUCF emissions from 1990 to 2022 has largely been driven by reductions in native forest harvesting on private land, lower rates of clearing and conversion of forested lands to other land uses, and increases in carbon sequestration from post-harvesting regeneration of forests, hardwood and softwood plantations, environmental plantings and regrowth of previously cleared lands.

The LULUCF sector has been a net carbon sink for each year since 2012 and offsets the emissions from all other sectors.

Photo: Private Forests Tasmania



¹ Tasmania's latest reported greenhouse gas emissions were released in April 2024 as part of the Australian Government's *National Inventory Report 2022*. The Australian Government reporting framework is consistent with UNFCCC and Paris Agreement reporting rules. National inventory reporting runs two years behind the current date, and represents the most recent official data in Australia on annual emissions.



Source: Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2024, State and Territory Greenhouse Gas Inventories 2022

What activities impact Tasmania's LULUCF emissions?

The LULUCF sector includes greenhouse gas emissions from:

- clearing of forested land and subsequent conversion to other land uses
- fuelwood consumption
- harvesting of native forests and plantations
- decomposing vegetation matter
- bushfires
- planned burning, including prescribed burns and post-harvesting regeneration burns
- wetlands, including constructed dams and reservoirs, and coastal aquaculture facilities.

The LULUCF sector also includes carbon sequestered or stored in:

- new forests and plantations established on previously cleared or unforested land
- regenerating previously harvested native forests and plantations
- regrowing vegetation after disturbances (for example land clearing)
- harvested wood products.

Climate-related risks and opportunities for the LULUCF sector

Climate change brings considerable risks and challenges to landowners and forest managers. Tasmania's managed forest estate is a significant carbon sink that currently offsets the emissions from all other sectors. The ability of Tasmania's forests and plantations to continue to sequester carbon at current rates will change under the changing climate.

The carbon sink in our managed forest estate is not guaranteed into the future due to the forecast changes in rainfall patterns, increased intensity and frequency of bushfires, drought, heatwaves

and storms, and invasive pests and disease. The changes to our climate will impact forest health and productivity, tree cover and soil quality.

There are risks for land and forest managers and agri-businesses associated with the transition to a lower emissions economy such as regulatory changes for accounting and financial risk reporting. There are also potential opportunities for the LULUCF sector associated with increased demand for low emissions timber products and participation in carbon and environmental markets.

Climate change impact	Risks and opportunities for Tasmania's LULUCF sector
Rise in annual average temperatures	Average temperatures in Tasmania are forecast to increase, together with an increase in the frequency and intensity of heatwaves and drought. These changes are expected to impact the carbon sequestration rates of Tasmania's native forests and plantations differently. Recent research indicates that an increase in intensity of heatwaves will potentially cause long-term loss of carbon stocks in Tasmania's tall eucalypt forests which may become a permanent source of emissions. Prolonged or severe heatwaves may result in forest dieback. Also, higher average temperatures may increase the productivity of commercial plantations in some areas of Tasmania. Tasmania may also experience an increase in invasive species and diseases in a warmer climate. Our forests may be subject to damage and deterioration in health from new pathogens or pests that they have not evolved adequate defence mechanisms against.
Significant change in rainfall patterns	More intense rainfall and flooding events are likely to increase the risk of soil erosion, reduce stream health and water quality and may result in changes to soil biota and nutrient cycling. Coupled with increased periods of soil drying and bushfires that impact the strength of tree root systems, compound extreme events may increase the risk of loss of tree cover and forest dieback.

Climate change impact

Risks and opportunities for Tasmania's LULUCF sector

Longer fire seasons, more days of high fire danger



Climate change is likely to have a direct impact on forest health by negatively impacting forest regeneration and regrowth and tree survival, especially as bushfires become more intense and frequent. Both fire-intolerant and fire-adapted species will be placed at greater risk. Forest age is likely to decrease, impacting on the social and natural values of more climate-resilient old growth and carbon-dense native forests. As future fire seasons lengthen, the ability and time available for land and fire managers to conduct prescribed burns and undertake other methods to reduce bushfire intensity will be reduced.

Under the changing climate, the current assumption that forests will naturally regrow back to their original extent and store the same amount of carbon may be challenged, as the increased frequency of major bushfires can potentially reduce the carbon storage capacity of forests. The impact of bushfire on carbon stocks could be a relatively rapid step-change under certain future climate scenarios, with repeat bushfires burning through regrowth too young to self-regenerate, especially in unmanaged forests.

Market changes



There are potential opportunities for Tasmanian landowners to diversify revenue streams by accessing carbon and environmental markets. However, there are barriers to Tasmanian landowners participating in these established and emerging markets. These barriers include lack of suitable forestry methods, complexity of the schemes, high administrative, compliance and insurance costs and risks to vegetation cover from bushfire and other hazards over the life of the projects.

Policy and regulatory changes



Tasmanian landowners and agri-businesses will be impacted by regulatory changes to reporting regimes and accounting standards for the disclosure of climate- and nature-related risks.

Changing consumer and investor sentiment



There may be an increase in demand for long-life wood products as low emissions alternatives that can reduce the fossil fuel use and embodied carbon of building materials and construction projects.

New commitments to reduce emissions and build resilience in the LULUCF sector

The Tasmanian Government has committed to deliver several key new initiatives to reduce emissions and build resilience in the LULUCF sector:

- Work with local government, regional development authorities and other institutions to plant climate tolerant trees in urban environments that can increase carbon storage and build resilience during high temperatures.
- Work with key partners to develop resources to increase understanding for landowners to participate in carbon and other emerging environmental markets.
- Undertake a gap analysis and audit of Tasmania's seed bank capacity to support research into seed sourcing to improve the resilience of our native forests and plantations under the changing climate.
- Work with the Australian Government to improve the transparency of LULUCF emissions reporting, for example in relation to native forest harvesting and bushfires.

This LULUCF Plan builds on recent investment of over \$12 million in new and expanded programs and initiatives that support sustainable forest management, reduce emissions and build resilience in the land and forestry sectors. These programs include extending the On-island Processing Program, delivering the Stems for CO2 program, expanding the Landcare Action Grants and investing in bushfire management capacity and biosecurity in a changing climate. We will also progress a range of initiatives using existing resources.

We have also committed to implement cross-cutting actions that will deliver emissions reductions and improved resilience across the six sectoral Plans, including the Plan for the LULUCF sector.

There are opportunities to maximise the outcomes for Tasmania through relevant Australian Government initiatives, including the development of the national Agriculture and Land Decarbonisation Plan.

Photo: Private Forests Tasmania



Commitments to support business and industry in all sectors

We have developed *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* to show the links between all sectoral plans and Tasmania's first statewide climate change risk assessment.

There are common challenges and opportunities across all sectors in Tasmania. As part of the Roadmap we will introduce:

- **Climate Change Business Innovation Grant Program** to support businesses to take action on climate change, focusing on local innovation, collaboration and partnerships.
- **Business and Industry Climate Change Innovation Forum** to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.
- **Climate Change Champions Program** to develop ways to recognise innovative, best practice climate action across all sectors.
- **Climate Reporting Support Program** to support small- to medium-sized businesses to better understand climate- and nature-related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.

These cross-sectoral opportunities have been identified based on feedback from consultation on all sectoral plans.

See *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* for more information.



Photo: Sustainable Timber Tasmania

About this Plan

We recognise the importance of taking a practical, holistic and systems-based approach to developing the Plans. This Plan focuses on Tasmania's major carbon sources and sequestration from land management practices, land use conversions, and forestry activities, as outlined under the United Nations Framework Convention on Climate Change (UNFCCC) reporting framework. Australia uses this framework to monitor and report our greenhouse gas emissions and meet our international reporting obligations.

This Plan for the LULUCF sector focuses on the emissions that come directly from human-induced activities, land and forest management practices, and changes of land use that impact the carbon stored in vegetation and soils across the landscape.

Due to the nature of the LULUCF sector and the UNFCCC reporting framework, there is significant overlap between forestry activities and other sectors, in particular the agriculture sector. Farmers and agri-businesses are major land managers in Tasmania, as are forest and plantation managers.

Emissions from the use of forestry machinery are accounted for in the energy sector and emissions from vehicles are reported in the transport sub-sector. These emissions are considered as part of the energy and transport Plans, rather than in this Plan.

The substitution of emissions-intensive building materials with locally sourced timber alternatives provides a significant opportunity to reduce emissions in Tasmania, and in Australian and overseas markets where our long-life wood products are exported and used. The emissions from fossil fuels used to manufacture building materials in Tasmania and used by the construction industry are accounted for in the energy sector. The reduction in emissions from the substitution of more emissions intensive building materials with long-life wood products will be reported in the energy sector. However, the LULUCF sector will play an important role in enabling this opportunity.

This Plan considers how to increase the carbon stored in our forests, and support the LULUCF sector to manage the risks and make the most of the opportunities in the global transition to a

Photo: Sustainable Timber Tasmania



lower emissions economy. It also considers the role the sector can play in reducing emissions in other sectors by using wood products, and how we can build resilience to the impacts of climate change on our forests, wetlands and human settlements.

The Tasmanian Government has a range of policies and programs in place to sustainably grow the LULUCF sector, in line with the government's target to grow the industry value-add to \$1.2 billion in real terms by 2036. The government is supporting further growth of the forest and forest products industry by extending the On-island Processing Program with \$5 million of additional funding.

We have also committed \$600,000 for Private Forests Tasmania to deliver the Stems for CO2 program, \$250,000 for the Carbon Farming Advice Rebate Pilot Program and \$900,000 to expand the Landcare Action Grants to include carbon farming projects.

The Australian Government has committed over \$63 million over ten years to implement the Agriculture and Land Decarbonisation Plan, including investment in research and development, providing information, resources and extension activities, and improving greenhouse gas accounting for the agriculture and land sectors at both the farm level and national inventory level.

The Australian Government has also allocated \$73.76 million over four years for the Support Plantation Establishment Program to establish new long-rotation softwood and hardwood forestry plantations in Australia and \$10 million over four years for the Forestry Workforce Training Program. Up to \$110 million in grant funding is available through the Accelerate Adoption of Wood Processing Innovation Program to support our forest and wood processing and products sectors.

The Tasmanian Government is working with the Australian Government to support the consideration of the unique challenges and opportunities for Tasmania in these programs.

Our Plan to reduce emissions and build resilience in the LULUCF sector is made up of five focus areas:

- 1 We will improve the data, information and knowledge needed to drive change.
- 2 We will support practices and technologies that will reduce emissions and increase carbon storage.
- 3 We will support the sector in the transition to a lower emissions economy.
- 4 We will build resilience to the impacts of climate change.
- 5 We will drive action through partnerships and collaboration.

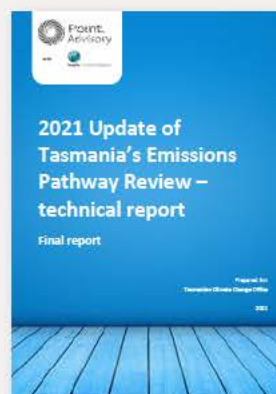
Research and alignment with relevant policies

There is significant work underway by governments, business, industry and the community to sustainably grow the LULUCF sector, reduce its emissions, support it in the global transition, and build resilience under the changing climate.

This Plan brings together the work already underway or committed, with proposed new work programs, to provide a coordinated approach to reducing emissions and building resilience in the sector. We have considered:

- alignment with existing Tasmanian Government legislation and policies, including the *Land Use Planning and Approvals Act 1993*, *Forest Practices Act 1985*, *Forest Management Act 2013*, *Forestry (Rebuilding the Forest Industry) Act 2014*, the *Policy for Maintaining a Permanent Native Forest Estate* and the *Forest Practices Code*
- the former Ministerial Advisory Council on Forestry's report, *A Strategic Growth Plan for Tasmanian Forests, Fine Timber and Wood Fibre Industry*, which includes the growth objective of doubling the industry value-add to \$1.2 billion in real terms by 2036
- our legislated target to ensure Tasmania's greenhouse gas emissions are net zero, or lower, from 2030
- the other objects of our climate change legislation, 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 2021 *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)

- the *State of the Environment Report 2024*, including Recommendation 15 which recommends the Tasmanian Government continues efforts to reduce greenhouse gas emissions across all sectors
- analysis of additional resources, including reports by industry and research institutions, industry targets and initiatives, and policies and initiatives being implemented in other jurisdictions.



Targets

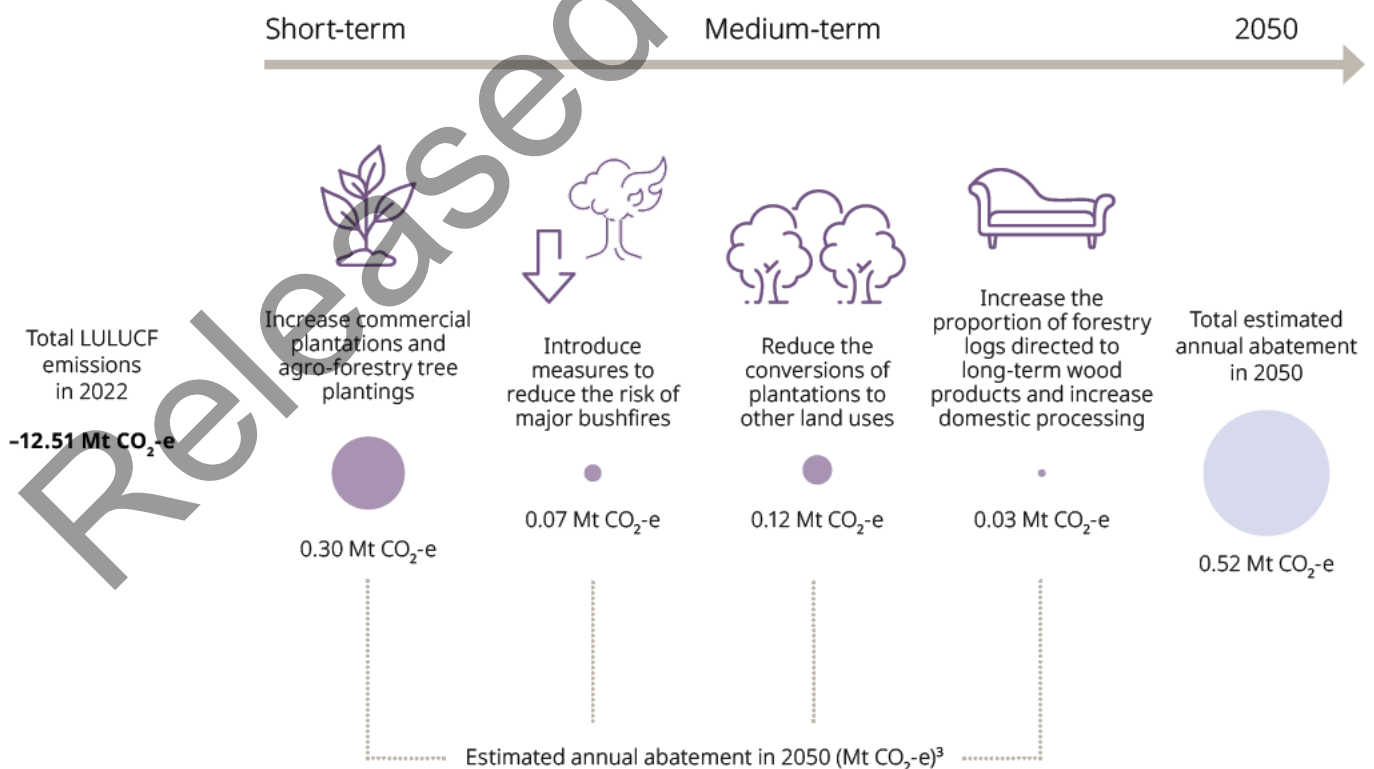
- Tasmania has an economy-wide target of net zero emissions, or lower, from 2030. This target recognises the risks to Tasmania's current net zero status, for example from bushfires, which could change our emissions profile by reducing the carbon sink in our forests.
- The former Ministerial Advisory Council's *Strategic Growth Plan for Tasmanian Forests, Fine Timber and Wood Fibre Industry* to grow the industry value-add to \$1.2 billion in real terms by 2036.

Potential emissions reduction opportunities for the LULUCF sector

The 2021 Tasmanian Emissions Pathway Review² identified 16 'best-fit' opportunities for emissions reduction in Tasmania, four of which directly relate to the LULUCF sector under the UNFCCC emissions accounting framework:

- reduce the conversions of plantations to other land uses
- increase commercial plantations and agro-forestry tree plantings
- increase the proportion of forestry logs directed to long-term wood products and increase domestic processing
- introduce measures to reduce the risk of major bushfires.

Emissions reduction opportunities



² https://www.recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf

³ Tasmania's Emissions Pathway Review, Point Advisory with Indufor, [recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf](https://www.recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf)

Estimating the impact of the sectoral plans on our emissions and resilience

Other opportunities for the LULUCF sector that may reduce emissions across the economy:

- Plant more trees on farms and in commercial plantations.
- Reduce the conversion of forest land to other land uses with lower capacity to store carbon, including reducing the extent of clearing of forest vegetation, excluding plantations, and secondary regrowth on agricultural lands.
- Plant more trees in urban environments, which has the added benefits of increasing shading and reducing the heat island effect during periods of high temperatures.
- Reduce the risk of major bushfires through the use of innovative fire detection and suppression technologies and increased low intensity Aboriginal cultural burning practices.
- Promote compact urban form through land use planning controls that reduces transport emissions, support the use of energy efficient technologies for buildings and uptake of electric vehicle charging infrastructure, and ensure appropriate planning for the rollout of low emissions technologies.
- Increase the use of locally-sourced wood products, which can store carbon over long periods. The use of wood products in place of more emissions-intensive building materials can reduce the embodied carbon of construction and infrastructure projects.

This Plan includes existing, new and future actions to support the uptake of the best-fit emissions reduction opportunities for Tasmania. Many of the actions aim to ensure Tasmanian landowners have access to the information and tools they need to support the uptake of low emissions technologies and land and forest management practices, and build resilience.

Actions such as these are essential to ensuring Tasmanians have the confidence to invest in low emissions technologies and make changes to their lifestyles or business operations. By their nature, these types of initiatives may not necessarily deliver direct emission reductions or increased resilience. They will instead drive reductions indirectly by supporting Tasmanian businesses, industries and the community to make changes.

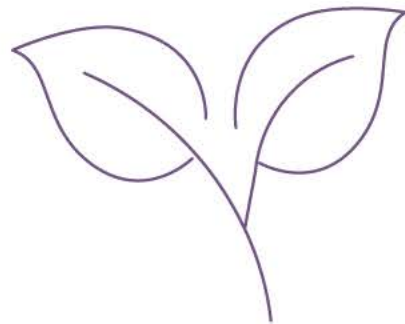


Photo: Sustainable Timber Tasmania



Consultation – What we heard

Targeted consultation with business and industry commenced in early 2024, and public consultation was open from September to October 2024. Fifty submissions were received through the public consultation process. We also held one-on-one meetings with a number of stakeholders, including community groups, throughout this process.

Consultation participants included:

- Tasmanian government agencies
- Tasmanian government businesses

- Tasmanian forestry industry bodies
- commercial plantation managers
- relevant non-government organisations and research institutions
- members of the community and community-based organisations.

Key themes from consultation, in order of the number of times raised, and actions in this Plan to address them, are summarised below. All public submissions are published on the ReCFIT website at www.recfit.tas.gov.au/consultation

Key themes from consultation	Raised by	What we are doing
Reduce land use conversions from forests to other land uses, including introduction of regulation or support for market framework	Business and industry	The Policy for Maintaining a Permanent Native Forest Estate limits land clearing on private and public land
Support for planting more trees on private land and in urban environments	Business and industry	Delivering the Stems for CO2 program Local councils have developed strategies to increase urban tree canopy cover
Support for research and data collection to inform mitigation of bushfire risks and improve forest resilience	Government, business and industry	Assessed the impacts of fire mosaics on biodiversity in the Tasmanian Wilderness World Heritage Area
Improve research and knowledge sharing to support landowner decision making on things such as species selection and appropriate locations for tree plantings	Business and industry	Tree Alliance Knowledge Hub informs farmers and landowners of the benefits of integrating trees into their farming operations. Tasmania Forestry Hub programs to identify the right tree, in the right place, for the right market
Improve adaptation outcomes for native forests through translocation of species, seed banks and building resilience to bushfires	Government, business and industry	Seed banks operated by Sustainable Timber Tasmania (STT) and the Royal Tasmanian Botanical Gardens
Provide funding for skills and training packages to enhance workforce development and improve capabilities for emerging practices	Business and industry	Government and industry partners collaborate to consider climate change impacts on skills and workforce needs Research into future forestry workforce needs through the Tasmanian Forest and Forest Products Network and Tasmania Forestry Hub

Key themes from consultation	Raised by	What we are doing
Increase uptake of bioenergy to replace fossil fuels and increase use of plantation forestry residues	Government	Bioenergy Vision for Tasmania supports the increased use of bioenergy in Tasmania
Concerns that native forestry residues used in bioenergy will stimulate logging in native forests	Community	Bioenergy Vision for Tasmania only considers the use of plantation forestry residues in future bioenergy projects
Support for education programs, awards and industry knowledge-sharing forums	Business and industry	Biennial Landcare conference and awards
Explore opportunities for the Tasmanian Planning Scheme to consider emissions reduction in legislation or planning controls Consider climate change impacts such as extreme weather events on urban settlements and emissions from land clearing in regional planning strategies and schemes	Government Government, business and industry	Working with the State Planning Office to ensure Tasmania's planning policies, regional land use strategies and regulations consider the role of land use planning in emissions reduction and resilience
Cease native forest harvesting	Community	Tasmanian Government supports active forest management and its role in carbon abatement in line with the views of the Intergovernmental Panel on Climate Change
Embed in the <i>Climate Change (State Action) Act 2008</i> requirement for early and broad community engagement in development of plans	Community	Completing the next independent Review of the <i>Climate Change (State Action) Act 2008</i> in late 2025 as required under the Act
Consider reporting scope 2 and 3 (supply chain) emissions	Community	Developing a framework to build capacity of government agencies to consider climate change and developing a government operations emissions reduction and resilience plan. As a large purchaser, the government can support locally produced, environmentally sustainable products
Set sectoral emissions reduction targets	Community	Legislated economy-wide target of net zero emissions, or lower, from 2030 Develop Emissions Reduction and Resilience Plans to support key sectors to reduce emissions and build resilience

How we will take action

The Emissions Reduction and Resilience Plans will guide Tasmania's action on climate change in the transport, waste, energy, industrial processes and product use, agriculture, and land use, land use change and forestry sectors for the next five years.

Some actions are fully funded and ready to implement, and some are already underway. Other opportunities require additional funding to become available throughout the life of the Plan before they can be progressed.

This Plan includes funding from *Tasmania's Climate Change Action Plan 2023-25* to deliver four new actions to support emissions reduction and resilience in the LULUCF sector.

Photo: Sustainable Timber Tasmania



The status of each action in this Plan is shown as follows:

NEW

New initiatives that are being funded through the Plan or have been recently announced.



NEW CROSS-SECTORAL COMMITMENT

New initiatives that will support emissions reduction and resilience in all sectors.



IN PROGRESS

Initiatives that are already being progressed by ReCFIT or the relevant department.



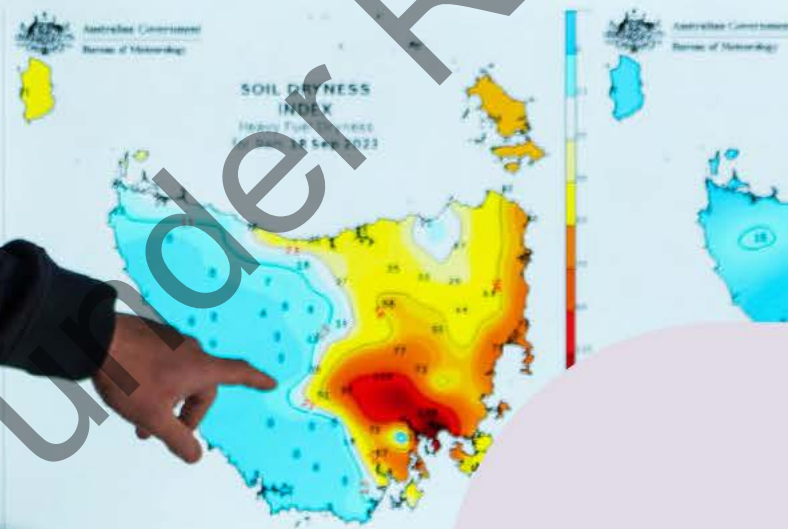
FUTURE FUNDING PRIORITY

Initiatives that require additional funding before they can be progressed.





BOM Season outlook





**Our pathway to
reduce emissions
and build resilience
in the LULUCF sector**

We will improve the data, information and knowledge needed to drive change

Help landowners understand the multiple benefits of planting more trees and manage their properties to sequester carbon and adapt to a changing climate.

It is critical that our land and forest managers have access to the most up-to-date information, data and research to make long-term decisions, and manage the risks and opportunities of the changing climate.

While the natural processes associated with the carbon cycle are well understood, the complex interactions of our landscapes, forest ecosystems, and forest productivity and health under the changing climate are only starting to be realised and we need to make this topic a research priority.

The carbon exchange of forests is influenced to varying degrees by a range of factors, including tree species, temperature, evaporation rate, rainfall, and soil carbon level. Extreme events such as bushfires, drought, heatwaves and flooding add another layer of complexity, especially if these events occur in quick succession (for example, compounding, cascading and aggregate events).

It is important that the most up-to-date information and data is available to land managers in ways that they can easily access and use, to inform their decisions about the changes they need to make in their businesses.

The new actions in this focus area are designed to build on the work already underway across the state and nationally. The aim is to improve our understanding of the research and data needs of industry and address gaps, measure the benefits and share data related to emissions reduction and carbon storage in the land and forestry sectors.

Case study

Private Forests Tasmania: providing information to farmers and landowners to help them plant more trees

Private Forests Tasmania has established the Tree Alliance Knowledge Hub to provide landowners with information about the benefits of integrating trees into their operations, and tools and resources to help simplify the planning process.

In January 2023, the Farm Forestry Carbon Tool was launched by Private Forests Tasmania, in collaboration with the Tasmania Forestry Hub.

The tool is designed as a conversation starter for farmers. It provides an indicative estimate of a farm's carbon footprint and the impact that trees may have on improving environmental outcomes, including potential carbon offset opportunities.

Learn more about the Farm Forestry Carbon Tool: pft.tas.gov.au/farm-forestry-carbon-tool

Actions

Objective	Summary	Status	Delivered by
Build the capacity of land managers to reduce emissions and increase sequestration	Work with the Australian Government to seek opportunities for Tasmania and its commitment to accelerate on-ground action through training, education and capacity building.	 NEW CROSS-SECTORAL COMMITMENT	NRE Tas / ReCFIT (CCO)
	Progress the Stems for CO2 program to model the carbon benefits of the tree plantings. Develop case studies and educational resources that allow other farmers and landowners to better understand the benefits of planting trees on their properties.	 IN PROGRESS	Private Forests Tasmania

Photo: Sustainable Timber Tasmania



Objective	Summary	Status	Delivered by
	The Tree Alliance Knowledge Hub provides landowners with information about the benefits of integrating trees into their operations, and tools and resources to help simplify the planning process.	 IN PROGRESS	Private Forests Tasmania
Ensure we have accurate, up-to-date data to inform decision making at all levels	Update Tasmania's fine-scale climate projections to provide the most up-to-date future climate information to Tasmanians. The updated projections will play an important role in the development of climate change adaptation initiatives and investment.	 IN PROGRESS	ReCFIT (CCO)
	Develop tailored resources to support landowners to make informed decisions about managing climate risks and opportunities. Resources will include user-friendly information about the findings of the statewide climate change risk assessment and the updated fine-scale climate projections.	 IN PROGRESS	ReCFIT (CCO)
	Update Tasmania's Enterprise Suitability Maps to show how crops and farm tree species could be grown productively in the future under different climate scenarios.	 IN PROGRESS	ReCFIT (CCO) / NRE Tas
	Deliver the Water Catchment Yield Science Update to provide yield estimates using the latest available climate science to allocate and manage water in a sustainable manner.	 IN PROGRESS	NRE Tas

Objective	Summary	Status	Delivered by
Increase opportunities for Tasmanian Aboriginal organisations and communities	The <i>Cultural Burning Policy</i> reinstates a cultural burning program to protect and enhance natural and Aboriginal cultural values on the land and support Aboriginal burning practices of low intensity fires that reduce the risk of major bushfires.	 IN PROGRESS	Parks and Wildlife Service
Undertake climate research related to our forests	Deliver a grants program to research projects, activities or practices that improve forest health, increase carbon sequestration or build resilience to climate-related risks.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)
Improve the transparency and reporting of Tasmania's LULUCF emissions	Continue to improve annual reporting of LULUCF emissions in Tasmania's Greenhouse Gas Emissions Report.	 IN PROGRESS	ReCFIT (CCO)
	Work with the Australian Government to improve transparency of greenhouse gas emissions reporting for the LULUCF sector, for example in relation to native forest harvesting and bushfires.	 NEW	ReCFIT (CCO)
	Work with the Australian Government and industry bodies to develop voluntary emissions estimation and reporting standards for the forestry industry to enhance transparency and comparability, and support business to comply with emerging reporting requirements.	 IN PROGRESS	ReCFIT (CCO) / partners

We will support practices and technologies that reduce emissions and increase carbon storage

Tasmania's net zero emissions status is largely due to the carbon sink in our managed forest estate. However, the size of the carbon sink is uncertain in the future changing climate, which is why we must continue to reduce emissions in other sectors and increase carbon storage across the landscape.

Tasmania's LULUCF sector plays a critical role in Tasmania's net zero emissions profile. It is important that we continue to plant, protect and adapt to ensure our forests are maintained into the future.

Tasmania's emissions profile is largely due to the carbon sink in our managed forest estate. The size of the carbon sink is not guaranteed into the future due to the natural plateau of carbon sequestration as forests mature, and the forecast increase in the frequency, intensity and incidence of bushfires and heatwaves. Other impacts of a changing climate such as biosecurity risks from pests and pathogens, and potential declines in forest productivity will also influence the carbon stored in our forests. It is important to not only preserve the health of Tasmania's forests but to also conserve their carbon sequestration benefits in the landscape.

There are a range of existing and emerging opportunities to reduce LULUCF emissions and increase carbon sequestration, such as:

- reducing the conversion of forested lands and plantations to other land uses
- planting more trees in the landscape for commercial plantations and agro-forestry
- increasing the proportion of forestry logs directed to long-term wood products and increasing domestic processing capacity
- introducing measures to reduce the risk of major bushfires.

As technologies for low emissions heavy vehicles improve, there are likely to be opportunities for forest managers to use harvesting equipment and transport options that consume less fuel and have lower emissions. There are also opportunities for land managers to apply precision agriculture technologies that can lead to efficiency improvements to reduce emissions in farming and forestry operations, and from changes to land management practices that improve soil carbon.

The actions in this focus area are aimed at trialling new techniques and land and forest management practices that reduce emissions and increase carbon sequestration.

We will also deliver a Climate Change Business Innovation Grant Program to support businesses in all sectors to take action on climate change, focusing on local innovation, collaboration and partnerships.

Case study

Stems for CO2: integrating trees into farming operations

Private Forests Tasmania is delivering the \$600,000 Stems for CO2 program, which supports Tasmanian farmers and private landowners to plant and grow commercial trees on their properties. Stems for CO2 includes a \$450,000 grant program, which is supporting three farmers with the upfront establishment costs to integrate nearly 250 hectares of trees into their agricultural enterprises.

The Stems for CO2 program also includes \$150,000 to undertake carbon modelling of the tree plantings, and develop resources to communicate the carbon sequestration benefits and co-benefits of agro-forestry for farmers and other land holders.

Stems for CO2 builds on the success of the Integrated Farm Forestry Demonstration Sites Program. Private Forests Tasmania is also delivering this program, which develops landscape-scale best practice forestry plantings in north west, northern and southern Tasmania. There have been two rounds of demonstration sites, resulting in nearly 500 hectares of new farm forestry plantings.

Photo: Private Forests Tasmania



Actions

Objective	Summary	Status	Delivered by
Reduce financial and information barriers to adopting practices that increase carbon storage	Establish the Climate Change Business Innovation Grant Program to support businesses to take action on climate change, focusing on local innovation, collaboration and partnerships.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Progress the Stems for CO2 program to support farmers and landowners with the upfront costs of integrating trees into their farming businesses.	 IN PROGRESS	Private Forests Tasmania
	Review the \$250,000 Carbon Farming Advice Rebate Pilot Program, which provides primary producers with rebates to offset the cost of obtaining expert advice on carbon farming projects, so that it complements new national approaches.	 IN PROGRESS	NRE Tas
	Expand the Landcare Action Grants program to support practical on-ground works, including carbon farming initiatives that enable access to carbon markets.	 IN PROGRESS	NRE Tas / TasFarmers / Landcare Tasmania
Reduce the risks of major bushfires	Increase access to the Bushfire Risk Assessment Model (BRAM) to assist with the strategic management of bushfire risk. The BRAM tool is now hosted on a web portal and work is underway to make it available for other land managers.	 IN PROGRESS	Parks and Wildlife Service
	Continue to deliver the Fuel Reduction Program to reduce fuel loads and the intensity of bushfires and improve fire safety across the state.	 IN PROGRESS	Tasmania Fire Service

Objective	Summary	Status	Delivered by
	Invest in early bushfire detection research and technology development.	 IN PROGRESS	Tasmania Fire Service / STT / Parks and Wildlife Service
Policies and programs that enable emissions reduction and increase carbon storage	Work with local government, regional development authorities and other institutions to plant climate tolerant trees in urban environments that can increase carbon storage and build resilience during high temperatures.	 NEW	ReCFIT (CCO)
	Continue to implement the Bioenergy Vision for Tasmania to provide a foundation for long-term investment in commercially and environmentally sustainable bioenergy projects in Tasmania.	 IN PROGRESS	ReCFIT
	Develop strategies for the adoption of carbon farming and blue carbon in Tasmania. Strategies may guide work by the government, business and industry to better understand risks, barriers and co-benefits, develop skills, and maximise the benefits for Tasmanian landowners, while balancing other land use priorities.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO) / NRE Tas
	Build capacity to consider climate change through the development of a whole-of-government framework to embed climate change in decision making. This framework can play a role in supporting proactive planning to manage climate-related risks and opportunities.	 IN PROGRESS	ReCFIT (CCO)

We will support the sector in the transition to a lower emissions economy

The global transition to net zero emissions presents both risks and opportunities for Tasmania's land, forestry and wood products sectors. There is likely to be increased demand for products with low embodied carbon, such as engineered wood products, for use as alternatives to more emissions intensive building materials, creating opportunities for Tasmanian businesses to expand and diversify.

However, there are also risks, including changes to regulatory frameworks and accounting standards associated with climate-related financial disclosures,⁴ increased competition in global export markets, and changing consumer expectations.

In addition, there is likely to be increased competition from other industry sectors for Tasmanian land-based carbon offset projects, and competing demands for agricultural waste streams and forest residues for alternative products, including production of fuels such as sustainable aviation fuel and green methanol.

There are other opportunities for land managers to generate income through the sale of carbon credits from projects that sequester carbon, lead to emissions reductions such as from the on-site use of bioenergy, or improve biodiversity outcomes. The Australian Carbon Credit Unit (ACCU) Scheme and the Nature Repair Market, which is currently under development, provide opportunities for projects that store additional carbon in the landscape or restore and protect the environment.

4 For more information visit the Australian Securities and Investment Commission website at: <https://asic.gov.au/regulatory-resources/sustainability-reporting/>

As at September 2024, there were 90 active carbon abatement projects in Tasmania registered under the ACCU Scheme. Over half (51) of these projects relate to plantation forestry, forest conservation, or native tree planting activities.

However, there are barriers to Tasmanian businesses accessing these markets. Barriers include the complexity of these schemes, suitability of existing methods, identifying risks, high compliance and insurance costs, the need to aggregate projects to achieve economies of scale, and price volatility of credits.

The integrity of the scheme methods, and the risks from the changing climate over the life of the project are leading to a stratification of the market, with the potential for high integrity projects to command a premium price.

Tasmanian land and forest managers will need tailored support, access to trusted information, and decision-support tools to understand how these risks and opportunities will impact them. Gaps in knowledge will also need to be addressed, for example supporting architects and builders to specify, design and construct buildings using emerging low emissions materials rather than traditional building products.

The actions in focus areas 1 and 2 aim to support landowners and forest managers to measure, report and reduce their emissions and they will play an important part in the transition to a low emissions economy. We have also committed to deliver a program to support small- to medium-sized businesses in all sectors to measure and report on their emissions and climate-related risks.

The new actions in this focus area will build on existing work to ensure the sector has the information it needs to report emissions, participate in carbon and nature-repair markets, undertake strategic land use planning, and support to make the most of Tasmania's existing reputation for high-quality wood and fibre products.

Case study

Co-benefits of increasing carbon storage

The Tasmanian Government has provided a new function for Sustainable Timber Tasmania (STT), which allows STT to participate in the Australian carbon market. STT's Ministerial Charter has been updated to align with this new function.

STT will develop Australian Carbon Credit Unit Scheme carbon abatement projects to enhance long-term wood production for industry and improve biodiversity outcomes.

STT currently has four carbon abatement projects registered with the Australian Government's Clean Energy Regulator to generate carbon credits under the Australian Carbon Credit Unit Scheme. Three of these projects convert existing short-rotation plantations into long-rotation plantations and one project is for the environmental planting of selected native species on land previously used for agricultural purposes.

Photo: Sustainable Timber Tasmania



Actions

Objective	Summary	Status	Delivered by
Support Tasmanian businesses to comply with emerging reporting requirements	Work with Business Tasmania and other key partners to support small- to medium-sized businesses to better understand climate-related risks to meet changing regulatory and market demands, including measuring and reporting their emissions.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
Support landowners to access new and emerging markets	Work with key partners to develop resources to increase understanding for landowners to participate in carbon and other emerging environmental markets.	 NEW	ReCFIT (CCO)
	Provide STT and other plantation managers on public land with a robust framework to identify and deliver carbon abatement projects under the ACCU Scheme.	 IN PROGRESS	ReCFIT (CCO) / partners
	Identify the barriers to Tasmanian forest and land managers participating in carbon markets and provide advice to the Australian Government on opportunities to remove these.	 IN PROGRESS	Tasmania Forestry Hub
Ensure Tasmania's forestry workforce has the skills needed to transition to low emissions and build resilience	Collaborate with government and industry partners to support them to consider the impacts of climate change on current and future skills and workforce needs, and explore opportunities to address these issues.	 IN PROGRESS	ReCFIT (CCO)
	Support industry to strategically develop its future workforce to meet market, environmental and community expectations through the <i>Tasmanian forest industry workforce development and implementation plan (2021 to 2025)</i> .	 IN PROGRESS	Tasmanian Forestry Hub

Objective	Summary	Status	Delivered by
	Inform key industry stakeholders about strategic activities to address labour and skills shortages, particularly in high priority areas, through the <i>Forest Industry Workforce Skills and Training Project: Career Mapping Final Report</i> .	 IN PROGRESS	Tasmania Forestry Hub
Support local markets for timber products	Ensure locally-sourced wood is considered, where feasible, in Tasmanian Government procurement, particularly for new building construction and refurbishment projects, through the updated <i>Tasmanian Wood Encouragement Policy</i> .	 IN PROGRESS	State Growth (Forest Policy)
Ensure relevant policies consider climate-related risks and opportunities	Continue to work with the State Planning Office to ensure Tasmania's planning policies, regional land use strategies and regulations consider the role of land use planning in emissions reduction and resilience while also considering other environmental, economic and social outcomes.	 IN PROGRESS	ReCFIT (CCO)
	Review the <i>Policy for Maintaining a Permanent Native Forest Estate</i> to ensure the continued maintenance of the native forest resource base for all its various conservation, production and amenity values.	 IN PROGRESS	State Growth (Forest Policy)
Enable strategic planning to support opportunities from biomass	Identify and collate existing organic waste data to guide planning and strategic investment. For example, these data could inform planning for projects requiring biomass feedstocks, including from agriculture wastes and forestry residues.	 IN PROGRESS	NRE Tas

4

We will build resilience to the impacts of climate change

The impacts of the changing climate will vary across the Tasmanian landscape. We need to develop long-term resilience to these impacts on our forests, farms and in our rural communities, rather than only providing assistance after extreme events.

Tasmania is already experiencing changes to its climate, with a range of physical hazards that can be categorised as either chronic long-term shifts in climate patterns or acute extreme weather events. Chronic long-term changes for Tasmania are forecast to include a decrease in total annual rainfall and soil moisture content, and an increase in annual average temperature. Tasmania is expected to experience an increase in the severity of extreme events such as drought, heatwaves, bushfires, storms, high wind gusts, and flooding.

These long-term changes and extreme events are likely to impact the health and productivity of

Tasmania's forests. There are significant risks for forest and land managers, and also for Tasmania as a whole, and these risks can lead to reduced forestry production, loss of employment, and flow-on impacts to our industries, communities and trade. These changes can also include adverse impacts on the mental health of affected landowners and communities.

Understanding these risks and potential impacts can help us develop strategies to improve adaptation outcomes and build resilience. The management of the risks and opportunities under a changing climate will vary across Tasmania's diverse landscape and forest ecosystems, and require a multifaceted approach that integrates proactive planning, adaptive management, risk assessment, scenario planning, and ecosystem management.

The new actions in this focus area aim to make the most of existing knowledge and experience, and address gaps in current action at a regional, state and national level. Many of the actions in this focus area will support governments, business and industry to make informed decisions about climate-related risks.

Photo: Sustainable Timber Tasmania



Case study

Risks and opportunities for Tasmania's LULUCF sector

Tasmania's Risk Assessment for Climate Change 2024 is the first comprehensive statewide climate change risk assessment undertaken for our state. It provides analysis of climate-related hazards and influences in Tasmania. It assesses the interaction with exposures, vulnerabilities and responses across all parts of Tasmania.

The Risk Assessment identifies the following risks and opportunities for Tasmania's LULUCF sector:

- risks to terrestrial ecosystems and species
- opportunities for new revenue streams available from carbon markets
- opportunities to support improved water quality and biodiversity.

The Risk Assessment also notes cross-cutting risks and opportunities that will be significant for all sectors of the economy in the transition to a low emissions economy, and as our climate continues to change. Key risks and opportunities include:

- risks to the insurability of businesses, public sector and private assets
- risks to physical safety, health and wellbeing
- risks and opportunities through the implementation of new technology to reduce emissions.

The Risk Assessment identifies the following four key areas considered to be critical as part of any adaptation response:

- state-level coordination for local efforts
- coordination across strategies to address the intersection of climate change and health and wellbeing
- education is vital to successful climate adaptation and increased resilience for future generations
- development of, and investment in, additional data collection is required to better inform risk-based decision making.

Further information on government action to address the risks and opportunities for Tasmania is in the government's formal response to the Risk Assessment, available on the ReCFIT website: recfit.tas.gov.au/cc-risk-assessment

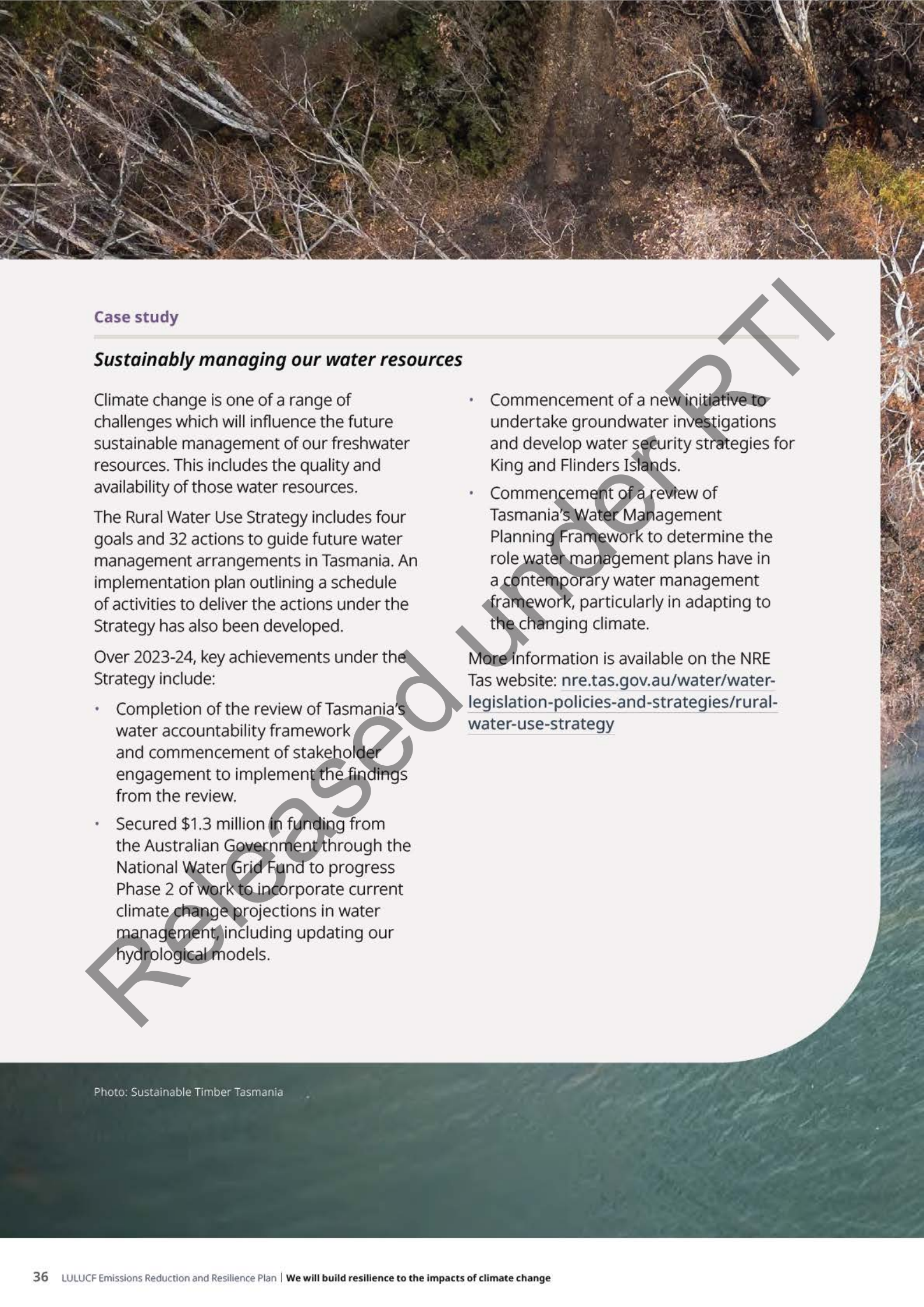


Photo: Sustainable Timber Tasmania

Actions

Objective	Summary	Status	Delivered by
Support practical action to build resilience	Increase support for Tasmania's Natural Resource Management (NRM) groups to deliver on-ground programs for healthy soils, farmland, rivers and other natural resources.	 IN PROGRESS	NRE Tas
Improve Tasmania's resilience to increased biosecurity risks	Consider the impacts of climate change in the state's biosecurity import risk analysis process.	 IN PROGRESS	NRE Tas
	Strengthen Tasmania's frontline biosecurity services, expertise and support for industry groups to engage with landowners and maintain community awareness.	 IN PROGRESS	NRE Tas
Plan for the impacts of climate change	Partner with the Australian Government through the Future Drought Fund to deliver the Regional Drought Resilience Program. Three regional plans will be developed to support Tasmanian communities to be better prepared for and resilient to the impacts of drought and climate-related events.	 IN PROGRESS	DPAC
	Work with partners to support businesses to identify national and international supply chain vulnerabilities and enhance resilience to future climate-related network disruptions.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Increase reliable water supply for Tasmanian landowners	Continue to provide a modern water management framework through the Rural Water Use Strategy, including consideration of sustainable water management in a changing climate.	 IN PROGRESS	NRE Tas
	Partner with the Australian Government and private enterprises to invest in irrigation infrastructure to improve the reliability, security and sustainability of water supply to enable landowners to adapt to changing rainfall patterns.	 IN PROGRESS	NRE Tas / Tasmanian Irrigation
Improve emergency preparedness, response and recovery	Collaborate with key partners across state, national and local government, and the private sector to increase emergency preparedness, response and recovery.	 IN PROGRESS	ReCFIT (CCO)
Improve the resilience of our native tree species and forests	Undertake a gap analysis and audit of Tasmania's seed bank capacity to support research into seed sourcing to improve the resilience of our native forests and plantations under the changing climate.	 NEW	ReCFIT (CCO) / partners
	Invest in the strategic seed collection, storage and planting of native tree species tolerant to the changing climate.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO) / partners

An aerial photograph showing a dense forest with a river winding through it. The forest is mostly green, with some brown patches indicating dead trees or dry vegetation. The river is a light blue-grey color, contrasting with the surrounding greenery.

Case study

Sustainably managing our water resources

Climate change is one of a range of challenges which will influence the future sustainable management of our freshwater resources. This includes the quality and availability of those water resources.

The Rural Water Use Strategy includes four goals and 32 actions to guide future water management arrangements in Tasmania. An implementation plan outlining a schedule of activities to deliver the actions under the Strategy has also been developed.

Over 2023-24, key achievements under the Strategy include:

- Completion of the review of Tasmania's water accountability framework and commencement of stakeholder engagement to implement the findings from the review.
- Secured \$1.3 million in funding from the Australian Government through the National Water Grid Fund to progress Phase 2 of work to incorporate current climate change projections in water management, including updating our hydrological models.

- Commencement of a new initiative to undertake groundwater investigations and develop water security strategies for King and Flinders Islands.
- Commencement of a review of Tasmania's Water Management Planning Framework to determine the role water management plans have in a contemporary water management framework, particularly in adapting to the changing climate.

More information is available on the NRE Tas website: nre.tas.gov.au/water/water-legislation-policies-and-strategies/rural-water-use-strategy

Photo: Sustainable Timber Tasmania



5

We will drive action through partnerships and collaboration

Climate change is a global issue and coordinated action across all levels of government, business, industry and the community will drive the greatest change and deliver the best results.

To accelerate the adoption of emissions reduction and resilience measures in the land and forestry sectors, it is important that all groups work together to align actions and ensure they complement each other without duplicating effort. The benefits of taking a partnership approach include sharing information, resources and learnings, bringing a diversity of knowledge and experience to creatively solve problems, and achieving economies of scale.

There are organisations and networks already established in Tasmania, such as the Tasmania Forestry Hub, the Tasmanian Forests and Forest Products Network and Australian Forest and Wood Innovations that foster strong research, policy development and collaboration in the LULUCF sector. Opportunities exist to strengthen networks across other sectors in the state.

The new actions in this focus area will enable increased collaboration between governments, business and industry to drive action in the land and forestry sectors. Many of the actions in other focus areas also include a collaborative partnership approach to optimise results.

We have also committed to introduce a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.

Photo: Private Forests Tasmania



Case study

Tasmania Forestry Hub: Working collaboratively to provide advice for industry policy development

The Tasmania Forestry Hub was established by the Australian Government in 2019 under the National Forestry Industry Plan and is one of 11 Regional Forestry Hubs across Australia. The Hub was established to provide information and advice to assist the Australian Government to develop policies for growth, and the removal of barriers, for the forestry industry.

The Hub supports the forestry sector and is working with a range of key industry stakeholders across four strategic priorities: carbon policy, workforce, skills and training, resource and land access, and supply chain and infrastructure.

Photo: Private Forests Tasmania



Actions

Objective	Summary	Status	Delivered by
Improve outcomes for Tasmania through continued collaboration	Establish a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Establish a Climate Change Champions Program to develop channels for recognition of innovative, best practice climate action across all sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Continue working with state and national data owners to access and incorporate high-quality data into the Bushfire Risk Assessment Model.	 IN PROGRESS	Tasmania Parks and Wildlife Service
	Continue to work with the Australian Government to progress national priorities to reduce emissions and increase sequestration in the LULUCF sector and ensure Tasmania's unique challenges and opportunities are considered in national programs.	 IN PROGRESS	ReCFIT (CCO)
Increase opportunities for Tasmanian Aboriginal communities	Support Tasmanian Aboriginal people and organisations to access economic opportunities from land management, through national programs such as the Carbon Farming Outreach Program.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO) / NRE Tas

Next steps

Implementation

Some actions in this Plan are fully funded and ready to implement and some are already underway. Other opportunities require additional funding before they can be progressed. These opportunities are labelled 'future funding priorities'. The status of each action is identified in this Plan.

Monitoring and reporting

We will determine whether actions in this Plan have been effective by monitoring and evaluating individual actions. Monitoring will be based on the approach identified for each of the actions. Evaluation methods will vary, as they will be tailored for each action.

Every year, we will prepare and table in Parliament:

- a climate change activity statement, showing the status of each sectoral Plan and actions in *Tasmania's Climate Change Action Plan 2023-25* (Action Plan) and future action plans
- a greenhouse gas emissions report detailing Tasmania's emissions for each sector.

We will update the plans at least every five years.

Engagement with business, industry and the community

We will continue to engage with key partners and the community on the development and implementation of actions as required.

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

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

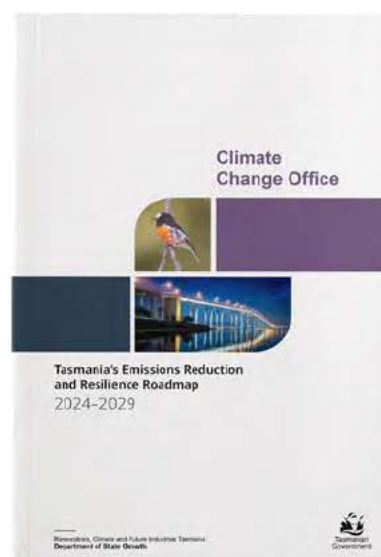
Tasmania's Emissions Reduction and Resilience Roadmap

Tasmania's Emissions Reduction and Resilience Roadmap 2024-29 connects Tasmania's six sectoral emissions reduction and resilience plans and Tasmania's first statewide risk assessment for climate change.

We recognise that there is a lot of overlap between the six sectors, and that there are some parts of Tasmania's economy and community that are not covered by the sectoral plans.

The Roadmap includes new commitments to support businesses and industries in all sectors to address common issues and opportunities. It sets out how we will maintain net zero emissions across our economy through to 2030 and beyond.

The Roadmap also outlines which groups in Tasmania are covered in which sectoral plan, and identifies future focus areas for action over the next five years.



Glossary and acronyms

Term	Description
ACCU Scheme	Australian Carbon Credit Unit Scheme. This Australian Government program provides incentives for projects to reduce emissions or store carbon by using new technologies, upgrading equipment and changing business and land management practices.
Agro-forestry	Establishment or management of trees or forest stands on private agricultural land and often integrated with crops and animals, generally for commercial benefit including wood production, but also for farm management, environmental or aesthetic reasons.
Bioenergy	A form of renewable energy produced using biomass (plant, algae or animal material). Bioenergy can include electricity, heat, gas and transport fuel.
Biomass	Living and dead organic material of biological origin, located above-ground and below-ground, for example trees, grasses, leaf litter, roots and soil organic matter.
BRAM	Bushfire Risk Assessment Model.
Carbon sequestration	Removal of carbon from the atmosphere and its storage in vegetation, soils or elsewhere.
Carbon sink	A carbon reservoir or pool that has the capacity to accumulate carbon.
CCO	Climate Change Office (part of ReCFIT in the Department of State Growth).
Commercial plantation	A forest category in the National Forest Inventory that comprises hardwood or softwood plantations managed commercially to supply logs to wood-processing industries for the manufacture of wood products.
CO₂	Carbon dioxide; a greenhouse gas.
CO₂-e	Carbon dioxide equivalent. This is a standard unit to measure greenhouse warming potential of gases. Each different greenhouse gas is represented in terms of the amount of CO ₂ that would create the same amount of warming.
DPAC	Department of Premier and Cabinet.
Emissions	Greenhouse gas emissions.

Term	Description
Environmental planting	Trees or forest stands established for environmental benefit (rather than for commercial use), usually by direct seeding or planting.
Forest	An area, incorporating all living and non-living components, that is dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding 2 metres and with existing or potential crown cover of overstorey strata about equal to or greater than 20 per cent (includes native forests and plantations).
Forest estate	An area of forest managed by an agency, private organisation or individual, including the trees, flora, fauna, soil, streams, water-bodies, roads and other infrastructure.
Forest health	The effects of the sum of the ecosystem processes (energy, nutrient, hydrological and biological processes) that together maintain the vitality of a forest ecosystem.
Forest management	A system of practices and activity for conservation, stewardship and productive use of forest land, aimed at fulfilling desired environmental, economic and social functions and objectives for the forest.
Growth stage	A stage in the development of trees or forests, associated with tree or stand age. Four growth stages for trees or forests are recognised in Australia: regeneration, regrowth, mature and senescent.
Hectare	One hectare is equivalent to 10,000 square metres.
Harvested wood products	Wood products originating from harvested trees and removed from harvest areas for use as-is or after further processing.
IPCC	Intergovernmental Panel on Climate Change, an independent body that assesses the scientific, technical and socioeconomic information relevant to understand the risk of human-induced climate change. This includes developing guidelines for national greenhouse gas inventories which are used under the UNFCCC.
Land clearing	Removal of vegetation to convert land to another land use.
LGAT	Local Government Association of Tasmania.
LULUCF	Land Use, Land Use Change and Forestry.

Term	Description
Managed forest estate	Forests, timber reserves, plantations and other lands on which a range of forest values are, or have been, managed by public and private landowners in accordance with relevant legislation. Forest values can include provision of wood for harvest, supply of water, conservation of biodiversity, recreational activities, and environmental protection.
Mt	Megatonnes. One megatonne is equivalent to 1,000 kilotonnes or 1 million tonnes.
Native forest	A forest category in the National Forest Inventory that comprises national forest types dominated by the suite of native tree species naturally associated with forest in that location and located within their natural range.
NRE Tas	Department of Natural Resources and Environment Tasmania.
PFT	Private Forests Tasmania.
Plantation	Intensively managed stand of trees of either native or exotic species, created by the regular placement of seedlings or seeds. Commercial plantations are managed for the purpose of commercial wood production.
Production forest	Public or private forest managed for the production of wood products, whether plantation or native forest.
Pulpwood	Wood used to manufacture pulp or paper products.
ReCFIT	Renewables, Climate and Future Industries Tasmania.
Sawlogs	Logs meeting specified quality requirements used to manufacture sawn timber.
STT	Sustainable Timber Tasmania.
t	Tonnes. One tonne is equivalent to 1,000 kilograms.
UNFCCC	United Nations Framework Convention on Climate Change.
Unmanaged forest estate	Forests and reserves conserved for their natural, cultural and heritage values and protected from formal forest management activities and other human-induced disturbances (other than management of bushfires and prescribed burns).

Photo: Sustainable Timber Tasmania



Department of State Growth

GPO Box 536 Hobart

TAS 7001 Australia

Phone: 03 6166 4466

Email: climatechange@recfit.tas.gov.au

Web: recfit.tas.gov.au

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Climate Change Office



Transport Emissions Reduction and Resilience Plan

2024–2029

Released under RTI

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 and present.

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Chris Crerar

Minister's message



Hon Nick Duigan MLC
Minister for Energy
and Renewables

The *Transport Emissions Reduction and Resilience Plan 2024-29* is the first legislated Plan for the transport sector under the *Climate Change (State Action) Act 2008*. This Plan builds on work undertaken to date to improve the Tasmanian transport system and to support the transition to low and zero emissions technology.

Tasmania's transport sector accounts for around 21 per cent of the state's total emissions, excluding the land use, land use change and forestry sector. Transport emissions have increased by around 12.4 per cent since 1990, due to an increase in the number of vehicles and a switch to larger vehicles offsetting the use of more fuel efficient vehicles. We have an opportunity to meaningfully reduce our emissions through the transition to low and zero emissions vehicles, as well as increasing public and active transport.

We need to ensure we have the appropriate infrastructure and systems to support the transition of our transport sector to net zero. For example, more electric vehicles will result in increased electricity demand for charging. Increased demand can lead to the need to consider appropriate retail electricity offerings, ensuring the network can handle additional load, and that new electricity generation is zero emissions.

Under a changing climate, the increased frequency and intensity of extreme events, such as fires, storms and floods, will place increasing pressure on our road and rail 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.

Through this Plan, the government is committing to deliver a \$1.4 million program to support increased public electric vehicle charging infrastructure, education resources for the community, businesses and the tourism industry, grants to assist small businesses to transition vehicles, skills transition planning for the industry, and more. This funding is in addition to \$177 million for Tasmanian Government projects committed or already underway to ensure we have a reliable, affordable, efficient, modern transport system.

This Plan will guide additional strategic investment over the next five years. We will work with industry, the community and the Australian Government to leverage any funding that may become available at the national level to support this transition. This Plan also considers relevant actions already underway in the transport portfolio, including those that support increased use of active transport and improve public transport services.

This Plan is one of six sectoral Plans. Together, the Plans for our transport, waste, energy, industrial processes, agriculture, and land and forestry sectors will set out our pathway to achieve our target of net zero emissions, or lower, from 2030, support businesses and industry to transition to a low emissions economy, and build resilience to the impacts of climate change.

Tasmania's transport sector

Tasmania's transport network enables connectivity and accessibility to and from, and within our island, to meet the needs of residents, visitors, business and industry. It comprises various modes of transport, including roads, bus network, rail used for freight, air, ferries and shipping, and walking and cycling. The transport, postal and warehousing sector of the economy contributed \$1.8 billion to Tasmania's gross state product in 2022-23.

Tasmania is mountainous and, given the absence of large cities, it has a lower population density than some other parts of Australia. These factors can be challenging for our transport sector and have led to a heavy reliance on private vehicles. We need regional, place-based solutions to enable travel within and between regions.

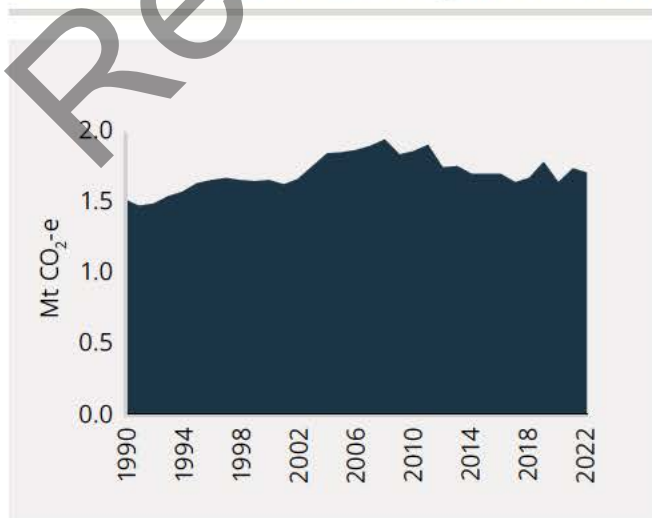
The transport sector around the world is experiencing significant change due to the emergence of new technologies, such as electric and hydrogen vehicles and low carbon liquid fuels, and the rapid rate of change within those new technologies, such as improvements to battery technologies that lead to greater range and performance.

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

2 BITRE 2023.

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

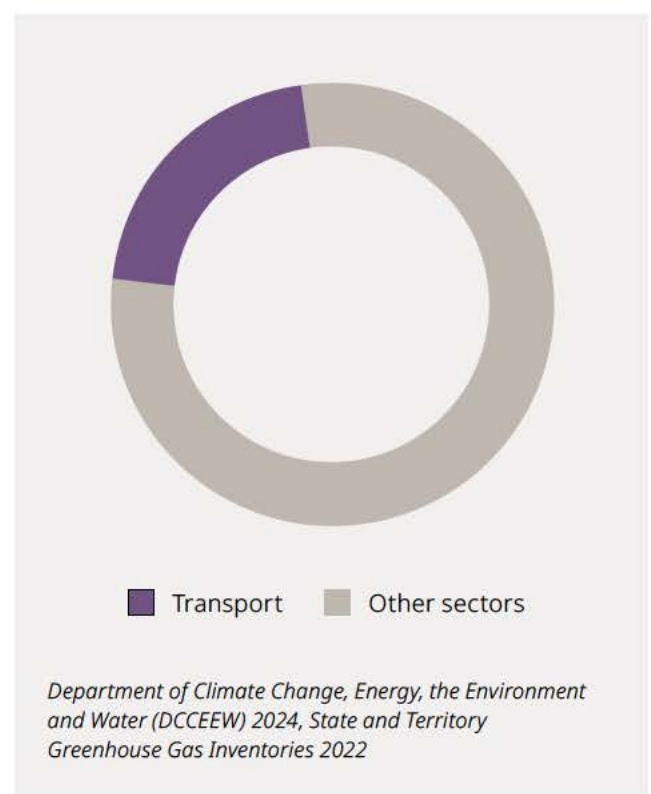
Tasmanian emissions from transport 1990 – 2022



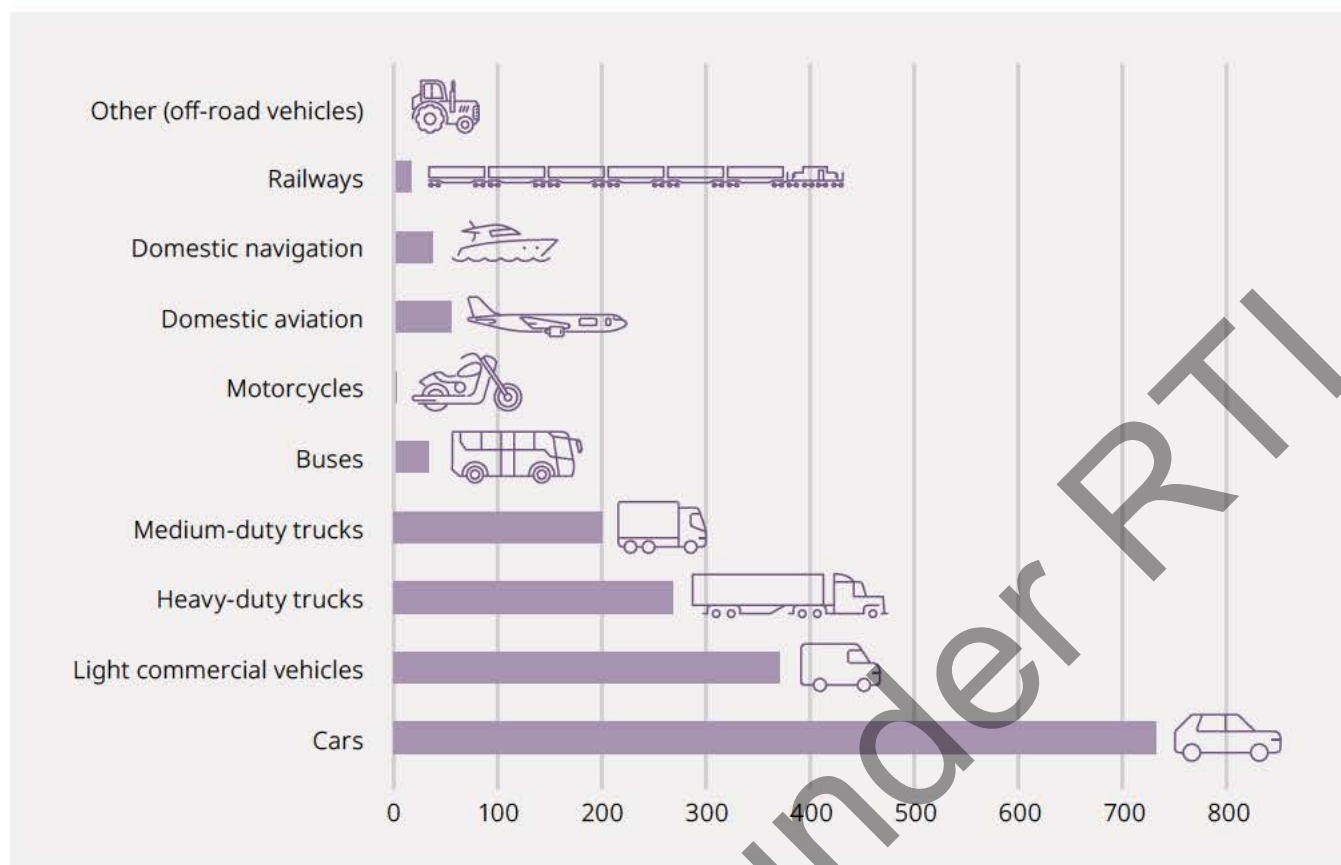
Tasmania's vehicle use: a snapshot

- 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.¹
- 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.²
- 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.³

Share of Tasmanian emissions (excluding LULUCF) 2022



Tasmanian transport emissions 2022 (kt CO₂-e)



Source: Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2024, State and Territory Greenhouse Gas Inventories 2022

Road transport accounts for over 90 per cent of Tasmania's transport emissions.



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Road transport makes up the majority (around 93 per cent) of Tasmania's transport sector emissions and is a key focus area for this Plan.

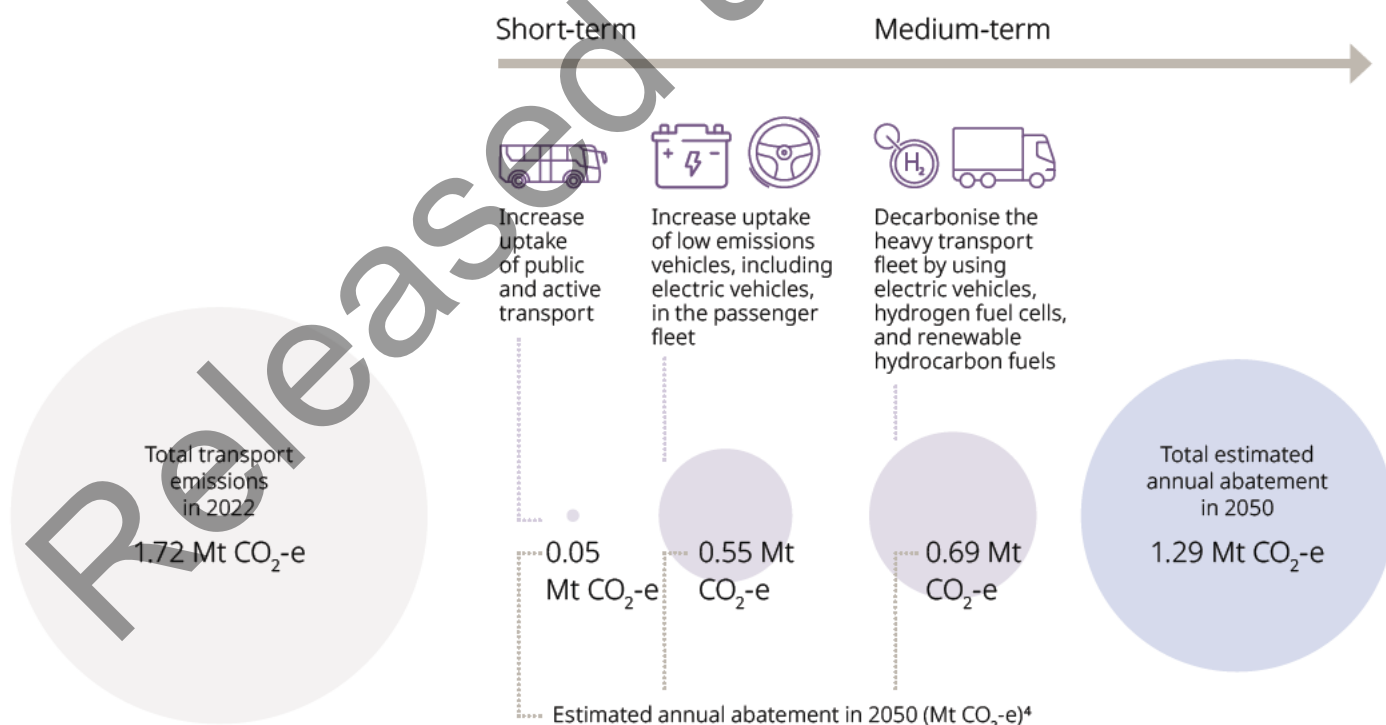
Since 1990, emissions from cars have fallen by 19.5 per cent. This drop is mainly caused by increasing fuel efficiency of vehicles. It may also reflect some consumers changing from cars to vehicles defined as 'light commercial vehicles' (such as utes and vans). The emissions from these vehicles have 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.

Emissions reduction opportunities for Tasmania's transport sector

The 2021 Tasmanian Emissions Pathway Review identified 16 "best-fit" emissions reduction opportunities for Tasmania. The opportunities were assessed based on their achievability against economic considerations, technical barriers and government policy. Three of the best-fit opportunities relate to the transport sector. The Emissions Pathway Review estimated that these opportunities could reduce Tasmania's transport emissions by 1.29 Mt CO₂-e per year by 2050. For comparison, this represents 75 per cent of Tasmania's total transport emissions in 2022.

The actions in this plan are focused on supporting the uptake of these opportunities across Tasmania.

Emissions reduction opportunities



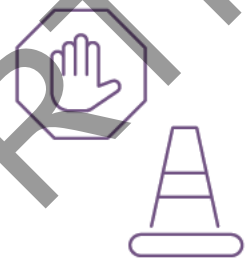
⁴ Tasmania's Emissions Pathway Review, Point Advisory with Indufor, recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf

Impacts of climate change on the transport sector

Climate change will increase physical risks to transport systems, for example through damage to infrastructure from more frequent extreme weather events like storms and floods, and risks to low lying infrastructure from ongoing sea level rise. This increased incidence may also mean that public and private assets are harder to insure.



Damage to infrastructure from extreme events disrupts the free movement of passengers and freight, and results in costs to businesses, households and government to repair or replace damaged infrastructure. This damage may make it harder for emergency management services to respond to extreme weather events, and may result in parts of Tasmania with limited road access being cut-off during extreme events, leaving residents and communities isolated. Extended power outages may impact on the ability to charge and use electric vehicles (EVs).



The shift away from internal combustion engine (ICE) vehicles means less fuel excise being paid to the Australian Government under the current excise arrangement. This transitional risk may affect Australian Government funding for road projects in the future.



More EVs will result in increased electricity demand for charging. This increased demand will lead to the need to consider appropriate retail electricity offerings, ensuring the network can handle additional load, and that new electricity generation is zero emissions. EVs may be capable of supporting households in times of short-term electricity outage through Vehicle to Load technology.



The switch to low emissions vehicles presents different risks and hazards to be managed, compared with ICE vehicles. These risks include fire, radiation, heat, and chemical and electrical hazards, as well as the impact over time of heavier electric vehicles on roads and bridges. There will also be a need to consider resource recovery pathways for obsolete ICE vehicles, as well as EVs and their batteries.



The transport sector will need different skills and workforce capability to support the transition, for example the maintenance of EVs and charging infrastructure.



Opportunities for the transport sector include increased public and active transport, which can reduce transport emissions, and has associated co-benefits, such as improved air quality and less road traffic congestion.



New commitments to reduce emissions and build resilience in the transport sector

The Tasmanian Government has committed \$1.4 million to implement this Plan and deliver eight new initiatives:

- financial support for Tasmanians to purchase electric bikes through the Energy Saver Loan Scheme
- support small businesses to purchase cargo e-bikes for last mile deliveries
- work with partners on a *Greater Hobart Bicycle Parking Master Plan*, and fund pilot sites for secure bike parking, to support a sustainable and accessible transport network
- grants to support the expansion of the state's EV charging network, for example fast charging at key destinations
- support small businesses to purchase electric delivery vans
- support the Australian Electric Vehicle Association (AEVA) National Conference and the Energy, Efficiency, Electric Expo, which will be held in Hobart in 2024
- partner with peak bodies and other industry organisations to develop public education resources about driving electric vehicles in Tasmanian conditions, EV tourism materials, and resources for small business
- provide funding to the automotive industry to develop a skills transition plan to support the switch to electric vehicles.

These actions will deliver outcomes for small Tasmanian businesses, the community, and the tourism sector. The actions will support these groups to reduce their transport emissions and have the potential for a range of other co-benefits, including reduced traffic congestion, by supporting the uptake of public and active transport, and reduced costs associated with maintaining and fuelling EVs in comparison with internal combustion engine vehicles.

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About this Plan

This Plan for the transport sector focuses on Tasmania's major sources of transport emissions, as outlined under the United Nations Framework Convention on Climate Change (UNFCCC) reporting framework. These emissions are from the combustion of fuels used in domestic aviation (Tasmania's share of fuel used in aviation), road transportation (cars, buses, trucks, motorcycles), railways, domestic navigation (shipping, ferries, leisure craft) and off-road vehicles (such as quad bikes, which are not used on public roads). Emissions from mining and farming equipment are both accounted for in the energy sector. Road transport accounts for over 90 per cent of Tasmania's transport emissions, which makes it the key focus for action.

The UNFCCC reporting framework for transport does not include the embodied emissions from the production of transport infrastructure, such as the emissions created in the production of cement or other building materials used in bridges, roads and other transport infrastructure. These emissions are accounted for in the industrial process and product use (IPPU) category in the UNFCCC framework, and will be considered in both the transport and IPPU Plans where relevant.

This Plan considers how we can build resilience to the impacts of climate change in our transport sector, and how the sector can be supported in the transition to net zero. Examples include how our transport infrastructure can withstand the impacts of extreme weather events such as flooding and extreme heat.

Public consultation identified opportunities for public and active transport improvements, such as real time information for public transport, improved bus stop facilities, park and ride facilities, and improved infrastructure to support active transport.

The Tasmanian Government has a range of strategies and actions underway relating to public and active transport that address some of these public concerns. Relevant actions have been included in this Plan to provide a coordinated view of the action underway. Further details can be found on the Department of State Growth website at: www.stategrowth.tas.gov.au/policies_and_strategies

The Australian Government has also developed a National Electric Vehicle Strategy, and released its Transport and Infrastructure Net Zero Roadmap for consultation. An Action Plan will also be developed to support transport emissions reductions. The actions in this Plan are designed to complement existing work at both a state and national level.

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Our Plan for reducing emissions and building resilience in the transport sector is made up of five focus areas:

1 We will increase the use of public and active transport in Tasmania.

2 We will increase the number of low emissions cars and other light vehicles on Tasmanian roads.

3 We will support the uptake of low emissions heavy vehicles and vessels on Tasmanian roads and waterways.

4 We will support our transport sector to transition to low emissions and build resilience into the future.

5 We will drive action through partnerships and collaboration.

Targets

- Economy-wide target of net zero emissions, or lower, from 2030. This target recognises the risks to Tasmania's current net zero status, for example from major bushfires, which could change our emissions profile by reducing the carbon sink in our forests.
- Transition the Tasmanian government vehicle fleet to electric by 2030.
- Increase the use of public transport for journeys to work in Greater Hobart.



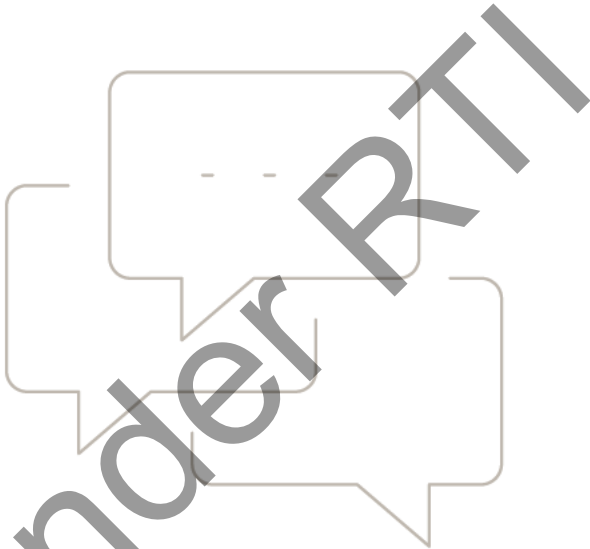
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Consultation – What we heard

Targeted consultation with business and industry started in mid-2023, and public consultation was open from November to December 2023. Sixty five submissions were received through the public consultation process. Consultation participants included:

- Tasmanian Government agencies
- representatives from the Tasmanian transport industry and relevant national bodies
- relevant non-government organisations and research institutions
- members of the community and community organisations.

Key themes from consultation, in order of the number of times raised, and actions in this Plan to address them, are summarised below. All public submissions are published on the ReCFIT website at www.recfit.tas.gov.au/consultation



Key themes from consultation		What we are doing
1	Improved public transport services, including increased frequency and improved quality and reliability	Expanding the River Derwent ferry service.
		Rolling out a common ticketing system for public transport.
		Rolling out real time passenger information for public transport.
		Upgrading bus stops across Tasmania.
		Constructing park and ride facilities.
		Progressing the Northern Suburbs Transit Corridor Growth Strategy.
		Providing half price bus fares from 1 July 2024 to 30 June 2025.
2	Regulatory change across all levels of government to support the transition, particularly for heavy vehicles	Working collaboratively with the Australian Government on heavy vehicle reform, including mass limits, and the decarbonisation of transport and transport infrastructure.
		Consulting with the community on the regulatory framework for e-bikes.

Key themes from consultation		What we are doing
3	Transition planning for industry, including skills development	Providing funding for the automotive industry to support skills transition planning.
4	Investment in infrastructure and facilities, planning, and behaviour change programs to support the uptake of active and public transport	Continuing to implement key strategies, plans and programs in the Department of State Growth to improve Tasmania's transport system, such as the <i>Draft Keeping Hobart Moving Plan</i> , <i>Tasmanian Walking and Cycling for Active Transport Strategy</i> , and the <i>Better Active Transport Grant Program</i> .
5	Incentives to support the uptake of electric vehicles and increased public electric vehicle charging	Funding for public electric vehicle charging infrastructure.
		Supporting small businesses to purchase electric delivery vans.
		Supporting the AEVA National Conference and the Energy, Efficiency, Electric Expo, which will be held in Hobart in 2024.
6	Targets for emissions reduction, uptake of public and active transport, sales targets, and fleet transition targets	Recent financial support for the purchase of eligible EVs.
		Legislated state emissions reduction target of net zero, or lower, from 2030.
7	Partnerships for government to work with other levels of government, the scientific community, business and industry	Target to transition the government fleet to electric vehicles.
		Continuing to work with the Australian Government and other jurisdictions to decarbonise transport and transport infrastructure.
8	Education resources for drivers of electric vehicles	Work with Local Government Association of Tasmania to support councils to transition their fleets to electric vehicles.
		Working with partners in industry to develop education and awareness resources for EV driving in Tasmania, including for Tasmanian businesses and the tourism sector.

Research and alignment with relevant policies

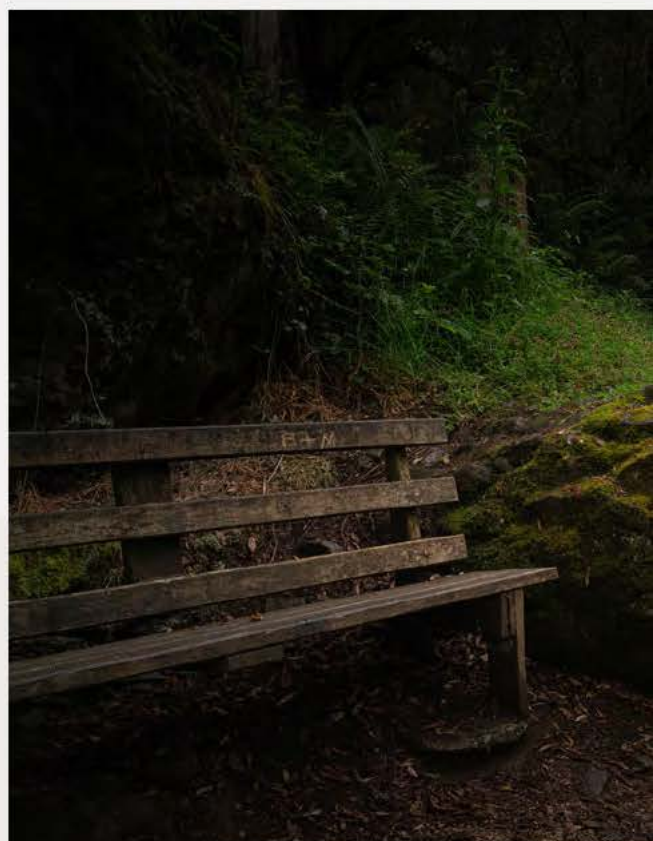
There is significant work underway by governments, business, industry and the community to improve the transport network in Tasmania, Australia and internationally. This Plan brings together the work already underway or committed, and the proposed new work programs, to coordinate our approach to reducing emissions and building resilience in the transport sector. We have considered:

- existing Tasmanian Government policies, including strategies to increase public and active transport
- our legislated target to ensure Tasmania's emissions are net zero, or lower, from 2030
- the objects of the *Climate Change (State Action) Act 2008*, including adaptation, contribution to international, national and local government action, and supporting a consultative partnership approach to action on climate change
- complementarity with actions already underway by local government, business and industry, such as the City of Hobart's development of its *Climate Ready Hobart* strategy
- relevant national policies and strategies, including the National Electric Vehicle Strategy, the Transport and Infrastructure Net Zero Roadmap and proposed Action Plan, and the new Australian Government Infrastructure Policy Statement, which includes a theme of sustainability and outlines the Australian Government's commitment to cut total emissions by 43 per cent by 2030

- feedback from consultation on Tasmania's Climate Change Action Plan 2023-25⁵ (Action Plan)
- the 2021 Tasmanian Emissions Pathway Review⁶
- a desktop review of relevant research and publications relating to emissions in the transport sector, from organisations such as the University of Tasmania, ClimateWorks, the Climate Council, the Australia Institute, and the Australian Electric Vehicle Association
- 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).

5 recfit.tas.gov.au/climate/climate_change_action_plan

6 recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf



How we will take action

The Emissions Reduction and Resilience Plans will guide Tasmania's action on climate change in the transport, waste, energy, industrial processes and product use, and land use, land use change and forestry sectors for the next five years.

Some actions are fully funded and ready to implement, and some are already underway. Other opportunities require additional funding throughout the life of the Plan before they can be progressed.

The Transport Plan includes funding of \$1.4 million from the Climate Change Action Plan for new actions to support emissions reductions in the transport sector.

The status of each action in this Plan is shown as follows:

NEW

New initiatives that are being funded through the Plan or recently announced.



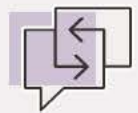
IN PROGRESS

Initiatives that are already being progressed by ReCFIT or the relevant department.



ONGOING

Streams of work that are expected to remain ongoing.



FUTURE FUNDING PRIORITY

Initiatives that require additional funding before they can be progressed.



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Chris Crerar

Our pathway to reduce emissions and build resilience in the transport sector

We will increase the use of public and active transport in Tasmania

Increasing the use of public and active transport will help to reduce transport emissions by generating lower emissions per passenger per kilometre compared to private car use, decreasing traffic congestion, and improving health outcomes by increasing physical activity.

Tasmania has a high level of private car dependence. Shifting to public and active transport, for those that are able to, will play an essential role in reducing Tasmania's transport emissions.

Even where public transport is fuelled by fossil fuels, using public transport produces significantly less greenhouse gas emissions than transporting the same number of people in private cars⁷.

Increased use of public and active transport can have many other benefits, including reduced traffic congestion, reduced air pollution, improved health and wellbeing, and reduced costs of maintaining and fuelling internal combustion engine (ICE) vehicles.

Nearly 90 per cent of Tasmanians drive to work.

⁷ Institute for Sensible Transport (2023) 'Transport and climate change', sensibletransport.org.au/project/transport-and-climate-change/

Tasmania's population is dispersed across larger cities, towns and small rural communities, creating challenges for our public transport network.

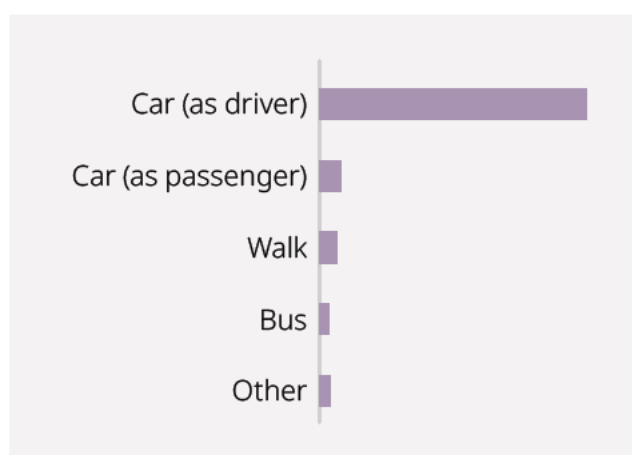
Tasmania is also a mountainous island, which can be a barrier when people consider active transport.

Feedback on the draft Plan focused on barriers to making changes, such as a lack of suitable infrastructure to support active transport, the need for improved public transport, and the need for broader consideration of active and public transport in planning considerations.

Tasmania has an existing priority to increase all public transport modes used for journeys to work in Greater Hobart from 6.4 per cent to 10 per cent by 2030.

The actions in this Plan continue the large program of work underway to improve active and public transport, as well as new initiatives to support the community to increase their use of public and active transport.

How Tasmanians travelled to work in 2021



Source: Australian Bureau of Statistics, 2021 Census of Population and Housing

River Derwent Ferry expansion

In August 2021, Derwent Ferries began a trial commuter ferry service between Bellerive and Hobart, supported by the Tasmanian Government. The ferry service carried over 250,000 passengers in its first two years of operation and has contributed to reduced private vehicle journeys during peak hours.

In 2024, the government has committed to build three new ferry terminals along the River Derwent over the next four years, at Lindisfarne Bay, Wilkinsons Point and Sandy Bay. The expansion is expected to take additional private vehicles off the road in peak hours.

Other priority ferry terminal locations along the River Derwent were identified in the draft Derwent ferry masterplan, including Howrah Point, Kingston Beach and Regatta Point. The government will consider these locations under a future expansion plan.



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Actions

Objective	Summary	Status	Delivered by
Continue to implement key strategies, programs and projects that support the transition to a modern transport sector	Progress the draft <i>Keeping Hobart Moving – Transport Solutions for Our Future</i> (the Plan), which includes actions to improve Hobart's transport system, including: • new and enhanced walking, wheeling and cycling networks • a new, integrated rapid bus network and improved bus services • multiple new ferry terminals and routes • a number of significant road infrastructure projects.	 IN PROGRESS	State Growth
	Progress the Northern Suburbs Transit Corridor Growth Strategy, focusing initially on the four-kilometre section between the Glenorchy CBD and New Town.	 IN PROGRESS	State Growth
	Finalise the update to the Tasmanian Walking and Cycling for Active Transport Strategy, which aims to promote walking and cycling as viable and desirable forms of transport, through improved infrastructure, land use planning and behavioural change.	 IN PROGRESS	State Growth
	Continue to deliver grants through the Better Active Transport Grant Program, which aims to: • support local government partners to develop and construct upgraded, new or extended active transport infrastructure at priority locations, and increase local government capacity to design and build infrastructure • increase active transport accessibility and recognition of the importance of active transport as a transport option.	 IN PROGRESS	State Growth

Objective	Summary	Status	Delivered by
Continue to implement key strategies, programs and projects that support the transition to a modern transport sector (continued)	Continue to deliver grants through the Bus Stop Upgrade Program, to provide all access, all weather bus stops at priority locations.	 IN PROGRESS	State Growth
	Deliver the Common Ticketing Project, to enable a seamless journey for commuters combined with real time information, which will boost public transport use and help reduce congestion.	 IN PROGRESS	State Growth
	Consult with the community on improving the regulatory framework for e-bikes.	 IN PROGRESS	State Growth
	Analyse the costs and issues associated with transitioning Tasmania's public transport fleet to zero emissions technologies, including ferries. This analysis will inform future decision making and begin the transition planning process.	 IN PROGRESS	State Growth
	Explore options for the National Transport Commission to review the regulatory barriers to active transport uptake (particularly e-bikes).	 NEW	State Growth
	Explore opportunities to seek support from the National Active Transport Fund.	 NEW	State Growth
	Provide financial support for the purchase of electric bikes through the Energy Saver Loan Scheme.	 NEW	ReCFIT

Objective	Summary	Status	Delivered by
Continue to implement key strategies, programs and projects that support the transition to a modern transport sector (continued)	Provide support to small businesses to purchase cargo e-bikes for last mile deliveries.	 NEW	ReCFIT
	Work with partners on a <i>Greater Hobart Bicycle Parking Master Plan</i> and fund pilot sites for secure bike parking, to support a sustainable and accessible transport network.	 NEW	State Growth / ReCFIT
Support the uptake of active transport	Support Metro Tasmania to undertake zero emission bus trials, which will provide valuable operational information to inform future decisions on the electrification of public transport.	 IN PROGRESS	ReCFIT
	Implement half price fares for buses and Derwent ferries from 1 June 2024 to 30 June 2025.	 IN PROGRESS	State Growth
	Invest in park and ride facilities in the north of the state and a new bus interchange in Launceston.	 NEW	State Growth
	Build three new ferry terminals over the next four years from 2024, commencing with Lindisfarne Bay, followed by Sandy Bay and Wilkinsons Point.	 NEW	State Growth
	Invest in expanding bus services to growing communities and schools to improve travel times and increase access to employment, education and other services.	 NEW	State Growth

E-mobility Rebate Program

In late 2023, the Tasmanian Government launched the \$200,000 e-Mobility Rebate Program. The program offered rebates for people to purchase zero emission transport options such as e-scooters, e-bikes and cargo e-bikes. The goal of the program was to reduce transport emissions in the state by encouraging commuters to replace some of their journeys with electric transport options. Rebates of up to 12 per cent of the purchase price were available.

A total of 501 Tasmanians received a rebate and 414 of these were used to purchase e-bikes.

We surveyed some of the people who received rebates to find out more about why they purchased their e-mobility device.

Their reasons included the enjoyment and health benefits of riding, the assistance provided for hill climbing, the convenience for short trips, and helping to reduce greenhouse gas emissions.

Tasmania was the first Australian jurisdiction to introduce a scheme like this. Results from the program and surveys will help us design future programs.

Through this transport Plan, the government will provide no-interest loans to help with the up-front costs of purchasing e-bikes.



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We will increase the number of low emissions cars and other light vehicles on Tasmanian roads

Cars and light vehicles are a major contributor to transport emissions. Supporting the uptake of low emissions vehicles is an important way to lower transport emissions and may result in other benefits for Tasmanians, such as lower vehicle operating costs. Tasmania's renewable energy means greater emissions savings for electric vehicles compared to jurisdictions where electricity grids include more fossil fuels.

Tasmania already has a statewide electric vehicle charging network, supported by the government's Electric Vehicle ChargeSmart Grant Program from 2018 to 2021. However, as electric vehicles become more common, this network will need to expand, both in terms of the number and size of sites, to ensure that EVs can continue to efficiently travel around the state.

More work is needed to improve education and awareness about electric vehicles, for both consumers and businesses, to combat common misconceptions such as range anxiety.

We can reduce our reliance on cars by increasing public and active transport, and increasing the number of low emissions vehicles on Tasmanian roads. These changes can:

- reduce our greenhouse gas emissions
- improve public health, through reduced traffic noise and improved air quality
- increase energy security through reduced reliance on imported fuel
- reduce transport costs for households and businesses
- increase opportunities for the tourism sector, for example by incorporating EVs into strategies to make Tasmania a leading destination for climate-conscious travel
- generate job opportunities, such as in the installation and maintenance of charging infrastructure.

Chris Crerar



Electric Vehicle Rebate Program

In November 2023, the Tasmanian Government launched the Electric Vehicle Rebate program. The program provides funding of \$2,000 for new battery electric vehicles and second-hand (but 'new to Tasmania') electric vehicles.

As of mid-July 2024, 202 EV rebates have been paid. The most popular make of car purchased with the support of the rebate was BYD, followed by Tesla and Nissan. The most popular models were the BYD Atto 3, the Tesla Model Y, the Nissan Leaf and the Tesla Model 3. Rebates have been provided to purchase vehicles across 16 different makes and 31 different models.

Rebates went to applicants all around the state, in 23 local government areas. Hobart City Council, Kingborough Council, Clarence City Council, Launceston City Council and Glenorchy City Council areas have had the highest number of rebates to date.

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Actions

Objective	Summary	Status	Delivered by
Increase access to EV charging across Tasmania	Provide grants to support the expansion of the state's electric vehicle charging network, for example fast charging at key destinations.	 NEW	ReCFIT
Support Tasmanian communities and organisations to adopt EVs	Work with partners to explore options to incentivise the uptake of low emissions vehicles through price setting as part of registration fees.	 FUTURE FUNDING PRIORITY	State Growth / ReCFIT
	Work with local governments to support the uptake of EVs in their fleets, building on the Smarter Fleets for local government program delivered through Tasmania's previous climate change action plan.	 FUTURE FUNDING PRIORITY	ReCFIT / LGAT
	Encourage all Tasmanian energy retailers to consider introducing EV-specific charging tariffs.	 NEW	ReCFIT
	Support small businesses to purchase electric delivery vans.	 NEW	ReCFIT
Improve education and awareness about EVs	Support the AEVA National Conference and the Energy, Efficiency, Electric Expo which will be held in Hobart in 2024.	 NEW	ReCFIT
	Partner with peak bodies and other industry organisations to develop public education resources on driving electric vehicles in Tasmanian conditions, EV tourism materials and resources for small businesses.	 NEW	ReCFIT / partner



Chris Crerar

3

We will support the uptake of low emissions heavy vehicles and vessels on Tasmanian roads and waterways

There are currently very low numbers of low emissions heavy vehicles on Tasmanian roads, due to factors such as high cost, low vehicle availability, and a lack of charging infrastructure.

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.

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

During our consultation process, industry and businesses outlined the barriers to transitioning to low emissions heavy vehicles, and the need for government support through planning, regulatory review by both the state and Australian government, and support for skills development. This support is particularly important for Tasmania, given the large number of small operators.

There are also opportunities to increase the amount of freight transported by rail. 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.

Both low carbon liquid fuels and hydrogen (including hydrogen derivatives such as methanol and e-fuels) are also likely to play a part in supporting the transition to low emissions heavy vehicles, through actions in the *Tasmanian Renewable Hydrogen Action Plan*, and the *Bioenergy Vision for Tasmania*.



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In January 2024, Tasmania received \$70 million from the Australian Government towards the \$300 million Tasmanian Green Hydrogen Hub project, a major project to support Tasmania's hydrogen industry. Tasmania is also attracting the attention of methanol and e-fuels companies looking to build on our strong renewable energy and sustainable biomass resources. These initiatives have the potential to support the transformation of our heavy vehicle and marine transport sectors. The Australian government hydrogen support programs are underpinning the development of these new hydrogen fuel sources.

Tasmania has also implemented the Green Hydrogen Price Reduction Scheme, which aims to bring the sale price of green hydrogen down to a level that is competitive with other energy or fuel sources to become an attractive zero emissions substitute for customers. In May 2024, Countrywide Hydrogen was awarded an \$8 million funding package through the Scheme.

Metro Zero Emission Bus Trials

The government has allocated funding to Metro Tasmania to undertake trials of zero emission buses. Funding of \$6 million will support a two year trial of four battery electric buses, and \$11.3 million from the Tasmanian Renewable Hydrogen Industry Development Fund will support a trial of three hydrogen electric buses for up to three years. The battery electric bus trial will take place in Launceston, and the hydrogen electric bus trial in Hobart.

The zero emission bus trial will provide valuable operational data and insights to help Metro explore and plan for a longer-term, future transition of its fleet to zero-emissions technologies.

The battery electric buses started services in early 2024 and updates on the trials can be found on Metro's website (www.metrotas.com.au).

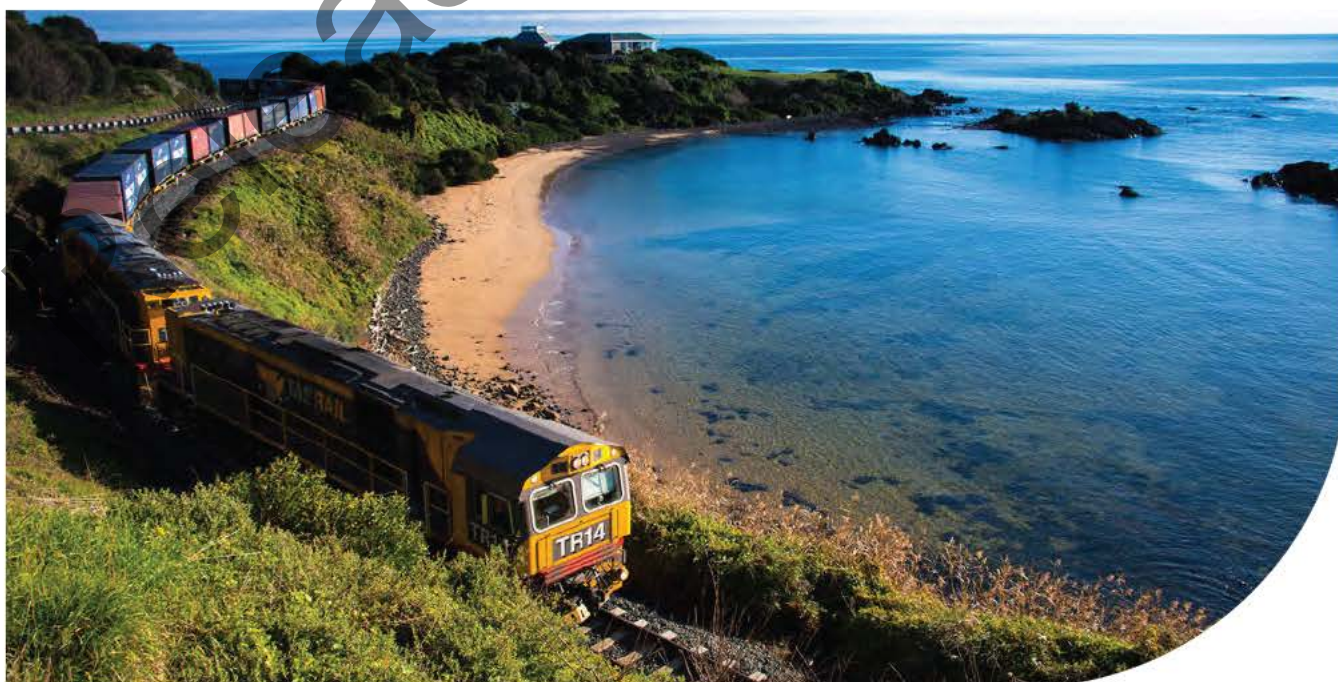


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Actions

Objective	Summary	Status	Delivered by
Support the uptake of low emissions medium and heavy vehicles	Explore options to subsidise businesses to purchase zero emissions medium and heavy vehicles.	 FUTURE FUNDING PRIORITY	ReCFIT
	Identify priority locations to support heavy vehicle charging or refuelling infrastructure.	 FUTURE FUNDING PRIORITY	ReCFIT
	Incentivise businesses to produce, sell and use green hydrogen in Tasmania, through the Green Hydrogen Price Reduction Scheme.	 IN PROGRESS	ReCFIT
	Support the Tasmanian Transport Association to develop transition planning for carbon reduction and resilience in the heavy vehicle sector.	 NEW	State Growth / TTA
	Explore opportunities to increase the use of blended fuels and low carbon liquid fuels in government heavy vehicle fleets and leverage Australian Government funding opportunities.	 FUTURE FUNDING PRIORITY	ReCFIT
	Continue to engage with the National Transport Commission on Heavy Vehicle Road Reform, to ensure future heavy vehicle road user charges reflect the benefits of low emissions vehicles.	 IN PROGRESS	State Growth

Objective	Summary	Status	Delivered by
Increase the use of rail as an option for the transport of freight	Support TasRail to research low emissions rail technology.	 FUTURE FUNDING PRIORITY	ReCFIT / TasRail
	Encourage the increased use of rail to transport freight around Tasmania.	 FUTURE FUNDING PRIORITY	State Growth
Address regulatory barriers to the uptake of low emissions medium and heavy vehicles	Continue to work with the Australian Government on the Decarbonisation of Transport Working Group, including the Heavy Vehicle Decarbonisation sub-working group.	 ONGOING	State Growth / ReCFIT
	Consult with the Australian Government on its reforms to Australia's Heavy Vehicle National Law, particularly mass limits, to support the uptake of zero emission trucks in Australia.	 IN PROGRESS	State Growth / Australian Government



TasRail

4

We will support our transport sector to transition to low emissions and build resilience into the future

Despite the benefits of low emissions technology, the shift may present a challenge for some businesses due to the need for new skills, changes to business models, and increased up-front costs. The impacts of climate change are also likely to present challenges for the transport sector when extreme events occur.

The projected changes to the Tasmanian climate, including increased frequency and intensity of extreme weather events, will increase physical risks for our transport system. Damage to transport infrastructure disrupts the free movement of passengers and freight, and there is a cost to businesses, households and government to repair or replace damaged infrastructure.

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In the transition to a low emissions economy, the transport sector will be required to consider not just emissions from the use of vehicles, but a range of emissions released through the lifecycle of vehicles and road infrastructure. For example, the production of materials used in road infrastructure often releases large amounts of greenhouse gas emissions. End-of-life tyres are a problematic waste stream if they are illegally dumped or stored inappropriately. Poorly managed stockpiles of tyres can potentially create fire risks and pest problems. Increasingly, circular economy solutions are becoming technically and economically feasible. These solutions can reduce emissions, improve resource efficiency, and support the transport and other sectors in the transition to a low emissions economy.

Opportunities to reduce emissions from transport systems and increase their resilience to extreme weather events should be considered alongside other important factors in the planning, construction and maintenance of infrastructure.

The transition will also result in changes to the skills needed to keep our fleets moving, and how our emergency responders deal with the different risks and hazards from incidents with EVs compared to ICE vehicles. There is a lower incidence of fires relating to EVs than internal combustion engines, but the response to EV fires is different.

Electric vehicles also place increased demand on our electrical grid, so we need to consider appropriate retail electricity offerings and ensure the network can manage additional load.

Crumb rubber in Tasmanian roads

In mid 2023, Fulton Hogan opened a new crumb rubber blending plant in Launceston, which demonstrates the growing use of recycled materials in road surfaces.

The Department of State Growth has expanded the use of crumb rubber in the state road resurfacing program. In the 2022-23 resurfacing season, 18 sites used a crumb rubber asphalt mix.

Crumb rubber was expanded into the broader resurfacing tenders from 1 July 2023. A total of 60 sites were completed in 2023-24 and 11 sites are targeted for the 2024-25 resurfacing season.



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Actions

Objective	Summary	Status	Delivered by
Enhance decision making around electric vehicle uptake	Model EV uptake to support government decision making on electric vehicle policy issues such as increased electricity requirements.	 NEW	ReCFIT
	Work with the Australian Government to develop a mapping tool to support decision making on future charging needs.	 IN PROGRESS	ReCFIT / Australian Government
Build the skills required to transition Tasmania's transport sector to low emissions	Partner with industry to develop programs for building Tasmanian workforce capabilities in renewable and low emissions technologies. Initiatives will include pathways through TasTAFE and other Vocational Education and Training providers, supported by Skills Tasmania, and other higher education options, non-accredited training and other forms of capability building.	 NEW	State Growth
	Provide funding to the automotive industry to develop a skills transition plan to support the transition to electric vehicles.	 NEW	ReCFIT / Partner
Increase the resilience of Tasmania's transport infrastructure	Continue to identify and incorporate opportunities to improve active and public transport as part of projects to improve the state road network.	 IN PROGRESS	State Growth
	Consider the impacts of climate change on Tasmania's transport infrastructure, and opportunities to increase resilience to these impacts, through the whole-of-government framework to embed climate change in government decision making.	 IN PROGRESS	ReCFIT
	Develop user-friendly information based on the findings of the statewide climate change risk assessment and the updated fine-scale climate projections. For example, these resources could support planning to increase the resilience of transport infrastructure networks and supply chains.	 IN PROGRESS	ReCFIT

Objective	Summary	Status	Delivered by
Increase the resilience of Tasmania's transport infrastructure (continued)	Continue to work with the State Planning Office to ensure the Tasmanian Planning Policies and Tasmanian Planning Scheme consider the role of land use planning in reducing emissions and ensuring Tasmania's built environments are resilient to the impacts of climate change.	 ONGOING	ReCFIT / State Planning Office
Reduce emissions from transport infrastructure	Continue to support the use of recycled materials such as crumb rubber from waste tyres in the construction and maintenance of the state road network. Research the use of other recycled products and the feasibility of increasing their use in state road construction in Tasmania, and continue to support reduction in embodied emissions in the construction and maintenance of the state road network and other transport infrastructure projects.	 IN PROGRESS	State Growth
	Continue to work with the Australian Government on the Decarbonisation of Transport and Infrastructure Working Groups.	 IN PROGRESS	State Growth
	Consider the role of government in reducing emissions from transport infrastructure through the Plan for the Industrial Processes and Product Use sector. For example, this could include considering the adoption of sustainability accreditation systems for large-scale government infrastructure projects to promote the use of low emissions materials.	 FUTURE FUNDING PRIORITY	ReCFIT
Reduce actual and perceived risks associated with EV batteries	Work collaboratively with the Australian Government, through the National Electric Vehicle Action Plan Implementation Group, to support the development of EV guidance, demonstrations, and training for emergency service workers, along with tools and guidance to enable EV uptake for residents of existing multi-residential buildings.	 IN PROGRESS	ReCFIT

We will drive action through partnerships and collaboration

The Tasmanian Government is committed to supporting the decarbonisation of transport, by reviewing the policies it is responsible for, and working collaboratively with all levels of 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 state government has a role in reducing its own transport emissions by transitioning its vehicle fleet to electric, but also has a role supporting business, industry and the community through the transition.

Partnerships are key in taking action to reduce our emissions. By collaborating, we can take advantage of knowledge across all levels of government, business and industry, and the community, to deliver more targeted actions. We can reduce the chance of duplicating effort and maximise the use of our resources to take action.

At the 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 Working Groups. Tasmania is also part of the Net Zero Futures Policy Forum, an international partnership of governments committed to addressing the practical challenges of achieving net zero emissions.

Electric Vehicle Working Group

The Tasmanian Electric Vehicle Working Group was established in 2017 under *Climate Action 21: Tasmania's Climate Change Action Plan 2017-2021*. The aim of the Working Group was to develop a coordinated approach to support the uptake of electric vehicles.

The Working Group brought together Tasmanian Government agencies, government businesses, industry groups, research organisations and community organisations.

The Working Group's role was to:

- identify and explore barriers to electric vehicle uptake
- review relevant policy and regulatory settings relating to each barrier

- identify priority areas of action to support electric vehicle uptake
- understand the impact of electric vehicle uptake on Tasmania's electricity sector
- assess approaches to support the rollout of electric vehicle charging infrastructure in Tasmania
- investigate ways to improve electric vehicle data collection.

The Working Group developed the Electric Vehicle ChargeSmart Grant Program to support the installation of fast, workplace and destination electric vehicle charging infrastructure around Tasmania. As a result of the ChargeSmart Program, Tasmania was the first state in Australia to have a statewide EV charging network.

Actions

Objective	Summary	Status	Delivered by
Encourage business and industry to reduce transport emissions	Work with business and industry to encourage fleet transition initiatives for their operations such as trialling low and zero emissions technologies and setting fleet transition targets.	 FUTURE FUNDING PRIORITY	ReCFIT
Work collaboratively with other levels of government to reduce transport emissions	Work collaboratively with the Australian Government and other jurisdictions on key national policies relating to transport decarbonisation through the National Electric Vehicle Action Plan Implementation Group, and the Decarbonisation of Transport and Infrastructure Working Groups.	 IN PROGRESS	ReCFIT / State Growth
	Work with the Australian Government to reduce emissions by decarbonising transport operations, as well as in the design, construction and operation of transport infrastructure in line with the Australian Government Infrastructure Policy Statement.	 IN PROGRESS	State Growth

Since the inception of the Working Group, the electric vehicle market has matured, and the Australian Government has released the National Electric Vehicle Strategy to guide national action. The Tasmanian Electric Vehicle Working Group has now been transitioned to an information sharing group to ensure knowledge sharing and a coordinated approach.



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Next steps

Implementation

Some actions in this Plan are fully funded and ready to implement and some are already underway. Other opportunities require additional funding from different levels of government before they can be progressed. These opportunities are labelled 'future funding priorities'. The status of each action is identified in this Plan.

Reporting

Every year, we will prepare and table in Parliament:

- a climate change activity statement, showing the status of each sectoral Plan and actions in the Action Plan
- a greenhouse gas emissions report detailing Tasmania's emissions for each sector.

Monitoring and review

We will determine whether actions in this Plan have been effective by monitoring and evaluating individual actions. Monitoring will be based on the approach identified for each of the actions. Evaluation methods will vary, as they will be tailored for each action.

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.

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

The development of all Plans and Tasmania's first statewide climate change risk assessment is expected to be completed by November 2024. At that point, 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.

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

Engagement with business, industry and the community

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: recfit.tas.gov.au/cc_newsletter and follow the Tasmanian Climate Change Office on Facebook to stay informed about opportunities to participate in relevant programs.



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Glossary and acronyms

Term	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
BITRE	Bureau of Infrastructure and Transport Research Economics
CO₂	Carbon dioxide, a greenhouse gas
CO₂-e	Carbon dioxide equivalent
DCCEEW	Australian Government Department of Climate Change, Energy, the Environment and Water
Direct combustion	Burning of fuel(s) for energy, predominantly in manufacturing, mining, residential and commercial sectors.
Emissions	Unless otherwise stated, “emissions” refers to Tasmania’s net greenhouse gas emissions, which means the greenhouse gases that are emitted from our activities minus the carbon sequestered (for example in our forests).
EV	Electric vehicle. For the purposes of this 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 carbon liquid fuel (LCLFs)	Low carbon liquid fuels are liquid fuels from non-fossil origin, with low or no net CO ₂ emissions from production and combustion.
Low emissions vehicle	For the purposes of this 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.
LULUCF	Land Use, Land Use Change and Forestry sector
Mt	Megatonnes
ReCFIT	Renewables, Climate and Future Industries Tasmania
UNFCCC	United Nations Framework Convention on Climate Change
Vehicle to Load	Vehicle to Load is a bidirectional power feature that allows you to use the battery in an electric vehicle to power or charge an electrical appliance, such as a laptop.

Department of State Growth

GPO Box 536 Hobart

TAS 7001 Australia

Phone: 03 6166 4466

Email: climatechange@recfit.tas.gov.au

Web: recfit.tas.gov.au

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Climate Change Office



Waste Emissions Reduction and Resilience Plan 2024–2029

Released under RTI

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 and present.

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Minister's message



Madeleine Ogilvie
Minister for the
Environment

The *Waste Sector Emissions Reduction and Resilience Plan 2024-29* is the first legislated Plan for the waste sector under the *Climate Change (State Action) Act 2008*. The Plan builds on significant planning and investment in waste and resource recovery, including the release of the *Tasmanian Waste and Resource Recovery Strategy 2023-26* in 2023. In recent years, we have committed over \$23 million to improve waste management in Tasmania, and importantly, the funds from the landfill levy introduced in 2022 will be reinvested into the sector in the future.

This Plan has been developed in consultation with business, industry and the community, and across government. I would like to thank everyone who contributed to the consultation process. As Minister for the Environment, I am committed to ongoing collaboration and coordination to enable our state's transition to a circular, low emissions future.

Tasmania's waste sector accounts for 5 per cent of our total emissions, excluding the land use, land use change and forestry sector. Most of the emissions come from organic waste being sent to landfill, and the treatment of wastewater. The emissions from waste have declined by one third since 1990, due to improvements in the way we deal with waste and installation of gas capture technologies at landfills. However, there is still more we can do to reduce the amount of organic waste that we generate. We can reuse and recycle

more organic waste into other products, and improve the way we manage other high emissions waste streams such as refrigerators and air conditioners, wastewater, building and construction waste, and end-of-life tyres.

In the transition to a net zero economy, and as our climate continues to change, the waste sector will face new challenges, and existing issues will be amplified. It is essential that we support the sector to prepare for these changes, for example by developing recovery pathways for new or increased waste streams and ensuring our landfills and wastewater treatment facilities are prepared for the increased frequency and intensity of extreme weather events.

This five-year Plan sets out how we will reduce the amount of organic waste sent to landfill and increase recycling and recovery of high-emissions waste streams. It outlines how we will support the transition to a circular, low emissions economy, support our waste sector to build resilience into the future, and drive action through partnerships and collaboration.

The Waste and Resource Recovery Board has a comprehensive agenda to transition Tasmania to a circular, low emissions future. Collaborating with the Board and across government to support the consideration of emissions reduction and resilience in waste policies and projects is central to this Plan.

New commitments that will support emissions reduction from waste, being led by the Waste and Resource Recovery Board and the Department of Natural Resources and Environment Tasmania, include supporting the collection of food waste from hospitality businesses, waste education in schools, waste audits to assess the efficacy of existing programs and inform future work, and partnering with industry bodies to plan for circular economy opportunities across the economy.

This Plan will guide additional strategic investment over the next five years. We will work with industry, the community and the Australian Government to leverage any funding that may become available at the national level to support this transition. This Plan also considers relevant actions already underway in the environment portfolio that will reduce emissions from waste and support Tasmania's transition to a circular, low emissions future.

This Plan is one of six sectoral plans. Together, the plans for our transport, waste, energy, industrial processes and product use, agriculture, and land and forestry sectors set out our pathway to achieve our target of net zero emissions, or lower, from 2030, support businesses and industry to transition to a low emissions economy, and build resilience to the impacts of climate change.



Photo: Rachel Brown

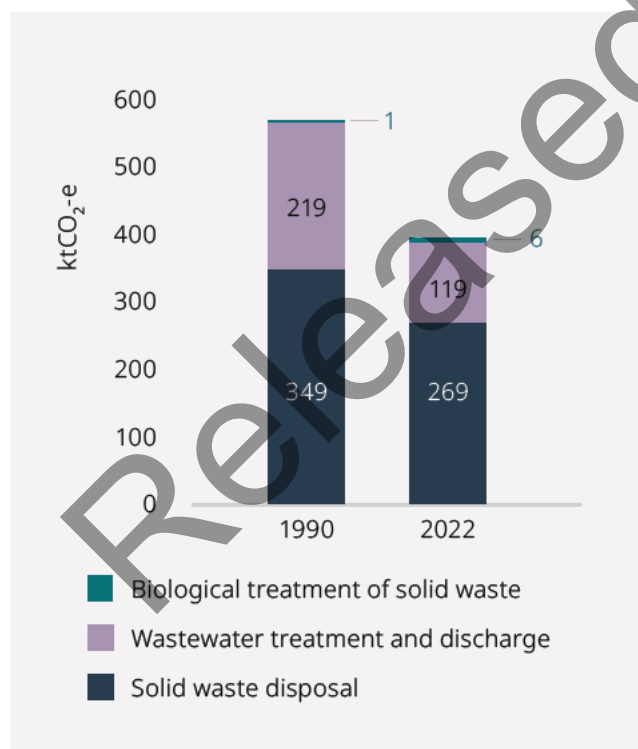
Tasmania's waste sector

The waste sector is essential to the Tasmanian community. The sector manages the state's household, commercial and industrial waste and recycling, and the treatment of wastewater.

The sector is undergoing significant change, driven by developments in Australia and overseas, and shifts in community expectations and concerns around waste management and the greenhouse gas emissions from waste. While waste management traditionally deals with the disposal stage in the lifecycle of products, there is now a move to a circular economy, which aims to maximise the value and use of materials and resources, at every stage of the lifecycle.

Tasmanian businesses, industries and communities deal with the products they no longer use in various ways depending on their location, networks and needs. There is no one-size-fits-all approach to improving the way we manage waste across the state.

Sources of waste emissions 2022



1 Tasmania's latest reported greenhouse gas emissions were released in April 2024 as part of the Australian Government's *National Inventory Report 2022*. The Australian Government reporting framework is consistent with UNFCCC and Paris Agreement reporting rules. National inventory reporting runs two years behind the current date, and represents the most recent official data in Australia on annual emissions.

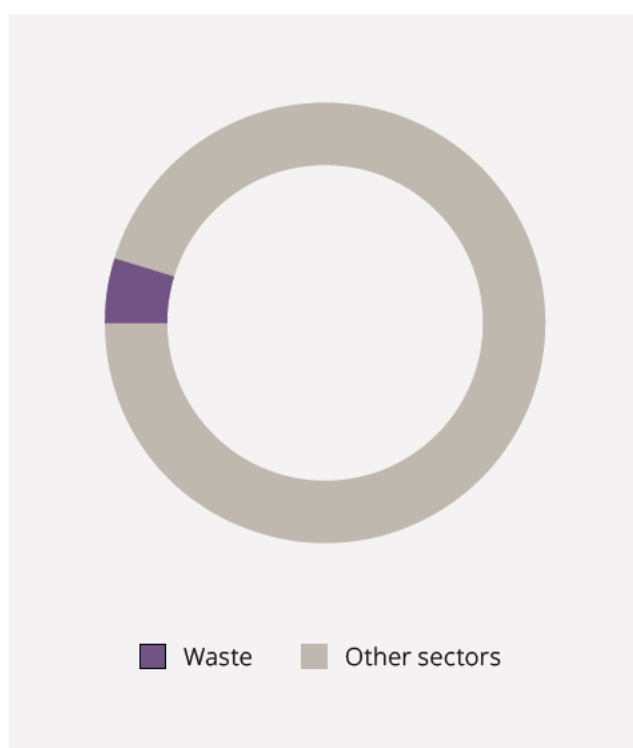
Emissions from waste¹

Tasmania's waste sector accounts for 5 per cent of total emissions, excluding the land use, land use change and forestry (LULUCF) sector. Most emissions come from the decomposition of organic waste in landfills and the treatment of wastewater.

The sector's emissions have reduced by 31 per cent since 1990. This reduction has largely been driven by increased landfill diversion rates and changes in practices, including gas capture at wastewater treatment sites and landfills. These changes offset the emissions associated with increased waste generation due to population and economic growth.

There are also waste-related emissions accounted for in the agriculture, LULUCF, industrial processes and product use (IPPU) and energy sectors, including from the landspreading of agricultural and industrial wastes, post-harvest management of forest residues, and use of bioenergy made using organic waste.

Share of Tasmanian emissions (excluding LULUCF) 2022

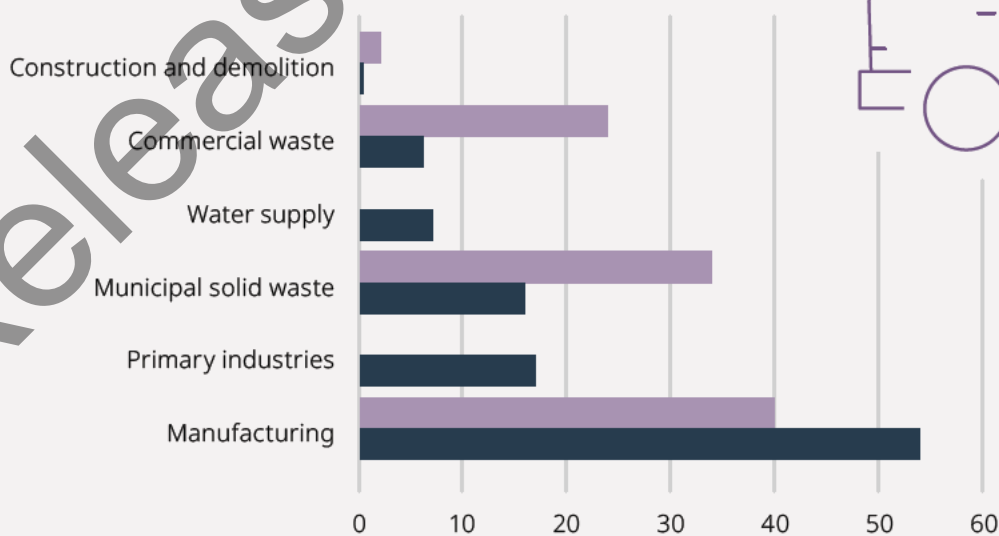


Source: Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2024, State and Territory Greenhouse Gas Inventories 2022.

Organic waste in Tasmania

Different industries have different ways of managing their organic waste. For example:

- The commercial sector (which includes food retailing, accommodation, hospitality, schools and other businesses) currently sends the majority of its organic waste to landfill.
- The manufacturing sector (which includes food, beverage, wood, textiles and paper) sends the majority of its waste to landfill and also redirects a proportion of its organic waste as animal feed, or manages the waste on-site (landspread, stockpiled or burned).
- Primary industries (including agriculture, aquaculture, and forestry) send a very low proportion of waste to landfill. Organic waste from these industries is sent to composting or mulching facilities, or is managed on-site. The emissions from on-site waste management, such as landspreading and burning, are accounted for in the agriculture and LULUCF sectors.
- The construction and demolition industry produces very little organic waste. However, many materials used in building and construction such as steel and cement have high emissions along their lifecycle. It is important that they are managed appropriately at their end-of-life and recycled and recovered as far as possible.
- Municipal solid waste from households accounts for only 16 per cent of the total organic waste generated in Tasmania, but 34 per cent of the organic waste sent to landfill.



■ Proportion of the total amount of organic waste sent to landfill in Tasmania (%)

■ Proportion of Tasmania's organic waste generation

Source: RMCG Consortium 2022, Tasmanian Organics Research Report: Final, prepared for NRE Tas

Climate-related risks and opportunities for the waste sector

Climate change impact	Risks and opportunities for Tasmania's waste sector
Technological changes 	The shift towards renewable energy will result in obsolete emissions-intensive technologies, and new low emissions technologies such as lithium-ion batteries and solar panels that require management by the waste sector. There are opportunities to develop new infrastructure to support the transition to a circular economy.
Changing consumer and investor sentiment 	There is an increasing expectation from markets and consumers for businesses to manage their resources in ways that are environmentally and socially responsible. These changes bring challenges and risks, but if managed appropriately, can also bring opportunities for Tasmanian businesses to benefit from Tasmania's clean, green brand, increase productivity, reduce costs and explore new revenue streams.
Policy and regulatory changes  Market changes 	Opportunities for the sector in the transition to a low emissions economy include the potential to generate income through the sale of carbon credits from projects that reduce emissions, or through the sale of products such as compost, digestate and bioenergy.

Climate change impact

Risks and opportunities for Tasmania's waste sector

Increase in storms, creating coastal erosion



Increased incidence of fires, storms, floods and coastal erosion will increase physical risks to landfill sites and wastewater treatment plants. These hazards can cause a range of challenges, including damage to the environment and human health if materials and chemicals are released into the environment.

Increased frequency and intensity of extreme weather events will also result in damage to infrastructure and property, requiring management by the waste sector.

Longer fire seasons, more days of high fire danger



Significant change in rainfall patterns



Increased climate variability is likely to lead to fluctuations in organic waste streams.

Increased ocean acidification and water temperature



New commitments to reduce emissions and build resilience in the waste sector

The Waste and Resource Recovery Board has a comprehensive agenda to transition Tasmania to a circular, low emissions future. Collaborating with the Board and across government to support the consideration of emissions reduction and resilience in waste policies and projects is central to this Plan.

New commitments that will support emissions reduction from waste, being led by the Waste and Resource Recovery Board and the Department of Natural Resources and Environment Tasmania, include:

- partnering with relevant not-for-profit organisations to deliver waste education in schools.
- conducting waste audits across Tasmania to assess the effectiveness of current kerbside collection systems and inform improvements to systems and development of targeted education materials.
- supporting the collection of food waste from hospitality businesses.
- partnering with peak bodies to do an environmental scan of the waste and resource recovery issues for key industries, and plan for circular economy opportunities.

This Plan builds on over \$23 million in recent investment in the state's waste and resource recovery sector, and continued investment through the distribution of funds from the landfill levy.

The landfill levy was introduced in Tasmania in 2022 to discourage valuable products and resources going to landfill and encourage sustainable practices, including re-use and recycling.

Tasmania is the only state in Australia where all the landfill levy collected is being reinvested into achieving resource recovery goals. This investment includes growing the state's capacity for repair and refurbishment, reuse, recycling, and remanufacturing, and supporting Tasmania to take advantage of this global change. Revenue from the landfill levy is also being distributed to the three regional management groups, remote councils, and charitable recyclers to help them fund action under their own waste and resource recovery strategies.

Photo: Tammy Miller



Supporting business and industry to reduce emissions, transition to lower emissions and build resilience

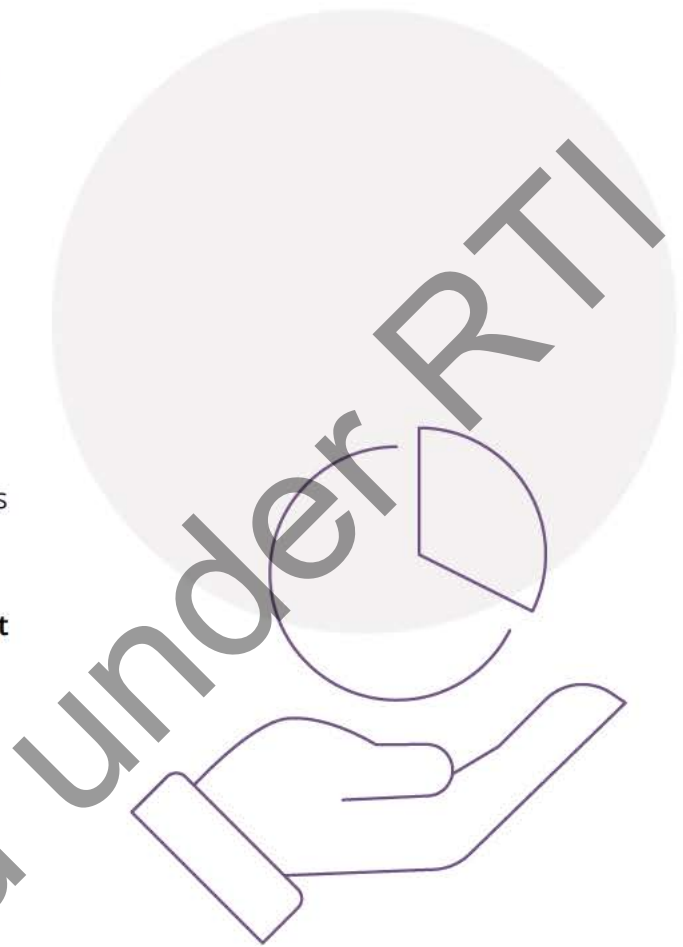
We have developed *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* to show the links between all sectoral plans and Tasmania's first statewide climate change risk assessment.

There are common challenges and opportunities across all sectors in Tasmania. As part of the Roadmap we will introduce:

- **Climate Change Business Innovation Grant Program** to support businesses to take action on climate change, focusing on local innovation, collaboration and partnerships.
- **Business and Industry Climate Change Innovation Forum** to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.
- **Climate Change Champions Program** to recognise innovative, best practice climate action across all sectors.
- **Climate Reporting Support Program** to support small- to medium-sized businesses to better understand climate-related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.

These cross-sectoral opportunities have been identified based on feedback from consultation on all sectoral plans.

See *Tasmania's Emissions Reduction and Resilience Roadmap 2024-29* for more information.



About this Plan

The Plan for the waste sector focuses on Tasmania's major sources of waste emissions, as described under the United Nations Framework Convention on Climate Change (UNFCCC) reporting framework. The main emissions sources are from the disposal of organic waste (such as food and garden waste, paper and cardboard) in landfills, and wastewater treatment. This Plan also considers other high-emissions waste streams such as building and construction waste, end-of-life tyres, and disposal of products that contain synthetic greenhouse gases.

This Plan considers how we can build resilience to the impacts of climate change on waste streams and waste management systems, and how the sector can be supported in the transition to net zero as global markets evolve.

Although not always directly accounted for in the waste sector under the UNFCCC reporting framework, broader waste and resource recovery initiatives can reduce our emissions along supply chains. All sector-based plans consider waste management and resource efficiency in the relevant context. For example, the agriculture and forestry industries send very small proportions of their organic waste to landfill. Some actions in the waste sector Plan will be relevant to these industries. However, additional opportunities to recycle and recover agricultural wastes and forest residues will be considered in the agriculture and LULUCF sector Plans.

The Tasmanian Government is committed to improving waste and resource recovery in Tasmania. The *Tasmanian Waste and Resource Recovery Strategy 2023-2026* aims to reduce the generation of waste, boost recycling and resource recovery, and position Tasmania to move towards a circular economy. The Strategy includes commitments for infrastructure investment, resource recovery and circular economy grants and other programs, levy rebates, education and awareness, and skills development. More information about the Waste and Resource Recovery Strategy is available on the [Tasmanian Waste and Resource Recovery Board website](https://wrr.tas.gov.au/planning-and-reporting/waste-strategy)².

The new actions in this Plan have been designed in collaboration with the Waste and Resource Recovery Board (WRR Board) and the Department of Natural Resources and Environment Tasmania (NRE Tas) to ensure they align with and complement the Waste and Resource Recovery Strategy, and other waste related activities.

Our Plan to reduce emissions and build resilience in the waste sector is made up of five focus areas:

- 1 We will reduce the amount of organic waste sent to landfill.
- 2 We will increase recycling and recovery of high-emissions waste streams.
- 3 We will support the transition to a circular, lower emissions economy.
- 4 We will build resilience to the impacts of climate change.
- 5 We will drive action through partnerships and collaboration.

² wrr.tas.gov.au/planning-and-reporting/waste-strategy

Research and alignment with relevant policies

There is significant work underway by governments, business, industry and the community to improve waste management. This Plan brings together the work already underway or committed, with proposed new work programs, to provide a coordinated approach to reducing emissions and building resilience in the sector. We have considered:

- existing Tasmanian Government policies and targets, including the *Tasmanian Waste and Resource Recovery Strategy 2023-26*
- our legislated target to ensure Tasmania's emissions are net zero, or lower, from 2030
- the objects of the *Climate Change (State Action) Act 2008*, including adaptation, contribution to international, national and local government action, and supporting a consultative partnership approach to action on climate change
- complementarity with actions already underway by local government, business and industry, including Tasmania's three regional waste management groups
- relevant national policies and initiatives, including the National Waste Policy
- feedback from consultation on *Tasmania's Climate Change Action Plan 2023-25* (Action Plan)
- 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)
- the 2021 *Tasmanian Emissions Pathway Review*
- the *State of the Environment Report 2024*, including Recommendation 15 which recommends the Tasmanian Government continues efforts to reduce greenhouse gas emissions across all sectors
- analysis of additional resources and policies, including the 2022 Tasmanian Organics Research Report and initiatives being implemented in other jurisdictions.



Targets

Tasmanian Government

Tasmania has a legislated economy-wide target of net zero emissions, or lower, from 2030. This target recognises the risks to Tasmania's current net zero status, for example from major bushfires, which could change our emissions profile by reducing the carbon sink in our forests.

Tasmania's organic waste targets are to:

- reduce the volume of organic waste sent to landfill by 25 per cent by 2025
- reduce the volume of organic waste sent to landfill by 50 per cent by 2030
- reduce food waste by 50 per cent by 2030.

Photo: Rachel Brown



National targets

The [National Waste Policy Action Plan 2019](#)³ set national targets for waste and resource recovery:

- reduce total waste generated in Australia by 10 per cent per person by 2030
- recover 50 per cent across all waste streams by 2025 and 80 per cent by 2030
- halve the amount of organic waste sent to landfill by 2030
- make comprehensive, economy-wide, and timely data publicly available to support better consumer, investment, and policy decisions
- phase out problematic and unnecessary plastics by 2025.

These targets are currently under review by the Australian, state and territory governments.

In 2023, all of Australia's Environment Ministers agreed to work with the private sector to design out waste and pollution, keep materials in use, and foster markets to achieve a circular economy by 2030.

International community

- United Nations Sustainable Development Goal 12.3: **Halve global food waste per capita by 2030.**
- Global Methane Pledge: **Reduce global methane emissions across all sectors by at least 30 per cent below 2020 levels by 2030.**

³ www.dcceew.gov.au/environment/protection/waste/publications/national-waste-policy-action-plan

Potential emissions reduction from the waste sector

The most effective opportunity to reduce emissions from the waste sector is to avoid the generation of waste. However, there are important opportunities to improve the way we manage the waste that we cannot avoid producing.

The 2021 *Tasmanian Emissions Pathway Review* identified 16 “best-fit” emissions reduction opportunities for Tasmania. The opportunities were assessed based on their achievability against economic considerations, technical barriers and government policy. One of these opportunities was for the waste sector: reducing the volume of organic waste sent to landfill, together with the deployment of additional landfill gas capture technology.

The *Tasmanian Emissions Pathway Review* estimated that this opportunity could reduce Tasmania’s emissions by 0.60 Mt CO₂-e per year by 2050, a reduction of around 16 per cent of total current waste sector emissions.

Many of Tasmania’s larger landfill and wastewater treatment facilities already have gas capture collection systems in place.

These systems combust or flare the gases, converting the methane to less potent carbon dioxide. Several facilities convert the methane gas into energy to power their operations, including the Launceston Waste Centre, McRobies Gully Waste Management Centre in South Hobart and the Jackson Street Waste Management Centre in Glenorchy. This process not only reduces emissions from the waste sector, but also the energy sector when the biogas is used in place of fossil fuels.

There are incentives to install technology to generate carbon credits through the Australian Carbon Credit Unit (ACCU) Scheme. Instead of duplicating these existing measures, the actions in this Plan focus on reducing organic waste produced in Tasmania and the amount sent to landfill. This Plan also considers other high emissions waste streams that are accounted for in other sectors such as products containing synthetic greenhouse gases, building and construction waste, and end-of-life tyres.



4 [Tasmania’s Emissions Pathway Review, Point Advisory with Indufor, recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf](https://recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf)

Estimating the impact of the waste Plan on our emissions and resilience

This Plan includes existing, new and future actions to support the uptake of the best-fit emissions reduction opportunities for Tasmania. Many of the actions aim to ensure Tasmanians have access to the information and tools they need to reduce waste or increase the resilience of their business to low emissions. Actions such as these are essential to ensuring Tasmanians have the confidence to invest in low emissions technologies and make changes to their lifestyles or business operations. By their nature, these types of initiatives will not deliver direct emissions reductions or increased resilience. They will instead drive reductions indirectly by supporting Tasmanian businesses, industries and the community to make changes.

Photo: Tammy Miller



Consultation – What we heard

Targeted consultation with business and industry started in mid-2023, and the public consultation was undertaken in late 2023. Twenty eight submissions were received through the public consultation process. We also held one-on-one meetings with a number of stakeholders, including community groups, throughout this process.

Consultation participants included:

- Tasmanian Government departments and agencies
- local government and regional waste management groups
- waste management businesses
- major producers of organic waste, including retail, hospitality and food processing
- relevant non-government organisations and research institutions
- members of the community and community organisations.

Key themes from consultation, in order of the number of times raised, and actions in this Plan to address them, are summarised on the next page. All public submissions are published on the ReCFIT website at www.recfit.tas.gov.au/consultation



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Key themes from consultation	Raised by	What we are doing
Deliver community awareness and behaviour change programs, for example on why and how households can reduce their waste	Business, industry, and community	• The Great Unwaste national behaviour change campaign • Waste education in schools
Improve coordination and collaboration within state government, with local government, the community and other sectors	Business and industry	• Waste and Resource Recovery Board • Support for regional waste management groups and development of regional waste and resource recovery strategies • Climate Change Innovation Forum
Support local systems and innovation, including stimulating markets for local products	Business, industry, and community	• Climate Change Business Innovation Grant Program • Business Resource Efficiency Program • Considering climate change in government decision making, policies and government operations
Improved data to inform planning and decision making	Business and industry	• Waste Industry Levy Integration System • Waste audits to track organics in kerbside waste
Increased responsibility for business and industry, for example banning food waste, and extended producer responsibility schemes	Community	• Working with the Australian Government, other states and territories, and industry to support the development of national product stewardship schemes • Partnering with peak bodies to improve waste and resource recovery • Raising the landfill levy to increase costs to businesses associated with landfilling waste
Set stronger targets and allocate sufficient funding and resources to implement initiatives	Community	• Waste targets aligned with Australia's national commitments • Re-investment of landfill levy funds into the sector
Support community-level action such as food banks, community gardens and pantries	Community	• Community Climate Change Action Grants Program
Consider other waste-related issues along supply chains	Business, industry, and community	• Recycle Rewards container refund scheme • Waste Tyre Reprocessing Grant Program • Crumb rubber road resurfacing program
Phase out single-use plastics and other environmentally unsustainable products	Community	• Phasing out problematic single-use plastics and other materials from 2025

How we will take action

The Emissions Reduction and Resilience Plans will guide Tasmania’s action on climate change in the transport, waste, energy, industrial processes and product use, agriculture, and land use, land use change and forestry sectors for the next five years.

Some actions are fully funded and ready to implement, and some are already underway. Other opportunities require additional funding throughout the life of the Plan before they can be progressed.

The status of each action in this Plan is shown as follows:

NEW
New initiatives that are being funded through the Plan or recently announced.



NEW CROSS-SECTORAL COMMITMENT
New initiatives that will support emissions reduction and resilience in all sectors.



IN PROGRESS
Initiatives that are already being progressed by ReCFIT or the relevant department.



FUTURE FUNDING PRIORITY
Initiatives that require additional funding before they can be progressed.







Photo: Chris Crerar



**Our pathway to
reduce emissions
and build resilience
in the waste sector**



We will reduce the amount of organic waste sent to landfill

Tasmania has targets to reduce the volume of organic waste sent to landfill by 25 per cent by 2025, and 50 per cent by 2030.

The most effective opportunity to reduce the amount of organic waste sent to landfill, and the associated emissions, is to avoid or reduce this waste. Waste that can't be avoided should be diverted from landfill and reused, for example through food banks, or to create products of value such as compost, biochar or digestate.

It is important that any improvements to the infrastructure and systems to divert waste from landfill are supported by information and awareness programs to encourage behaviour change in households, business and industry.

Benefits of reducing organic waste

Reducing the organic waste that is produced and diverting it from landfill can have many additional benefits for Tasmanian businesses, industries and communities, including:

- improved productivity and profitability of businesses due to improved resource efficiency and lower waste disposal costs
- saving Tasmanian households up to \$2,500 a year⁵ by helping them to reduce the amount of food wasted at home
- supporting communities and increasing Tasmania's food security through the redistribution of edible food.

Case study

The Great Unwaste

The Great Unwaste is a new, nationwide behaviour change campaign designed to inspire and support all Australians to reduce food waste in their homes. The campaign was launched in September 2024.

Developed by End Food Waste Australia, the leading internationally and locally recognised not-for-profit charity ending food waste across the supply chain, this campaign aims to help reduce household food waste by over 20 per cent by 2030. Reducing food waste in our homes is a crucial component of Australia's commitment to halve total food waste by 2030.

The Great Unwaste is a collaboration between industry, all levels of government, the not-for-profit sector and the community. For the campaign to make a difference, everyone must work together towards a common cause, using evidence-based, consistent messaging to help everyday Australians do their part to turn food waste around.

For more information visit the Great Unwaste website:
thegreatunwaste.com.au

5 Food and Agribusiness Growth Centre (2021) 'The National Food Waste Strategy Feasibility Study – Final Report' www.fial.com.au/sharing-knowledge/food-waste

Actions

Objective	Summary	Status	Delivered by
Reduce organic waste landfilled by businesses	Support the collection of food waste from hospitality businesses.	 NEW	NRE Tas / WRR Board
	Increase the landfill levy every two years to encourage people and businesses to reduce waste and to re-use or recycle materials instead of sending things to landfill.	 IN PROGRESS	NRE Tas / WRR Board
Reduce organic waste from households and communities	Partner with relevant not-for-profit organisations to deliver waste education in schools.	 NEW	NRE Tas / WRR Board
Reduce waste from government operations	Consider opportunities to improve waste management in the development of the Emissions Reduction and Resilience Plan for Tasmanian Government Operations. Opportunities may include guidance for staff on how to avoid, reuse and recycle waste in government departments and service delivery, including in hospitals, schools, correction facilities and in infrastructure projects.	 IN PROGRESS	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Ensure we have the infrastructure and services in place to divert organic waste from landfill	Continue to partner with the Australian Government and industry to deliver an organics reprocessing facility in the south of the state.	 IN PROGRESS	NRE Tas / WRR Board
	Support the rollout of kerbside FOGO collection in the north west and south of the state to build on the investment in organics reprocessing capacity in these regions.	 IN PROGRESS	NRE Tas / WRR Board / Regional Waste management groups
Strategic planning to reduce organic waste into the future	Conduct waste audits across Tasmania to assess the effectiveness of current kerbside collection systems and inform improvements to systems and development of targeted education materials.	 NEW	NRE Tas / ReCFIT (CCO)
	Develop an organic waste action plan for government, business, industry and the community to reduce organic waste in line with Tasmania's organic waste targets.	 IN PROGRESS	NRE Tas

iStock.com/Daria Nipoti



A row of green and yellow recycling bins, with the green bins in the foreground and yellow bins in the background. The bins are lined up in a row, and the image is slightly blurred in the background.

Case study

Increasing Tasmania's organics reprocessing capacity

In July 2024, Dulverton Waste Management opened its new state-of-the-art regional organics facility in Latrobe. The facility has the capacity to process more than 50,000 tonnes of organic waste each year and turn it into compost.

The facility is supporting the rollout of food organics and garden organics (FOGO) services to 38,000 households across the Cradle Coast region, as well as providing improved composting operations for aquaculture, dairy, brewery, poultry and other primary industries. The facility is expected to divert 7,500 tonnes of organic waste away from landfill.

Dulverton Waste Management and North-West Resource Recovery and Recycling are working with local communities to ensure the correct use of all three kerbside bins to maximise the impact of the facility and avoid contamination of the FOGO collection.

The \$32 million facility received \$9 million in funding from the Tasmanian Government's Organic Waste Processing Grant Program and the Australian Government's Regional Recovery Partnerships Program.

2

We will increase recycling and recovery of high emissions waste streams

Inefficient use and improper disposal of organic waste and other products that release greenhouse gas emissions, such as fridges, air conditioners and tyres, not only contributes to climate change, but also wastes valuable resources that could be repurposed as other products. Wastage of these items costs households thousands of dollars each year.

There are many opportunities to recycle organic waste and recover the energy it contains, for example to create bioenergy, biochar, compost, digestate, mulch, bioplastics or animal feed. There are also various potential recycling and recovery pathways for other waste streams which directly or indirectly result in large amounts of greenhouse gas emissions, including fridges and air conditioners, building and construction waste and end-of-life tyres.

It is important to not only ensure that there are sufficient services, infrastructure and incentives for Tasmanians to divert these types of waste from landfill, but also that there are technologically- and economically-feasible ways for us to use the products created from the reuse, recycling and recovery of waste.

In Tasmania, the barriers to recycling and recovery have included a lack of data on supply chains and waste flows, limited infrastructure, and our smaller economies of scale.

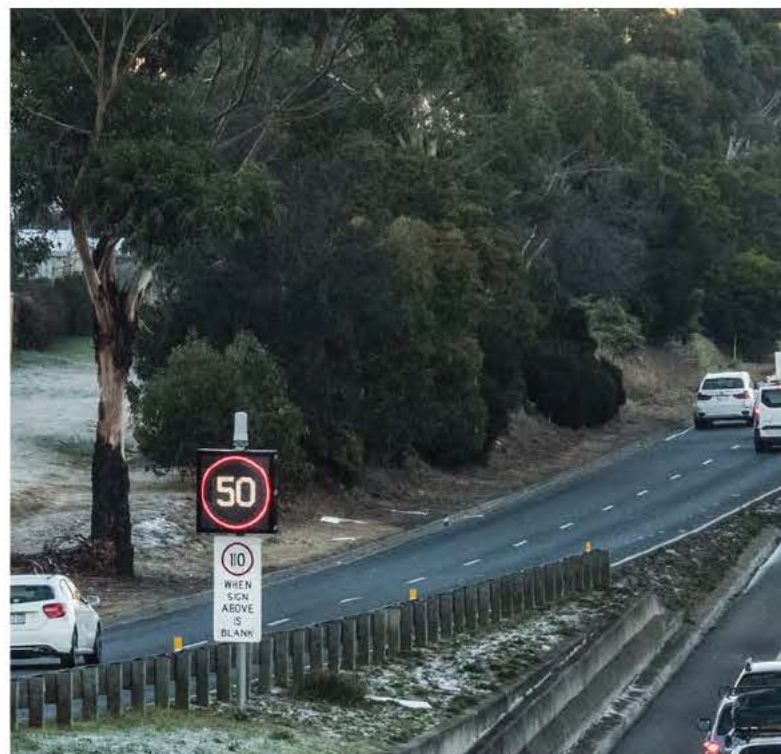
The initiatives in this focus area are aimed at assisting the sector to overcome these barriers and maximise the co-benefits of recycling and resource recovery.

Benefits of recycling and resource recovery

- Supports new industries, jobs and skills.
- Reduces emissions and energy costs for other sectors such as transport and energy (for example, by using bioenergy).
- Reduces air pollution from landfills, benefiting public health and the environment.
- Improves soil health and increases agricultural productivity by using compost, biochar and digestate.



Photo: Chris Crerar



Case study

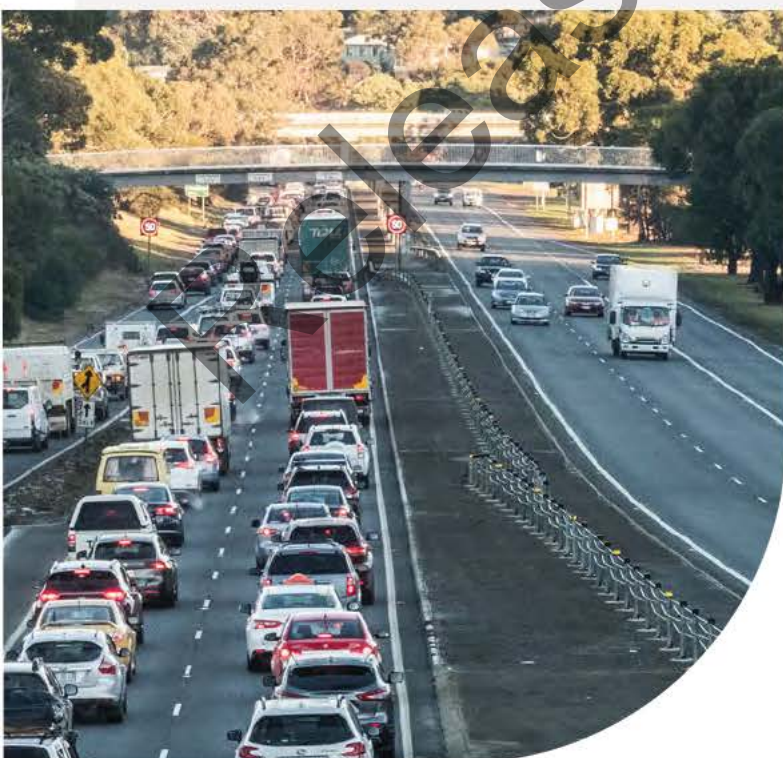
Circular economy solutions for end-of-life tyres

In May 2024, the Tasmanian Government announced that \$1.27 million had been awarded to Tyrecycle Pty Ltd as part of the \$3 million Waste Tyre Reprocessing Grant Program. The funds will be used to upgrade Tyrecycle's Barwick's Bridgewater tyre shredding facility to add a new waste tyre chipper.

End-of-life tyres collected from around Tasmania will be pre-processed using the existing shredder at the site, and then manufactured into fuel chips using the chipper. Fuel derived from tyres can be used as a replacement fuel for coal in cement kilns and for other industrial processes.

Due to the high energy content of tyres, when tyre-derived fuel is used in place of coal it reduces greenhouse gas emissions by approximately 30 per cent. This change would help reduce the state's carbon emissions and provide a more sustainable use for the 650,000 end-of-life car tyres collected each year in Tasmania.

In mid 2023, Fulton Hogan opened a new crumb rubber blending plant in Launceston, which demonstrates the growing use of recycled materials in road surfaces. The Department of State Growth has expanded the use of crumb rubber in the state road resurfacing program. In the 2022-23 resurfacing season, 18 sites used a crumb rubber asphalt mix. Crumb was expanded into the broader resurfacing tenders from 1 July 2023. A total of 60 sites were completed in 2023-24 and 11 sites are targeted for the 2024-25 resurfacing season.



Actions

Objective	Summary	Status	Delivered by
Improve the reuse, repair, refurbishment and end-of-life management of high-emissions waste streams	Work with the Waste and Resource Recovery Board to identify priority investment for the collection, sorting, processing and remanufacturing capacity of high-emissions waste streams such as construction and demolition waste and end-of-life tyres.	 NEW	NRE Tas / WRR Board / ReCFIT (CCO)
	Deliver the High Priority Infrastructure Grant Program to support projects that will improve Tasmania's reuse, repair, collection, sorting, processing, recycling and remanufacturing capacity for priority materials. Priority materials include construction and demolition waste, plastics, organics, textiles and solvents.	 IN PROGRESS	NRE Tas / WRR Board
	Support the recycling and recovery of end-of-life tyres through the Waste Tyre Reprocessing Grant Program.	 IN PROGRESS	NRE Tas / WRR Board
	Explore options to work with waste management operators to improve the end-of-life management of products containing synthetic greenhouse gases, such as fridges and air conditioners.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)
	Provide financial support for water efficiency upgrades in homes and businesses and explore options to support these upgrades with a public awareness program about the benefits of increased water efficiency and the best ways to achieve it.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Support local markets for recycled materials	Build capacity to consider climate change through the development of a whole-of-government framework to embed climate change in decision making. For example, the framework could consider the role of state government procurement in supporting markets for recycled, environmentally sustainable products in Tasmania.	 IN PROGRESS	ReCFIT (CCO)
	Continue to support the use of recycled materials such as crumb rubber from waste tyres in the construction and maintenance of the state road network. Research the use of other recycled products and the feasibility of increasing their use in state road construction in Tasmania.	 IN PROGRESS	State Growth
	Develop and implement a market strategy to grow the resource recovery sector in Tasmania by identifying new and existing markets and actions to boost the recovery of priority materials.	 IN PROGRESS	NRE Tas / WRR Board
Increase energy recovery from waste in Tasmania	Continue to implement the Bioenergy Vision for Tasmania, including supporting the bioenergy sector through government procurement, building industry and community awareness, exploring opportunities to deploy bioenergy, developing a more sophisticated and diverse bioenergy industry, and ensuring policy enables generation and adoption of bioenergy.	 IN PROGRESS	ReCFIT

3

We will support the transition to a circular, lower emissions economy

The global transition to a circular, lower emissions economy will create both challenges and opportunities for Tasmania's waste sector.

Businesses across Tasmania are increasingly being required to rethink the way they manage their waste to keep up with changing expectations from consumers and markets, as well as reduce costs associated with waste disposal. The waste sector will play a role in supporting the transition for other sectors, by enabling the reuse, recycling and recovery of products along supply chains.

The shift towards renewable energy will eventually result in obsolete emissions-intensive technologies that will require disposal.

It will also be necessary to develop and expand resource recovery pathways for renewable technologies such as solar panels, lithium ion batteries used in electric vehicles, and wind turbine blades. This transition will require infrastructure as well as skills and workforce development.

The global transition to net zero emissions also presents opportunities for Tasmania's waste sector. Opportunities include the potential to generate income through the sale of carbon credits from projects that reduce emissions, or through the sale of products such as compost and bioenergy, and the reduced energy costs from on-site use of bioenergy.

The sector's response to these changes requires planning and coordination, informed by the best available data, to ensure solutions are sustainable in the long-term.



Photo: Chris Crerar

Climate-related risks and opportunities for Tasmania's waste sector

Tasmania's Risk Assessment for Climate Change 2024 is the first comprehensive statewide climate change risk assessment undertaken of our state. The Risk Assessment analyses climate-related hazards and influences in Tasmania. It assesses the interaction with exposures, vulnerabilities and responses across all parts of Tasmania.

The Risk Assessment identifies the following risks and opportunities for Tasmania's waste sector in the transition to a low emissions economy, and as our climate continues to change:

- opportunities for infrastructure development to increase the circular economy
- opportunities for new revenue streams available from carbon markets
- risks to stormwater and sewerage systems due to extreme events and chronic climate impacts
- risks to contaminated sites from extreme events and chronic climate impacts.

The Risk Assessment also notes the opportunities for Tasmania to optimise waste systems to reduce impacts on the environment, including reducing waste to landfill, improved collection, and increased recyclability for products. However, the Risk Assessment notes that the current strategies and actions being delivered by governments at all levels to improve waste and resource recovery in Tasmania make this a lower priority for further action in the next five years, though continual monitoring is suggested.

There are a number of risks that will impact all parts of Tasmania, including the waste sector. For example, there are risks to insurability of businesses, risks to supply chains and distribution networks, risks to economic activity if emissions reduction action is ineffective, and risks to the safety of outdoor workers.

The Risk Assessment identifies four key areas considered to be critical as part of any adaptation response:

- state-level coordination for local efforts
- coordination across strategies to address the intersection of climate change and health and wellbeing
- education is vital to successful climate adaptation and increased resilience for future generations
- development of, and investment in, additional data collection is required to better inform risk-based decision making.

The new and existing actions in this Plan, and the future funding priorities, take into account these risks and opportunities. This Plan includes a focus on data, information and capacity building to support the sector to make informed decisions as the climate changes.

Further information on government action to address the risks and opportunities for Tasmania is in the government's response to the Risk Assessment, available on the ReCFIT website: recfit.tas.gov.au/cc-risk-assessment

Actions

Objective	Summary	Status	Delivered by
Support businesses to comply with emerging reporting requirements	Establish a program to provide support for small-to medium-sized businesses to measure and report on their emissions and climate-related risks to meet changing regulatory and market demands.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
Enable strategic decision making in the waste sector	Identify and collate existing organic waste data to guide strategic investment. For example, these data could assist in informing waste management infrastructure and programs, as well as industry and government investment in projects requiring biomass feedstocks.	 IN PROGRESS	NRE Tas
	Improve Tasmania's reporting, information and data on the greenhouse gas emissions from waste to ensure policies, programs and investment are appropriately targeted.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO) / NRE Tas
	Continue to work with the State Planning Office to ensure Tasmania's planning policies, regional land use strategies and regulations consider the role of land use planning in emissions reduction and resilience while also considering other environmental, economic and social outcomes.	 IN PROGRESS	ReCFIT (CCO)
Ensure Tasmania has the skills and workforce to drive the transition to a circular, low emissions future	Collaborate with government and industry partners to support them to consider the impacts of climate change on current and future skills and workforce needs, and explore opportunities to address these issues.	 IN PROGRESS	ReCFIT (CCO)

Objective	Summary	Status	Delivered by
Enable increased recycling and recovery across the economy	Establish the Climate Change Business Innovation Grant Program to support businesses to take action on climate change, including a focus on local innovation, collaboration and partnerships.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Support the development of emerging circular economy business models that emphasise waste reduction, resource recovery and circular approaches, including product libraries, repair cafes, and sharing platforms.	 IN PROGRESS	NRE Tas / WRR Board
	Develop policies and legislation to phase out the use of a range of problematic single-use plastics and single-use items in Tasmania by 2025.	 IN PROGRESS	NRE Tas
	Finalise Tasmania's container refund scheme, Recycle Rewards, to incentivise the return of used beverage containers in exchange for a refund.	 IN PROGRESS	NRE Tas
	Continue to work with the Australian Government and industry to support the development of national product stewardship schemes that provide tangible benefits for Tasmania.	 IN PROGRESS	NRE Tas / WRR Board
	Partner with peak bodies to do an environmental scan of the waste and resource recovery issues for key industries, and plan for circular economy opportunities.	 NEW	NRE Tas / WRR Board

Case study

Business Resource Efficiency Program

The Tasmanian Government, through the Climate Change Office, has supported two rounds of the **Business Resource Efficiency Program (BREP)**⁶, delivered by Business Action Learning Tasmania.

Across two rounds, BREP has supported 26 small-and medium-sized organisations in Tasmania to reduce emissions and adopt innovative practices to improve the way they use their resources. Support provided through BREP included:

- waste audit workshops to support participants to audit their material streams and identify opportunities for resource recovery
- an exploratory learning series showcasing circular economy thinking from Australia and around the world
- participation in working groups to apply collective learning to individual challenges and highlight the interdependency of a circular economy
- individual mentoring by a qualified sustainable designer to assist with each business's identified resource efficiency initiatives.

Projects supported through BREP include:

- recycling and re-manufacturing of plastic materials
- reducing the carbon footprint of waste-to-landfill from tourism and hospitality operations
- diverting metals from landfill and recycling through up-cycling, reusing and repurposing
- addressing opportunities and barriers to the production of bio-fuels from wood waste in Tasmania
- production of biochar.

Case studies, resources and tools have been developed which summarise the key program learnings and outcomes to help other businesses improve their resources and efficiency. The resources are available on the ReCFIT website at: www.recfit.tas.gov.au/grants_programs/brep

6 businessactionlearningtas.com.au/brep/



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BREP participants at the 2023 Review Forum with Craig Reucassell and Business Action Learning Tasmania facilitator, Genevieve Cother. Photo: Rob Burnett

4

We will build resilience to the impacts of climate change

The continued impacts of climate change on Tasmania will increase physical risks to Tasmanian waste management facilities and can create significant costs for operators, in addition to risks to public health and the environment.

The projected changes to the Tasmanian climate, like the increased frequency and intensity of events such as bushfires and floods, can damage waste infrastructure, with flow-on effects such as the release of leachate (a liquid that forms when waste decomposes, containing toxic chemicals and materials) into the environment. The opportunities to increase the resilience of waste and wastewater management facilities to the impacts of climate change will depend on the risks for each facility.

Changes to rainfall patterns across the state will impact the reliable supply of safe water to Tasmanian homes, business and industries. Increased climate variability will lead to fluctuations in organic waste streams. In addition, increased frequency and intensity of extreme weather events will result in damage to infrastructure and property across the state, requiring management by the waste sector.

It is important that we understand these risks and support the sector to build its capacity and capability to respond to these changes.



Photo: Chris Crerar



Case study

Managing the impacts of severe weather events on the waste sector

Between August and September 2024, households, businesses and community groups across Tasmania were impacted by severe weather, including flooding and strong winds.

To support clean-up efforts and make it easier to remove materials damaged or left on their properties by the conditions, the government waived the landfill levy payable to landfill operators for disposal of extreme weather waste.

The types of waste included in the waiver demonstrate the wide range of impacts of severe weather events on communities, businesses and the waste sector. Eligible waste included:

- trees that had fallen because of soil saturation and/or strong wind
- vegetative debris that had been accumulated by flood water
- food that had spoiled because of power outages
- furniture, mattresses and carpet damaged as a result of the extreme weather event
- non-commercial building material (from homes and sheds) damaged by flood water or strong wind
- litter and debris washed or blown onto properties by flood water or strong wind.



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Actions

Objective	Summary	Status	Delivered by
Ensure we have accurate, up-to-date data about our future climate to inform decision making at all levels	Update Tasmania's fine-scale climate projections to provide the most up-to-date future climate information to Tasmanians and inform the development of climate change adaptation initiatives and investment.	 IN PROGRESS	ReCFIT (CCO)
	Develop resources to support organisations who manage and produce waste to make informed decisions about managing climate risks and opportunities. Resources will include user-friendly information about the findings of the statewide climate change risk assessment and the updated fine-scale climate projections.	 IN PROGRESS	ReCFIT (CCO)
	Collaborate with key partners across state, national and local government and the private sector to increase emergency preparedness, response and recovery.	 IN PROGRESS	ReCFIT (CCO)
Plan for the impacts of climate change on the waste sector	Work with partners to support businesses to identify national and international supply chain vulnerabilities and enhance resilience to future climate-related network disruptions.	 FUTURE FUNDING PRIORITY	ReCFIT (CCO)



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Greater coordination within the waste sector, as well as collaboration with other sectors, will help make the most of the opportunities and value in the resources we have historically thrown away.

There are many groups and organisations involved in the generation and management of waste in Tasmania. Since its establishment in 2022, the Waste and Resource Recovery (WRR) Board has worked closely with stakeholders to provide support to Tasmania's regional waste management groups, remote councils and charities, and to develop the Waste and Resource Recovery Strategy and the key programs that will ensure its success. Tasmania's three regional waste management groups are committed to working closely with the WRR Board and supporting the strategic resource management and emissions reduction targets in Tasmania.

There are also opportunities for greater coordination and collaboration outside the waste sector. The products that can be produced from organic waste, such as compost, digestate, biochar and bioenergy, also present opportunities for collaboration between the generators of waste and other businesses and not-for-profits who can use these waste products.

The actions on [page 40](#) are aimed at increasing collaboration between different levels of government, including the regional waste management groups, to enable consistent, coordinated action in the sector. Many of the actions in other priority areas include a collaborative partnership approach with business and industry.

We have also committed to introduce a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.



Case study

Collaborating to rethink waste management in Tasmania

Tasmania has three regional waste management groups, which are committed to working closely with the WRR Board and supporting the strategic resource management and emissions reduction targets in Tasmania.

North West Resource Recovery and Recycling is a project of the Cradle Coast Waste Management Group (CCWMG). The group aims to improve waste management and resource recovery from a regional perspective, providing efficiencies, economies of scale, and specialty waste reduction services in the north-west of Tasmania. Dulverton Regional Waste Management Authority coordinates and provides project management support and waste expertise to the program.

Circular North provides advice, funding, and education to better manage waste and recycling within northern Tasmanian communities, businesses and local governments. Circular North is hosted by NRM North. Guided by the waste hierarchy, an internationally accepted guide for prioritising waste management practices, Circular North applies principles of ecologically sustainable development to inform their strategies and achieve significant improvements in resource recovery.

TasWaste South is a Joint Authority established by the 12 Councils of Southern Tasmania. TasWaste South's primary role is to collaborate, coordinate and inform with a view to driving better waste outcomes and efficiencies for southern councils and communities.

The regional waste management groups are funded by the Waste and Resource Recovery Board.

Actions

Objective	Summary	Status	Delivered by
Coordinated waste management across Tasmania, including consideration of emissions reduction and resilience	Collaborate with the Waste and Resource Recovery Board and other key stakeholders to support the consideration of emissions reduction and resilience in waste policies and projects.	 NEW	ReCFIT (CCO)
	Establish a Business and Industry Climate Change Innovation Forum to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
	Establish a Climate Change Champions Program to recognise innovative, best practice climate action across all sectors.	 NEW CROSS-SECTORAL COMMITMENT	ReCFIT (CCO)
Coordinated waste management across Tasmania	Develop regional waste and resource recovery strategies that align with the Waste and Resource Recovery Strategy and Waste Emissions Reduction and Resilience Plan, and address regional and local priorities.	 IN PROGRESS	NRE Tas / WRR Board / Regional Waste management groups
Tasmania's unique challenges and opportunities are considered in national programs	Continue to work with the Australian Government, including through Environment Ministers' Meetings, to ensure the best outcomes for Tasmania in national priority work programs including: - removing contaminants from compostable food packaging to support food waste recycling - developing a roadmap for a nationally consistent approach to kerbside collection.	 IN PROGRESS	NRE Tas

Next steps

Implementation

Some actions in this Plan are fully funded and ready to implement and some are already underway. Other opportunities require additional funding before they can be progressed. These opportunities are labelled 'future funding priorities'. The status of each action is identified in this Plan.

Monitoring and reporting

We will determine whether actions in this Plan have been effective by monitoring and evaluating individual actions. Monitoring will be based on the approach identified for each of the actions. Evaluation methods will vary, as they will be tailored for each action.

Every year, we will prepare and table in Parliament:

- a climate change activity statement, showing the status of each sectoral Plan and actions in *Tasmania's Climate Change Action Plan 2023-25* (Action Plan) and future action plans
- a greenhouse gas emissions report detailing Tasmania's emissions for each sector.

We will update the plans at least every five years.

Engagement with business, industry and the community

We will continue to engage with key partners and the community on the development and implementation of actions as required.

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

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

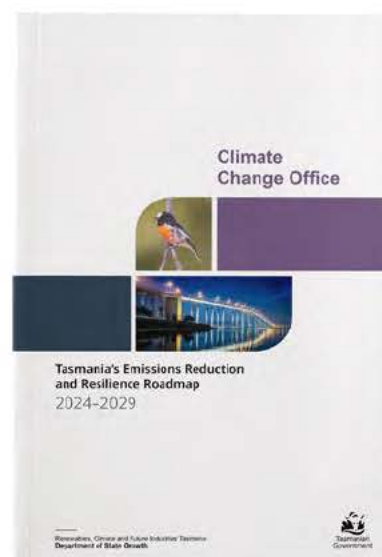
Tasmania's Emissions Reduction and Resilience Roadmap

Tasmania's Emissions Reduction and Resilience Roadmap 2024-29 connects Tasmania's six sectoral emissions reduction and resilience plans and Tasmania's first statewide risk assessment for climate change.

We recognise that there is a lot of overlap between the six sectors, and that there are some parts of Tasmania's economy and community that are not covered by the sectoral plans.

The Roadmap includes new commitments to support businesses and industries in all sectors to address common issues and opportunities. It sets out how we will maintain net zero emissions across our economy through to 2030 and beyond.

The Roadmap also outlines which groups in Tasmania are covered in which sectoral plan, and identifies future focus areas for action over the next five years.



Glossary and acronyms

Term	Description
Anaerobic digestion	A process through which bacteria break down organic matter in the absence of oxygen, producing biogas and digestate.
Bioenergy	A form of renewable energy produced using biomass (plant, algae or animal material). Bioenergy can include electricity, heat, gas and transport fuel.
Circular economy	A circular economy aims to maximise the value and use of materials and resources at every stage of the lifecycle of a product or material, for example through sharing, repairing, reusing, and recycling.
Compost	Compost is a product created by the breakdown of organic matter such as food and garden waste. It is rich in nutrients and can be used to improve soil quality. Compost is generated through an aerobic process (meaning there is oxygen present) which principally produces carbon dioxide, rather than methane.
CO₂	Carbon dioxide; a greenhouse gas.
CO₂-e	Carbon dioxide equivalent. This is a standard unit for measuring greenhouse warming potential of gases. Each different greenhouse gas is represented in terms of the amount of CO ₂ that would create the same amount of warming.
DCCEEW	Australian Government Department of Climate Change, Energy, the Environment and Water
Digestate	Digestate is a by-product of anaerobic digestion. It has many uses, including as fertiliser, and for manufacturing bio-based products such as bioplastics.
Direct combustion	Burning of fuel(s) for energy, predominantly in manufacturing, mining, residential and commercial sectors.
Diversion from landfill	Diverting waste away from landfill for another purpose, such as reuse or recycling.
Emissions	Greenhouse gas emissions.
FOGO	Food Organics and Garden Organics. This term is usually used in the context of FOGO kerbside collection services.
IPCC	Intergovernmental Panel on Climate Change, an independent body that assesses the scientific, technical and socioeconomic information relevant to understand the risk of human-induced climate change. The IPCC develop guidelines for national greenhouse gas inventories which are used under the UNFCCC.
kt	Kilotonnes. A kilotonne is equivalent to 1,000 tonnes or 1 million kilograms.

Term	Description
Landfilling	Disposing of waste in a landfill site (also called a tip).
Landspreading	Spreading organic waste across land, generally to act as a soil conditioner.
Leachate	Leachate is a liquid that forms when waste decomposes. It contains chemicals, organisms and materials that are toxic to both humans and the environment.
LULUCF	Land Use, Land Use Change and Forestry sector under the UNFCCC emissions accounting framework.
Methane	A type of greenhouse gas, which contributes approximately 28 times more atmospheric warming than carbon dioxide.
Mt	Megatonnes. A megatonne is equivalent to 1,000 kilotonnes or 1 million tonnes.
Nitrous oxide	A type of greenhouse gas, which contributes approximately 265 times more atmospheric warming than carbon dioxide.
NRE Tas	Department of Natural Resources and Environment Tasmania
Organic waste	Waste that comes from plant or animal sources, including garden waste, food waste, paper and cardboard.
Product stewardship	Product stewardship is an approach to managing the impacts of different products and materials on the environment and human health and safety throughout their lifecycle. Product stewardship schemes place the responsibility for minimising the impact of a product on those who design, manufacture, sell and use it.
ReCFIT	Renewables, Climate and Future Industries Tasmania
Resource recovery	Resource recovery is the process of recovering materials from waste to: • reuse the waste • recycle the waste • recover energy from the waste for use as an alternative to fossil fuels (known as bioenergy).
UNFCCC	United Nations Framework Convention on Climate Change
WRR Board / WRR Strategy	Waste and Resource Recovery Board and Waste and Resource Recovery Strategy



Released under RTI

Department of State Growth

GPO Box 536 Hobart

TAS 7001 Australia

Phone: 03 6166 4466

Email: climatechange@recfit.tas.gov.au

Web: recfit.tas.gov.au

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Climate Change Office



Tasmania's Emissions Reduction and Resilience Roadmap

2024–2029

Released under RII

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 and present.

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Tasmania's Emissions Reduction and Resilience Roadmap

Tasmania has emissions reduction and resilience plans (sectoral plans) for six of our greenhouse gas-emitting sectors. We also have a statewide risk assessment for climate change, and the government has published a formal response to the risk assessment. Each of these documents was released in 2024.

We recognise that there is a lot of overlap between the six sectors. We have developed this roadmap to link together the six sectoral plans and the risk assessment, and set out our pathway for emissions reduction and resilience across the economy.

This roadmap includes new commitments to support businesses and industries to address issues and opportunities that affect all sectors. It sets out how we will maintain our target of net zero emissions across our economy through to 2030 and beyond.

This roadmap also outlines which groups in Tasmania are covered in which sectoral plan, and our commitment to supporting groups and industries which fall outside the sectoral plan process.

Statewide risk assessment for climate change

Tasmania's Risk Assessment for Climate Change 2024 (Risk Assessment) and the government response to the Risk Assessment were published in November 2024. The Risk Assessment will help the government prioritise actions that support adaptation to the impacts of climate change.

This roadmap outlines the risks and opportunities identified in the Risk Assessment which relate to the sectoral plans.

To read the Risk Assessment and the government's response to the Risk Assessment, visit the ReCFIT website:

recfit.tas.gov.au/cc-risk-assessment



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Sectoral Emissions Reduction and Resilience Plans

Over 2023-24, we developed six sectoral plans for:



Transport



Waste



IPPU
(industrial processes and product use)



Energy



Agriculture



LULUCF
(land use, land use change and forestry)

We are also developing a sectoral plan for the government's own operations, which we expect to publish in mid-2025.

The sectoral plans outline the priority actions for the government to support each sector over the next five years to:

- reduce greenhouse gas emissions to support Tasmania achieving its target of net zero emissions, or lower, from 2030
- transition to a low emissions economy
- build resilience to the impacts of climate change.

The plans have been produced in consultation with governments, business, industry, and the community.

The Plans commit \$3.6 million to deliver 30 new actions across six sectors.

The development of the plans is a requirement under the *Climate Change (State Action) Act 2008* (the Act).

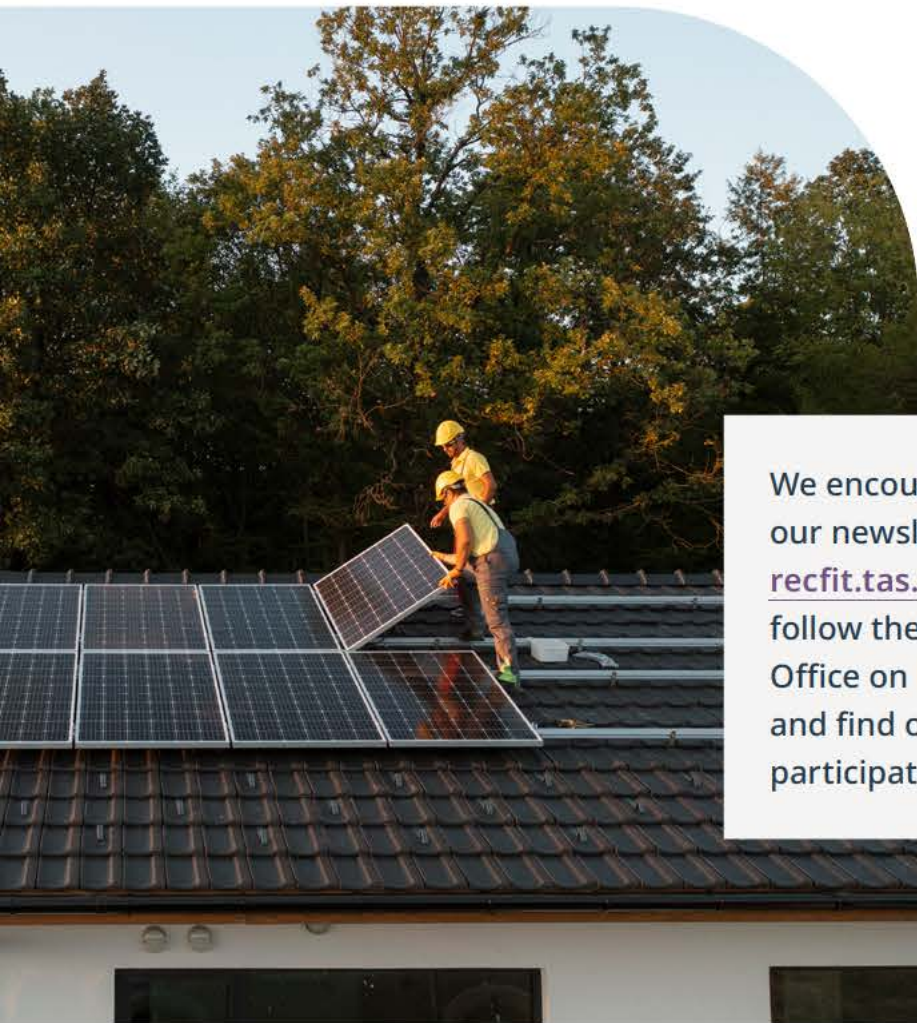
Find out more about the sectoral plans on the ReCFIT website:

www.recfit.tas.gov.au/policies_strategies_plans/emissions_reduction



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Our five year roadmap to reduce emissions and build resilience



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



iStock/Philip Thurston

Climate change in Tasmania

Greenhouse gas emissions

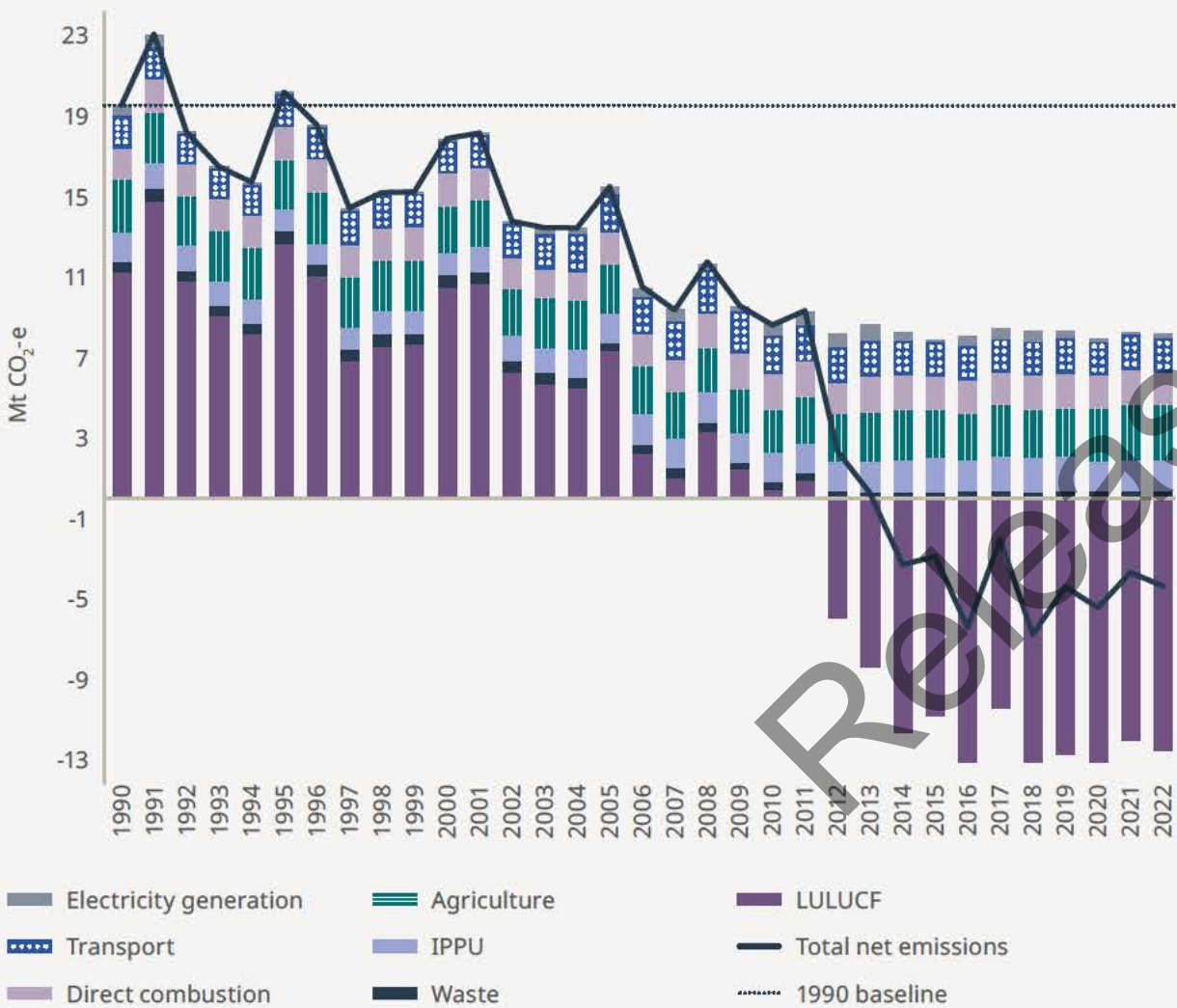
Tasmania has a unique greenhouse gas emissions profile in comparison with other Australian jurisdictions, due to our large proportion of renewable energy generation and the carbon sink in our managed forest estate.

Based on the latest available data, Tasmania was the first jurisdiction in Australia to achieve

net zero emissions for the first time in 2014 and maintained this level each year to 2022.

Even with emissions from the LULUCF sector excluded, emissions have remained relatively stable from 1990 to 2022 while the economy has expanded and our population has grown.

Tasmania's emissions by sector and energy sub-sector: 1990 to 2022



Climate change impacts

Significant change in rainfall patterns

Increase in storms, creating coastal erosion

Rise in annual average temperatures

More hot days and heatwaves

Longer fire seasons, more days of high fire danger

Fewer frosts

Increased ocean acidification and water temperature

Rise in sea levels

Increased windspeed

As our climate continues to change, Tasmania's land-based environments are projected to experience a rise in annual average temperatures, significant changes in seasonal and regional rainfall patterns, an increase in rainfall intensity and associated flooding, and longer, more intense fire seasons.

Coastal and marine environments will be impacted by rising sea levels, ocean acidification, increasing sea surface temperatures, and an increase in storm events and associated coastal erosion and inundation.

Transition to a low emissions economy

Technological changes

Policy and regulatory changes

Market changes

Changing consumer and investor sentiment

There are also climate-related risks and opportunities associated with the transition to a low emissions economy.

These risks or opportunities may be caused by changes in technology, markets, consumer and investor sentiment, policy and regulation.

New commitments to support all sectors to reduce emissions and build resilience

Each sector has unique risks, challenges and opportunities to take action on climate change. However, there are also many issues and opportunities that are relevant to all sectors.

To address these cross-cutting issues and opportunities, we will deliver four new programs to support emissions reduction in all sectors, in addition to the sector-specific actions in each plan.

New commitments

- **Climate Change Business Innovation Grant Program** to support businesses to take action on climate change, focusing on local innovation, collaboration and partnerships.
- **Business and Industry Climate Change Innovation Forum** to showcase the innovative work underway across Tasmania, provide information about emerging opportunities and risks, and encourage networking and information sharing between sectors.
- **Climate Change Champions Program** to develop ways to recognise innovative, best practice climate action across all sectors.
- **Climate Reporting Support Program** to support small- to medium-sized businesses to better understand climate-related risks to meet changing regulatory and market demands, including measuring and reporting on their emissions.

What we are already doing

- **Increasing renewable electricity generation** to enable Tasmanian businesses, industries, households and transport systems to electrify, in line with our target to double our 2020 demand for renewable electricity generation capacity by 2040.
- Supporting homes and businesses to **increase their energy efficiency** through the Energy Saver Loan Scheme.
- **Building government capacity to consider climate change** to ensure government policies enable emissions reduction and resilience across Tasmania.
- Working with the State Planning Office to ensure Tasmania's planning policies, regional land use strategies, and regulations consider the **role of land use planning in emissions reduction and resilience** while also considering other environmental, economic and social outcomes.
- **Supporting local governments to take action on climate change** in ways that suit the unique needs of their communities through the Local Government Climate Change Capability Program.
- **Supporting the transition to a circular, low emissions economy** through the *Tasmanian Waste and Resource Recovery Strategy 2023-24*.
- **Supporting business, industry and the community to make informed decisions about their future** by developing user-friendly resources translating the findings of the Risk Assessment, and updating Tasmania's fine-scale climate projections.
- Collaborating with government and industry partners to support them to consider the impacts of climate change on **current and future skills and workforce needs**, and explore opportunities to address these issues.



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Supporting community-level action on climate change

The Community Climate Change Action Grants Program launched in August 2024. The program will support a wide range of community-level actions to improve information and knowledge about climate change, reduce emissions and build resilience.

This \$350,000 community grants program is a commitment under *Tasmania's Climate Change Action Plan 2023-25*. The program provides grants of between \$2,000 and \$20,000 to eligible applicants such as local government entities, not-for-profit organisations, and research institutions.

The objectives of the program are to support Tasmanian communities to:

- improve information and knowledge sharing, including accessible and useful information about climate change
- reduce emissions and support the transition to a low emissions economy
- build resilience in our communities and local environment to the impacts of a variable and changing climate.

Successful applicants will be announced in late 2024.

Examples of community-level action on climate change include:

- community gardens cultivating shared produce
- energy efficiency initiatives or the installation of renewable energy systems in community facilities
- citizen science monitoring programs
- programs that build climate literacy and community resilience to climate change
- community clean-up events, education programs and workshops
- initiatives to restore local native ecosystems and revegetation or regeneration programs
- projects that empower children and young people, or uplift and support vulnerable groups in the community to respond to the changing climate
- community clean up events
- upcycling, reuse and repurpose initiatives
- community-focused active transport initiatives
- projects that improve the resilience of vulnerable community assets
- creation and distribution of locally-focused climate-related educational materials.

Our six plans for reducing emissions and building resilience in key sectors

Transport



21%

of Tasmania's emissions in 2022 (excluding LULUCF)

\$177m

in existing funding for the sector

8

key new commitments in the Plan

Key new commitments

- Financial support for Tasmanians to purchase electric bikes.
- Support small businesses to purchase cargo e-bikes for last mile deliveries.
- Support small businesses to purchase electric delivery vans.
- Fund pilot sites for secure bike parking.
- Grants to support the expansion of the state's electric vehicle (EV) charging network.
- Support the Australian Electric Vehicle Association (AEVA) National Conference and the Energy, Efficiency, Electric Expo in Hobart.
- Develop public education resources about driving electric vehicles in Tasmanian conditions, EV tourism materials, and resources for small business.
- Support industry to develop a skills transition plan to support the switch to electric vehicles.

Existing commitments

- Improvements to public transport including the common ticketing project and bus stop upgrades.
- Zero emissions bus trial.
- e-Transport package (EV and e-mobility rebates, no-interest loans for EV chargers).
- Half price bus and ferry fares.
- Expansion of the River Derwent Ferry Service.
- Better Active Grants Program.



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Waste



5%

of Tasmania's emissions in 2022 (excluding LULUCF)

\$23m+

in existing funding for the sector

5

key new commitments in the Plan

Key new commitments

- Collaborate with the Waste and Resource Recovery Board and other key stakeholders to consider emissions reduction and resilience in waste policies and projects.
- Support the collection of food waste from hospitality businesses.
- Partner with relevant not-for-profit organisations to deliver waste education in schools.
- Conduct waste audits across Tasmania to assess the effectiveness of current kerbside collection systems and inform improvements to systems and develop education materials.
- Partner with peak bodies to do an environmental scan of the waste and resource recovery issues for key industries, and plan for circular economy opportunities.

Existing commitments

- Investment in composting facilities and supporting the rollout of kerbside food organics and garden organics (FOGO) collection across the state.
- Waste and Resource Recovery High Priority Infrastructure Grant Program.
- Waste Tyre Reprocessing Grant Program.
- Development of Recycle Rewards, Tasmania's container refund scheme.
- Phasing out problematic single-use plastics and single-use items in Tasmania.



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Industrial Processes and Product Use (IPPU)



19%

of Tasmania's emissions in 2022 (excluding LULUCF)

\$4.5m

in existing funding for the sector

4

key new commitments in the Plan

Key new commitments

- Work with partners to support research and development to reduce emissions across the IPPU sector.
- Hold roundtable meetings to share information and learnings about existing technology options to decarbonise.

Existing commitments

- Tasmanian Advanced Manufacturing Action Plan 2028.
- Advanced Manufacturing Accelerating Growth grants program.
- Green Hydrogen Hub at Bell Bay.

Energy



22%

of Tasmania's emissions in 2022 (excluding LULUCF)

\$270m

in existing funding for the sector

3

key new commitments in the Plan

Key new commitments

- Develop information and resources to support landlords to improve energy efficiency in rental properties.
- Work with partners to support households make informed decisions about reducing or electrifying their gas and other fossil fuel use.
- Work with partners to deliver workshops for community sector professionals to assist vulnerable clients to manage their energy use and power bills.

Existing commitments

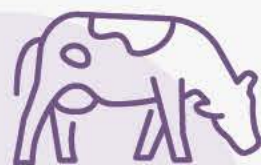
- Renewable Energy Approvals Pathway.
- Renewable Energy Zones.
- Marinus Link.
- Renewable Energy Transformation Agreement as part of the Capacity Investment Scheme.
- Green Hydrogen Hub at Bell Bay.
- Bioenergy Vision.
- Energy efficiency programs (Energy Saver Loan Scheme, Business Energy Efficiency Scheme).
- Powersmart for Small Business Program.

New commitments for IPPU and Energy

As the businesses in our IPPU sector are some of our largest energy users, there are two key new commitments that will play an important role in reducing emissions for both these sectors:

- Expand engagement with Tasmanian major industrial businesses to support our large emitters to reduce emissions and achieve their decarbonisation plans.
- Work with relevant peak bodies and industry to map the strategic transition requirements for Tasmanian businesses to reduce emissions from their energy use and industrial processes.

Agriculture



33%

of Tasmania's emissions
in 2022 (excluding LULUCF)

\$170m

in existing funding
for the sector

6

key new commitments
in the Plan

Key new commitments

- Develop a program to support agri-food businesses to better understand climate related risks to meet changing regulatory and market demands.
- Seek opportunities for Tasmania through the Australian Government's commitment to accelerate on-ground action through training, education and capacity building.
- Partner in the Zero Net Emissions Agriculture Cooperative Research Centre (CRC).
- Consider climate change impacts as part of Tasmania's annual Agribusiness Insights Report.
- Review the \$250,000 Carbon Farming Advice Rebate Pilot Program to ensure it complements new national approaches.
- Establish a group or partner with existing networks to coordinate action between Tasmania's primary industries.

Existing commitments

- \$4 million Low Emissions Livestock Grant Program.
- Funding for the Tasmanian Institute of Agriculture and Institute for Marine and Antarctic Studies.
- Regional Drought Resilience Program.
- Farm Business Resilience Program.
- Enterprise Suitability Mapping.
- Landcare Action Grants Program.
- Increased support for Tasmania's Natural Resource Management (NRM) groups.
- \$13 million to strengthen Tasmania's biosecurity.
- Significant investment in irrigation.
- Rural Water Use Strategy.
- Developing a Marine Heatwave Response Plan.



iStock/DarrenTierney



Land Use, Land Use Change and Forestry (LULUCF)



Net sequestration of
minus 12.51 Mt CO₂-e,
offsetting emissions from
all other sectors in 2022.

\$12m+

in existing funding
for the sector

4

key new commitments
in the Plan

Key new commitments

- Work with key partners to develop resources to increase understanding for landowners to participate in carbon and other emerging markets.
- Work with local government, regional development authorities and other institutions to plant climate-tolerant trees in urban environments, to increase carbon storage and build resilience during high temperatures.
- Undertake a gap analysis and audit of Tasmania's seed bank capacity to support research into seed sourcing, to improve the resilience of native forests and plantations under the changing climate.
- Work with the Australian Government to improve transparency of LULUCF emission reporting, for example in relation to native forest harvesting and bushfires.

Existing commitments

- \$600,000 Stems for CO₂ program to grow more trees on farms.
- \$5 million to extend the On Island Processing Program.
- Private Forest Tasmania's Tree Alliance Knowledge Hub.
- Establishment of the Tasmanian Forestry Hub.

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How we will maintain and improve our net zero emissions status into the future

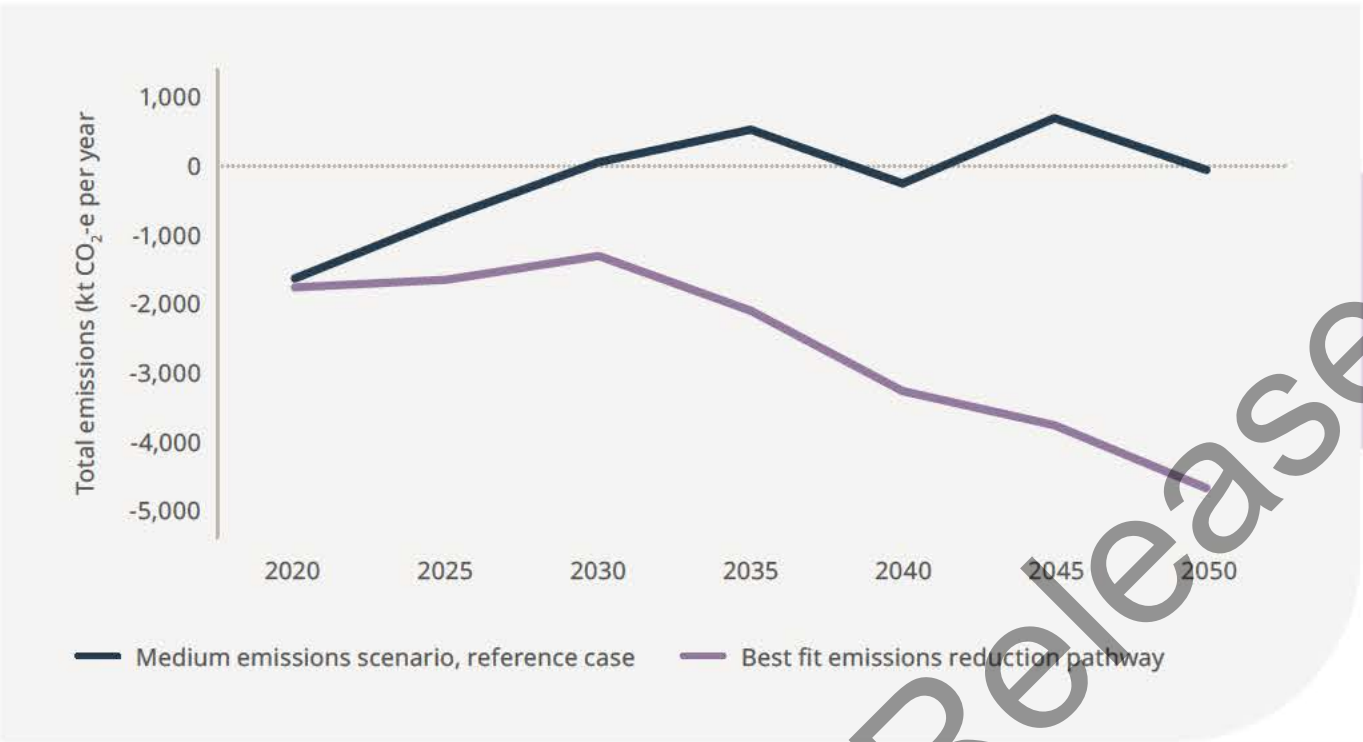
Our net zero emissions profile is largely due to the carbon sink in our managed forest estate and our longstanding investment in renewable electricity generation. However, our emissions profile is not guaranteed into the future.

Emissions are influenced by 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 managed forest estate.

We have identified a pathway to ensure Tasmania maintains net zero emissions to 2050. This pathway is made up of 16 “best-fit” emissions reduction opportunities that take into account Tasmania’s unique challenges and opportunities.¹

Tasmania’s projected emissions in 2050



¹ The Emissions Pathway Review identified 16 “best-fit” emissions reduction opportunities that are already technically and economically achievable and align with current policies. Other emissions reduction opportunities are likely to become technically and economically achievable with further research, development, investment, and time. This best fit pathway would see Tasmania maintaining net zero emissions easily from now until 2050, with the state acting as a net sink of over 4.7 Mt CO₂-e per annum in 2050. Without initiatives to take advantage of these opportunities, the Emissions Pathway Review projected that in 2050, Tasmania’s emissions were likely to be around net zero, but could be as high as 5 Mt CO₂-e per annum. Tasmania is projected to become a net emitter in years when a major bushfire is modelled. The full report of the Tasmanian Emissions Pathway Review is available on the ReCFIT website: recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf

Estimating the impact of the sectoral plans on our emissions

The sectoral plans include existing, new and future actions to support the uptake of the best-fit emissions reduction opportunities for Tasmania. These opportunities, and the estimated emissions reduction they may bring by 2050, are outlined on the next page.

Some actions we are taking will directly reduce emissions. For example, the Low Emissions Livestock Grant Program will reduce emissions from livestock by an estimated 16,350 tonnes over three years. However, other actions are aimed at ensuring we have the infrastructure in place, and that Tasmanians have access to the information they need, to support the uptake of low emissions technologies and practices.

For example, the transport plan includes initiatives to expand Tasmania’s electric vehicle charging network and to develop public education resources about driving electric vehicles in Tasmanian conditions.

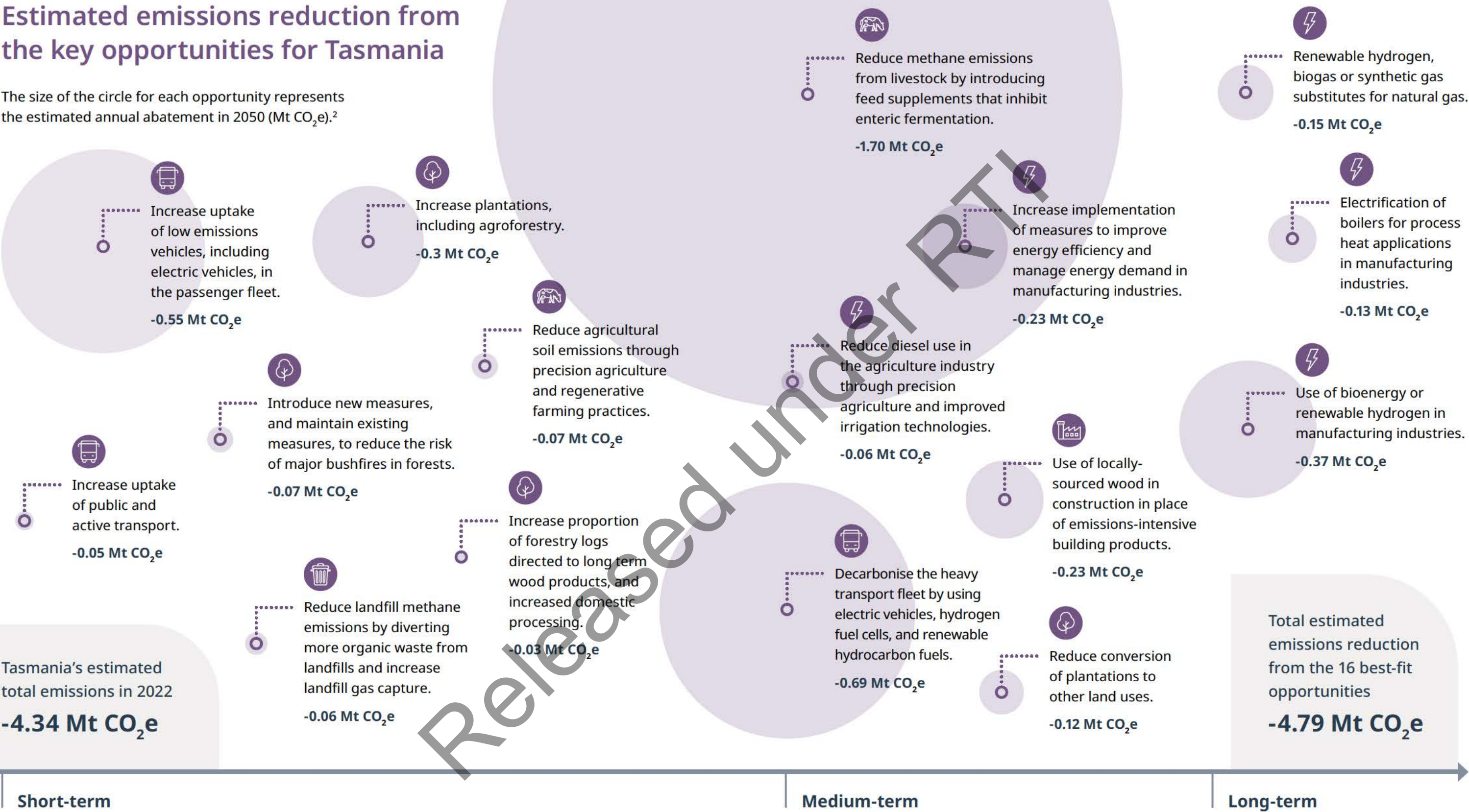
Actions such as these are essential to ensuring Tasmanians have the confidence to invest in low emissions technologies and make changes to their lifestyle or business operations. By their nature, these types of initiatives will not deliver direct emissions reductions. They will instead drive reductions indirectly by supporting Tasmanian businesses, industries and the community to make changes that will reduce emissions.



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Estimated emissions reduction from the key opportunities for Tasmania

The size of the circle for each opportunity represents the estimated annual abatement in 2050 (Mt CO₂e).²



² The abatement estimates are based on a range of assumptions about the abatement potential and the rate of uptake of the relevant technologies. For more information see the full 2021 Tasmanian Emissions Pathway Review at recfit.tas.gov.au/_data/assets/pdf_file/0009/492093/Tasmanian_Emissions_Pathway_Review_-_Technical_Report.pdf.

How reducing emissions and building resilience will benefit Tasmanian businesses, industries and communities

Taking action to reduce emissions, transition to a low emissions economy and build resilience to the impacts of climate change will benefit all Tasmanians. These actions will support our businesses, industries, communities and natural environments to thrive, now and into the future.

Our research indicates that Tasmania can reduce emissions across all sectors while maintaining economic growth and creating jobs.³

Opportunities and co-benefits of action on climate change include:

- investment attraction
- new skills and industries
- future-proofing our economy
- cost savings for households and businesses, for example through improved energy efficiency
- creating new markets and export opportunities
- brand promotion
- tourism attraction
- improved liveability, and health and wellbeing
- environmental protection and cleaner air and water.



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³ The Economic Impact Analysis project, undertaken in 2021, assessed the impact on industry and jobs of setting an ambitious emissions reduction target. Based on the emissions reduction opportunities identified in the Emissions Pathway Review, economic analysis suggests positive outcomes for both economic growth and employment over time. This largely reflects expected productivity and value-add gains that contribute to increased economic growth and employment opportunities. Read the 2021 Economic Impact Analysis – Emissions Pathway Review on the ReCFIT website: https://recfit.tas.gov.au/_data/assets/pdf_file/0004/490828/Economic_Impact_Analysis_-_Emissions_Pathway_Review.pdf

Links between the sectoral plans and Tasmania's Risk Assessment for Climate Change 2024

Tasmania's first statewide climate change risk assessment was prepared and published at the same time as the sectoral plans. We have considered the risks and opportunities in the Risk Assessment as part of the plans. However, there are further opportunities to reduce emissions and build resilience in each sector and across the economy. The government response to the Risk Assessment sets out how we will respond to the findings of the Risk Assessment over the next five years.

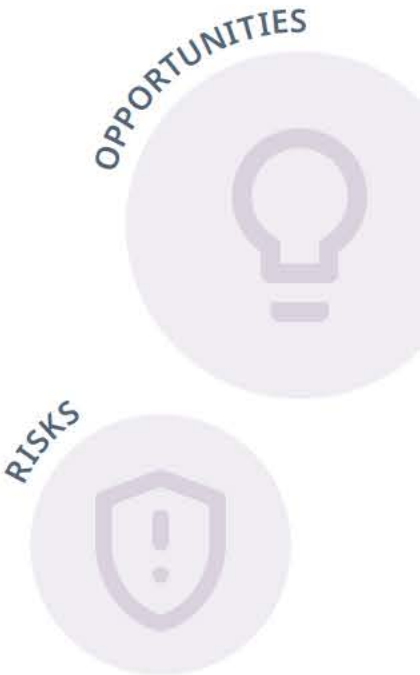
There are four levels, or tiers, of risks and opportunities identified in the Risk Assessment. Risks shown here are from Tiers 1, 2 and 3. The recommended response for each Tier is:

TIER ONE Ready to act	 
TIER TWO Investigate then act	 
TIER THREE Continue to monitor current actions	 

The following pages outline the risks and opportunities identified in the Risk Assessment that are relevant to each sectoral plan. They also outline the risks and opportunities that will impact all sectors. The risks have been listed against the sector that they will most directly impact. We recognise that these risks will also affect other parts of Tasmania's communities, businesses and industries.

The Risk Assessment technical report, summary report and government response are available on the ReCFIT website:

recfit.tas.gov.au/cc-risk-assessment



Risks and opportunities by sector of the economy

All sectors

Many of the cross-cutting risks and opportunities below are particularly relevant for industrial businesses in the IPPU sector.

Risks to national and international supply chains and distribution networks

Risks to physical safety, health and wellbeing

Risks to the built environment due to chronic and extreme events

Risks and opportunities through the implementation of new technology to reduce emissions

Risks to the insurability of businesses, public sector and private assets

Risks to businesses and public organisations from chronic and acute events

Risks to businesses and public organisations due to supply chain costs as organisations adjust to a lower emissions economy

Risks to mental health and wellbeing

Risks of slow, ineffective or no action on emissions reduction, limiting economic growth

- Tier 1: Ready to act
- Tier 2: Investigate then act
- Tier 3: Continue to monitor current actions



Transport

Risks to ports and coastal infrastructure

Risks to transportation networks

Opportunities for lower emissions transport systems

Opportunities for public and active transport



LULUCF

Risks to terrestrial ecosystems and species

Risks to native ecosystems and species

Opportunities for new revenue streams available from carbon markets

Opportunities to support improved water quality and biodiversity



Energy

Opportunity to improve financial wellbeing, and health and wellbeing through energy efficient housing for low-income households

Risks and opportunities related to renewable energy development

Risks to social cohesion and health and wellbeing due to existing services being insufficient to meet the needs of a growing population driven by renewable energy development and new industries

Opportunities for economic growth through renewable energy supply

Opportunities for improved flexibility within electricity infrastructure

Opportunities for increased skills and employment with renewable energy development and new industries



Agriculture

Risks and opportunities for land- and ocean-based primary production

Risks to coastal ecosystems and species related to coastal erosion, and risks to marine ecosystems and species

Risks to social cohesion and community wellbeing

Risks to physical safety health and wellbeing

Opportunities for new revenue streams available from carbon markets

Opportunities to support improved water quality and biodiversity

Opportunities for social cohesion, health and wellbeing through adaptation and resilience improvements



Waste

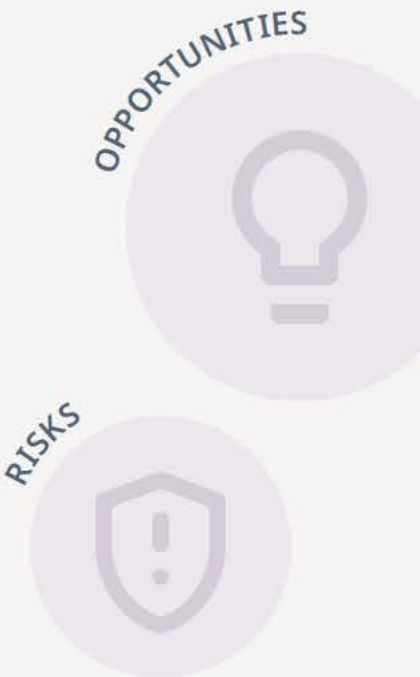
Opportunities for infrastructure development to increase circular economy

Opportunities for new revenue streams available from carbon markets

Risks to contaminated sites

Risks to stormwater and sewerage systems

Opportunities to optimise waste systems



Reducing emissions and building resilience in the Tasmanian Government

We recognise that Tasmanian Government departments and agencies play a role in reducing emissions and responding to climate-related risks and opportunities. We are committed to building climate capability in the public sector, and ensuring that consideration of climate change and climate-related risks and opportunities is embedded in decision making at all levels.

Government Operations Emissions Reduction and Resilience Plan

The government is developing an emissions reduction and resilience plan for its operations. This plan can support emissions reduction and resilience in government, as well as support action more broadly.

For example, electrifying the government vehicle fleet, in line with our target of 100 per cent electric by 2030, will make more second-hand electric vehicles available in Tasmania.

Government is also a major consumer of products that are used to provide essential services to Tasmanians, including in our schools and hospitals. Exploring options to increase our use of environmentally sustainable products can play an important role in supporting local markets for low emissions materials. We are already taking action across government, including through the *Tasmanian Wood Encouragement Policy* and the Sustainable Institutional Food Procurement Tasmania Project.

Actions under the plan for government operations will include:

- audit of current agency activity
- workshops with agencies
- baseline emissions inventory (to support a net zero target and future emissions reductions)
- review of whole-of-government energy use, emissions monitoring and reporting needs, and software requirements
- future opportunities for mitigation and adaptation actions.

We will publicly consult on the draft plan as part of this process. We expect the government operations plan to be finalised in mid-2025.

Government climate capability framework

The government is also developing a framework to embed climate change in government decision making. The framework will include three key areas for action:

- building understanding and knowledge of climate change across government
- improving confidence to consider climate change risks and opportunities in decision making
- adaptive management and continuous review and improvement.

The framework will be informed by the Risk Assessment. The key outcomes of the framework are to:

- demonstrate leading best practice in how the government considers climate change in decision making
- embed climate change consideration as business as usual
- reduce government exposure to climate-related risks
- improve climate change outcomes for the government and Tasmania
- increase accountability for decisions relevant to climate change.



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Our action is guided by seven principles

1 Sustainable development and social equity

Climate action, and any government action that has a direct impact on climate change mitigation or adaptation efforts, should benefit both current and future generations of Tasmanians. In particular, vulnerable communities and Aboriginal practices should be considered.

How the sectoral plans take into account this principle

- The energy plan includes actions to support Tasmanian communities and vulnerable people to increase the liveability of their homes and reduce the cost of living.
- The agriculture and LULUCF plans consider opportunities for Aboriginal communities to benefit from the transition a low emissions economy, in line with national work programs.

2 Transparency and reporting

Reporting on climate change action should be timely, transparent and accurate, and made available to the public.

How the sectoral plans take into account this principle

Tasmania’s second legislated climate change activity statement, to be released in mid-2025, will report on the progress against the sectoral plans. We will also continue to report annually on Tasmania’s greenhouse gas emissions.

3 Science-based approach

Climate change action should be scientifically substantiated and align with limiting global warming to no more than 1.5°C above pre-industrial levels.

How the sectoral plans take into account this principle

The sectoral plans are guided by the 2021 *Tasmanian Emissions Pathway Review*, which outlines the pathway for Tasmania to maintain net zero emissions, or lower, out to 2050. Tasmania is the only jurisdiction which makes a net negative contribution to Australia’s national greenhouse gas emissions. This contributes to Australia’s commitment under the international Paris Agreement to keep global warming to well below 2°C compared to pre-industrial levels, and pursue efforts to limit warming to 1.5°C.

4 Integrated decision making

Decision making on climate change action is integrated, addressing environmental, social and economic considerations over short-, medium-, and long-term timeframes.

How the sectoral plans take into account this principle

We are committed to a coordinated whole-of-government approach to action on climate change. This commitment will be strengthened through the framework to build the capability of Tasmanian government agencies to consider climate change. The sectoral plans consider the ways that this framework will support emissions reduction and resilience in each sector.

5 Risk management

Climate change action adequately reflects assessed risks, and risks of action and inaction are addressed.

How the sectoral plans take into account this principle

The sectoral plans acknowledge the risks to each sector identified in the Risk Assessment and include actions to address them where possible. Further opportunities to address the risks identified in the Risk Assessment are identified in the government reponse.

6 Community engagement

Proposed climate change action takes into account the views of interested and relevant members of the community, through appropriate engagement.

How the sectoral plans take into account this principle

Public consultation was undertaken on each sectoral plan. Each plan includes a section outlining how the plan addresses the feedback from public and targeted consultation.

7 Complementarity

Climate change action should reflect an appropriate level of cohesion with relevant state, national, and international climate change developments.

How the sectoral plans take into account this principle

The sectoral plans take into account relevant state, national and international targets and commitments. We are working with the Australian Government to ensure Tasmania’s unique opportunities and challenges are considered in national work programs, including the development of national sectoral decarbonisation plans.



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Which group or industry is covered where?

The below table gives an overview of where key groups and industries in Tasmania fit into the sectoral plans. Information about initiatives to support other groups and industries, outside of the sectoral plans, is on the following pages.

	 Waste	 LULUCF	 Agriculture		 IPPU	 Energy	 Transport
Agriculture, aquaculture, fisheries and forestry (primary industries)	Circular economy opportunities for waste from primary industries	Increase carbon sequestration, reduce emissions and build resilience in the forestry sector and increase carbon sequestration on farms	Reduce emissions, increase carbon sequestration and build resilience in agriculture, aquaculture and fisheries			Reduce energy use and create energy using waste from primary industries	
Manufacturing building, and construction	Circular economy opportunities for building and construction waste	Increase on-island processing of timber			Reduce emissions and build resilience for Tasmania's industrial emitters, including producers of building and construction materials	Decrease electricity demand or alternative energy sources for Tasmania's industrial energy users	
Electricity and energy (including households)	Generate energy using waste Reduce household waste	Reduce energy use and create energy using waste from the forestry industry	Increase on-farm energy efficiency and create energy using waste from agriculture		Reduce emissions and build resilience for Tasmania's major energy consumers	Reduce emissions and build resilience in our energy sector Improve energy efficiency and reduce energy costs for Tasmanian homes	Impacts of electrification of our transport systems on the energy sector
Retail, hospitality and tourism	Reduce waste from businesses					Improve energy efficiency and reduce energy costs for Tasmanian businesses	Transition small business vehicle fleets to electric Increase uptake of low emissions vehicles in the tourism sector
Transport systems and infrastructure	Circular economy opportunities for road infrastructure				Reduce emissions from transport infrastructure		Reduce emissions and build resilience in the transport sector
Water and waste services	Reduce emissions and build resilience in the waste sector, including waste water treatment		Sustainable rural water use				

Our commitment to supporting all parts of our economy and community to reduce emissions and build resilience

We recognise that there is significant overlap between some sectors, and that there are parts of Tasmania’s communities, businesses and industries that may not explicitly be covered by the sector-based plans.

The next statewide climate change action plan is to be developed in 2025. We will consider the below opportunities and a range of other issues as part of the development of the action plan. We will also release a draft plan for public consultation as required under our legislation.

The government already has a range of initiatives in place to support many of the following groups that are not explicitly covered in the sectoral plans.



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Aboriginal communities

- We are committed to building relationships with Aboriginal people and organisations to support the consideration of palawa perspectives and needs in current climate change work programs where possible, as well as in future policies and programs from the design phase onwards.

Building and construction

- We are increasing Tasmania’s capacity for recycling and recovery of construction and demolition materials through the High Priority Infrastructure Grant Program.
- We have a number of programs underway to reduce emissions from government infrastructure projects, including the *Tasmanian Wood Encouragement Policy* and development of a Strategic Infrastructure Framework. The framework will include principles to support better sustainability outcomes.

Children and young people

- We are developing climate change resources for Tasmanian schools.
- We are supporting the Youth Climate Leaders Program.
- We are improving the way we engage and consult with children and young people about climate change.
- We are supporting the Nature Connection Youth Mental Health project to address climate distress in children and young people.

Community

- The Climate Change Community Action Grant Program is providing \$350,000 to support community-level action across Tasmania.
- The \$1.2 million e-Transport package has supported hundreds of Tasmanians to purchase electric vehicles, electric bikes and other e-mobility devices.
- The Healthy Tasmania Focus Grant Program is supporting a range of projects across Tasmania to address the impacts of climate change on the health and wellbeing of Tasmanians.
- The Energy Saver Loan Scheme provides no-interest loans to help fund the purchase and installation of energy efficient products and upgrades.
- We are developing a climate change public awareness program.



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Natural environment

- We are developing a response to the findings and recommendations of the 2024 State of the Environment Report.
- We are implementing programs such as planned burning to protect the natural and cultural values of the Tasmanian Wilderness World Heritage Area under the changing climate.
- We are ensuring our biosecurity assessments, and processes to protect our environments from pests and diseases, account for the impacts of climate change.



Processing and manufacturing

- The \$1 million Advanced Manufacturing Accelerating Growth Grants program is providing grants of up to \$100,000 to Tasmanian manufacturing businesses.



Tourism

The Tourism Industry Council Tasmania (TICT) Emissions Reduction Initiative includes two programs:

- The Tourism Emissions Reduction program supports tourism operators to purchase software to measure their emissions and develop an emissions reduction plan.
- Net Zero Advanced provides access to carbon accounting software, in addition to free training for accountants and bookkeepers.



Retail and hospitality

- We are working to phase out problematic single use plastics and supporting businesses through the transition.
- We are developing Recycle Rewards, Tasmania's container refund scheme to increase recycling of beverage containers.
- We are supporting the collection of food waste from hospitality businesses.



Small- and medium-sized Tasmanian businesses

- The Enabling Business Grant Program is supporting Tasmanian small businesses to grow, adapt and innovate.
- The Energy Efficiency Audit Grants Program is supporting businesses to understand their energy use so they can improve their energy efficiency.
- We are developing a grant program to assist small businesses to design and implement continuity plans and build resilience.



Supply chains and scope 3 emissions

- The Sustainable Institutions Food Procurement Tasmania project is mapping and scoping the opportunity for more sustainable approaches to food procurement by publicly funded institutions.
- We will consider further opportunities to support sustainable, local markets as part of the project to build capacity of government agencies to consider climate change.

Department of State Growth

GPO Box 536 Hobart
TAS 7001 Australia
Phone: 03 6166 4466

Email: climatechange@recfit.tas.gov.au

Web: recfit.tas.gov.au

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