



Tasmanian Greenhouse Gas Emissions Update

Annual progress report for the 2023 reporting year

July 2025

Prepared by the

Tasmanian Policy Exchange



A photograph of traditional Indigenous Australian objects. In the foreground, there is a large, shallow, reddish-brown bowl made of ochre. To its left is a dark, possibly black, shell or gourd with a beaded cord (purple and white) draped over it. In the background, there are two woven baskets made of natural fibers. The objects are resting on a light-colored, fibrous material, possibly bark or a similar natural surface. The background is slightly blurred, showing more of the same materials.

Acknowledgement of Country

We acknowledge the palawa/pakana of lutruwita, the traditional owners of the land upon which we live and work.

We pay respects to Elders past and present as the knowledge holders and sharers. We honour their strong culture and knowledges as vital to the self-determination, wellbeing and resilience of their communities.

We stand for a future that profoundly respects and acknowledges Aboriginal perspectives, culture, language and history.



The [TPE](#) at the University of Tasmania aims to make a positive contribution to the future of our state through timely and informed contributions to key policy debates.

The University of Tasmania has, for the fourth year running, been ranked the number 1 university globally for climate actions in the prestigious [Times Higher Education \(THE\) Impact Rankings](#).

We would like to thank the numerous colleagues from across the University who contributed to the update.

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Aims of this Update

This is the University of Tasmania's fourth annual report on Tasmania's greenhouse gas (GHG) emissions.

Given the climate emergency we are facing, the Tasmanian community requires a clear understanding of how much we contribute to the problem of global climate pollution, but the way emissions are reported is complex and can be confusing.

Our annual updates are designed to:

- provide clear and independent analysis of greenhouse gas emissions in Tasmania;
- keep tabs on how our performance compares to other states;
- assess whether we are on-track to meet state and national targets; and
- highlight where we need to focus our efforts and improve outcomes to credibly claim national leadership on climate action.

The University of Tasmania's analysis of Tasmanian climate policy and strategy, including an ongoing work program developing options for decarbonising the Tasmanian economy, can be found [here](#).

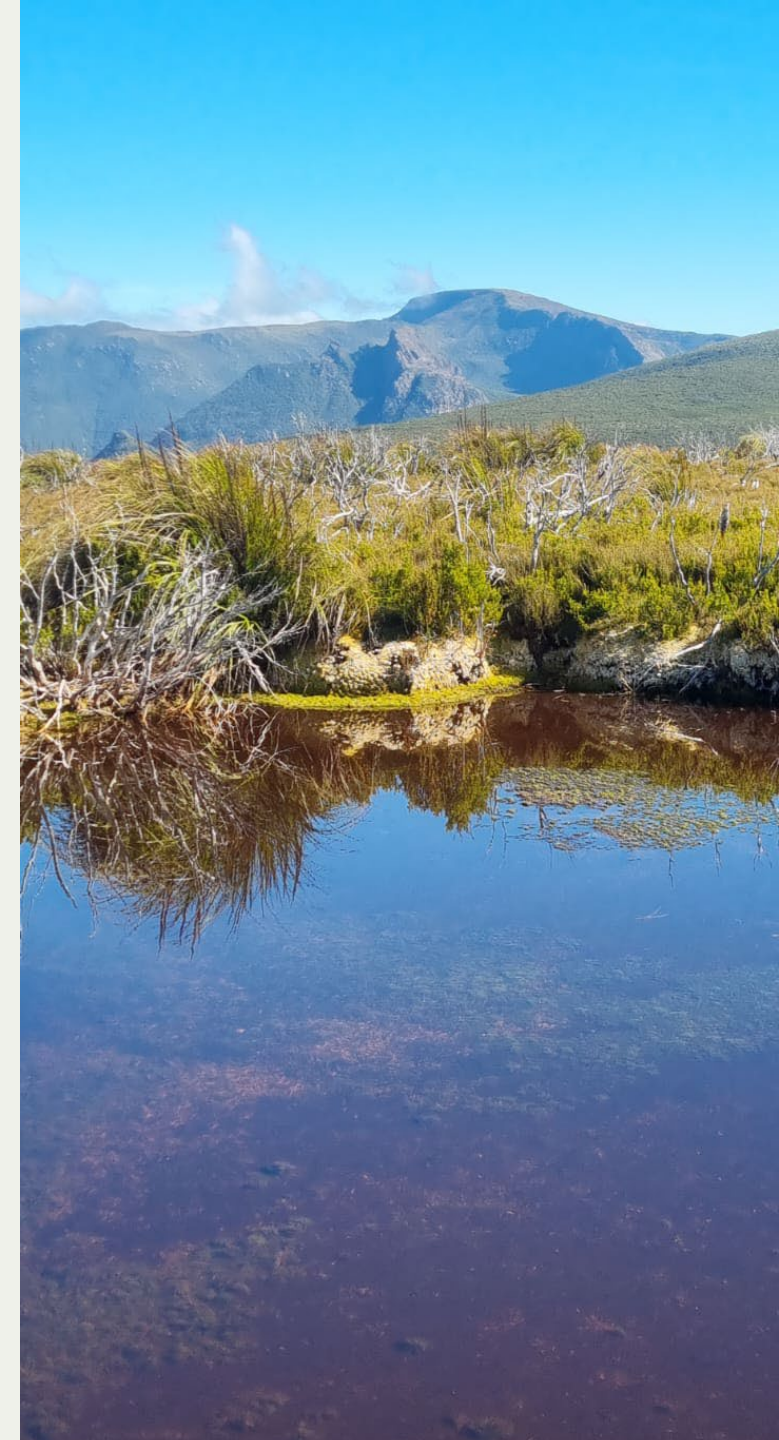
A note on language

Net zero is when a jurisdiction's emissions are equal to, or fewer, than the emissions removed and stored in forests and soils.

Net emissions refers to the total greenhouse gases emitted by a state or country, minus the amount removed from the atmosphere.

Absolute emissions are the raw total of greenhouse gases released, not including removals.

CO₂-e (carbon-equivalent) emissions are greenhouse gas emissions (including carbon dioxide, methane and nitrous oxide).



Key findings

The latest state-level emissions data

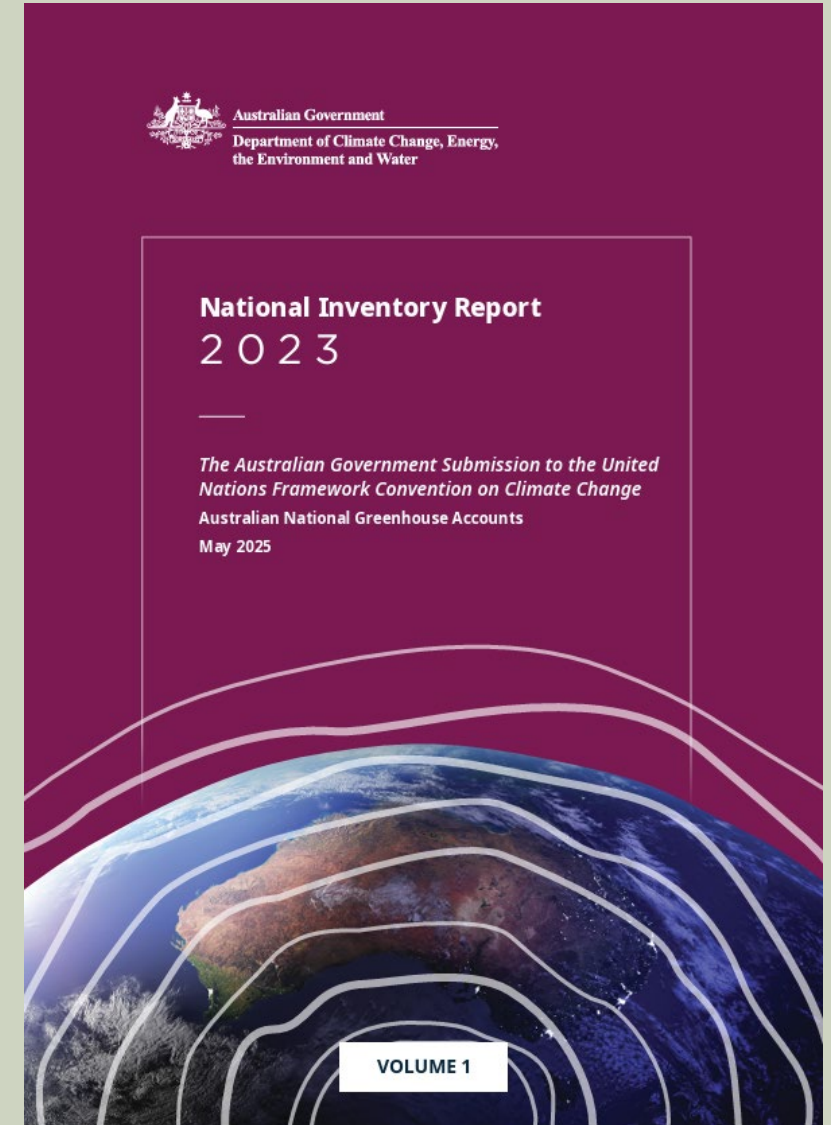
The Australian Government has just released the most recent *State and Territory Greenhouse Gas Inventories* data. The reports estimate CO₂-e emissions from 2023 by sector and by state and territory, providing an important opportunity to understand the sources of Australian greenhouse gas emissions and assess our **progress towards emissions reduction** targets.

How does Tasmania compare?

Tasmania is still 'net zero', with net emissions of **-4,932 kt of CO₂-e**. However, we remain dependent on carbon removals from the land-use sector and our **absolute emissions** from other sectors, apart from a small improvement in transport, are **essentially unchanged for 30 years**. **Victoria has now also overtaken us**, together with **South Australia** and the **Australian Capital Territory**— producing fewer absolute emissions per capita.

What are our emissions reduction priorities for the future?

Tasmania cannot afford to be complacent and continue to reduce absolute emissions to retain our climate leadership, contribute to the global effort to limit warming and future-proof key industries. **Our best abatement opportunities right now are in the transport and agriculture sectors**. While making deep cuts to emissions can be challenging, there are **technologies available now that we need to get behind**.





The State and Territory Greenhouse Gas Inventories

Australia's greenhouse gas emissions are estimated and reported according to guidelines developed by the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC's method, while allowing flexibility to reflect local conditions, enables the production of comparable national and sub-national estimates of carbon pollution.

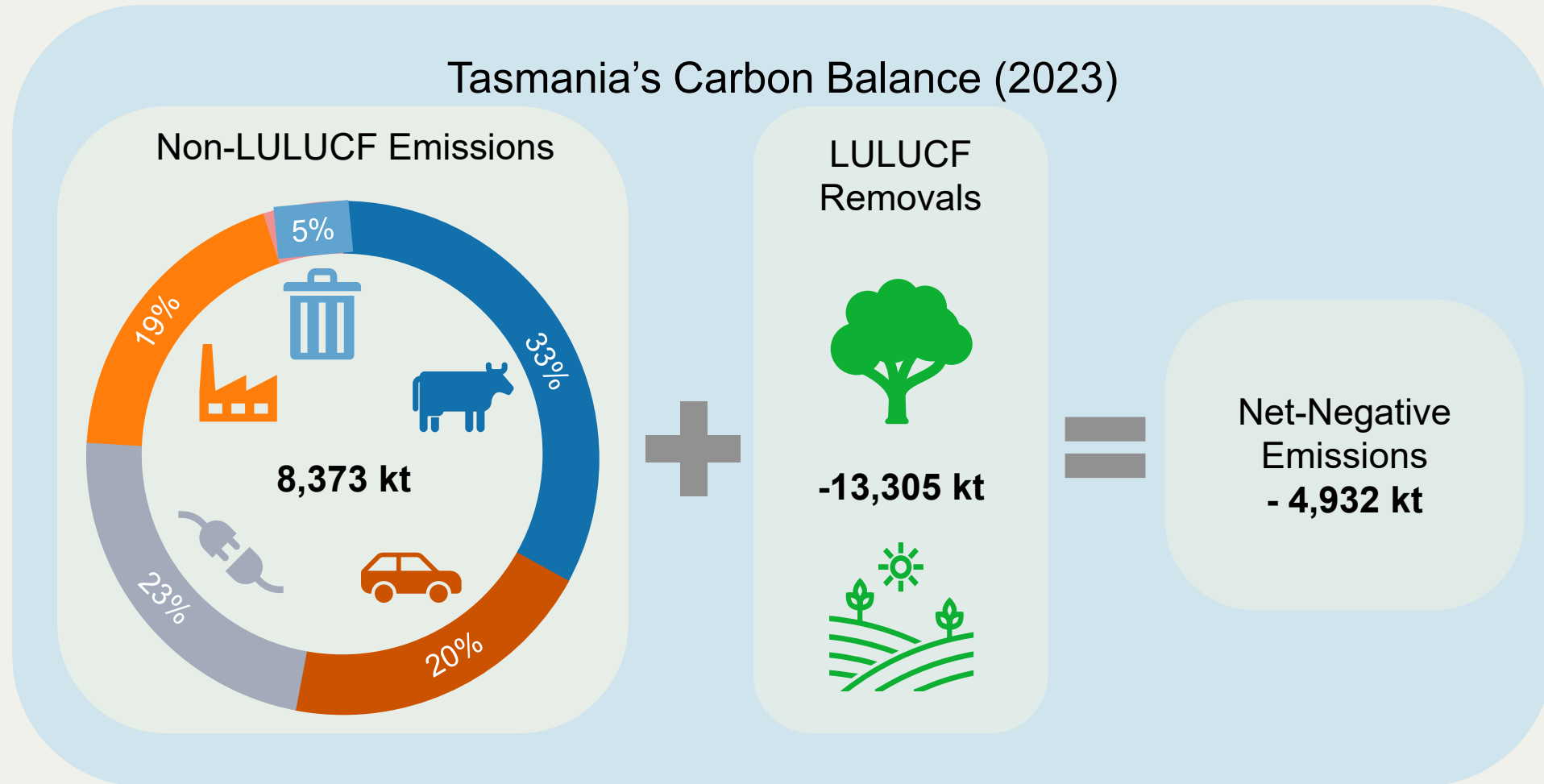
This system is enormously valuable, but it is not perfect and is subject to ongoing evolution. As a result, each year, inventories incorporate updates to UNFCCC methodologies and tools like the Full Carbon Accounting Model (FullCAM). Such changes are applied retrospectively to previous years' emissions tallies.

While the year-to-year adjustments are usually minor, they can be consequential. For instance, in several previous inventories, Tasmania's first net-zero year has been revised a number of times, changing from 2013 to 2014, and back again.

Given that adjustments can easily mean the difference between meeting legislated emissions reduction targets and falling short of them, it is important to treat the resulting data cautiously. The problem is that most sectors, like transport or energy, are calculated using straightforward methods. For example, we can estimate petrol-related emissions fairly accurately by measuring how much fuel is imported and bought. But not all sectors work that way. Emissions and removals from Land Use, Land-use Change and Forestry (LULUCF) are calculated using complex models, assumptions, and projections. As a result, Tassie's claim to net zero relies heavily on estimates that are less concrete than those in other sectors.

Tasmania's carbon balance: We remain below net zero

Removals in the land use, land-use change, and forestry (LULUCF) sector exceeded absolute emissions from other sources in 2023, resulting in net-negative emissions overall (-4,932 kt CO₂-e).



Tasmania's emissions challenge

Tasmania is one of the few jurisdictions on the planet that currently removes more CO₂-e than it emits. Tasmanians should be proud of this, but we cannot be complacent.

Our net-zero profile is largely due to two factors:

1. The state's renewable energy generation keeping energy emissions relatively low, and
2. The decline of the state's forestry industry in the early-2000s causing our LULUCF emissions to plummet.

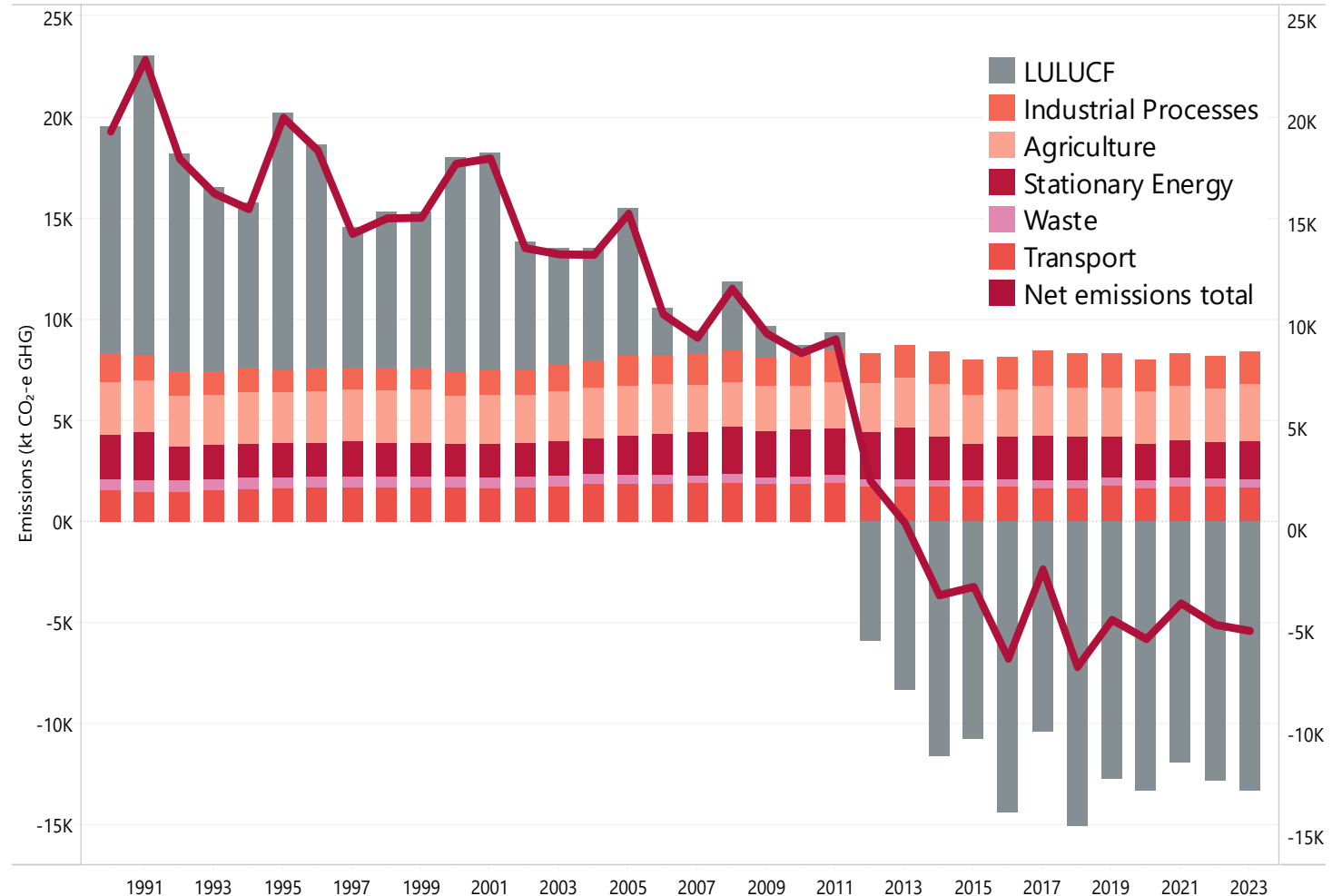
The zigzagging red line in this chart illustrates our net emissions over the last 30 or so years.

The grey bars are our LULUCF emissions or, since 2012, our LULUCF Withdrawals. In other words, our forests and soils have been doing a lot of heavy lifting recently.

The red, pink and orange shaded bars depict our absolute emissions, broken down according to sectors. These have remained stubbornly stable over the reporting period.

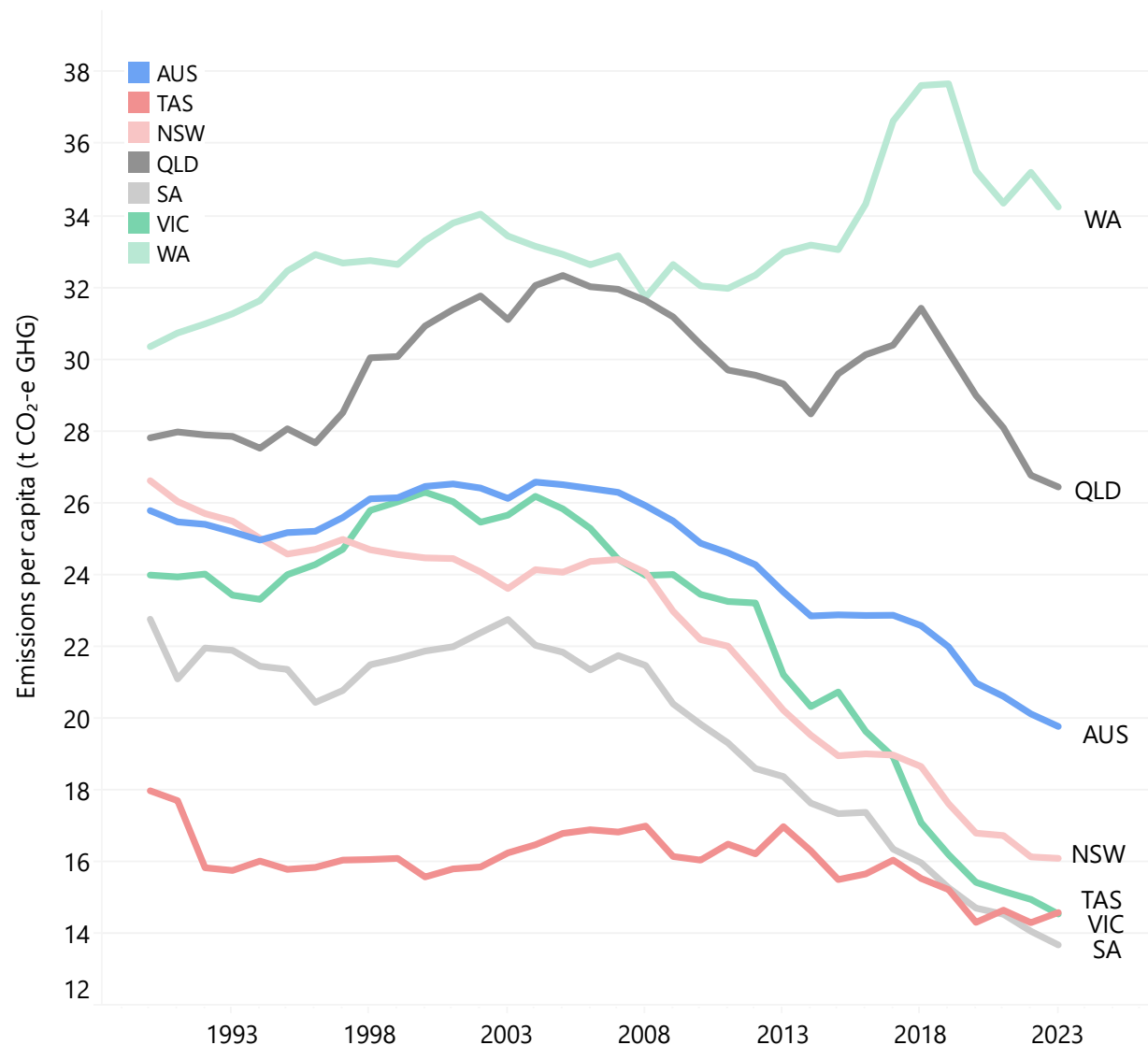
As we'll see, other Australian states and territories are doing more to reduce absolute emissions, with two of them overtaking us in the reduction of absolute emissions per capita.

Tasmanian Greenhouse Gas Emissions by Sector, 1990-2023



SOURCE: Australian State and Territory Greenhouse Gas Inventories 2023, available at <https://www.dcceew.gov.au/climate-change/publications/state-and-territory-greenhouse-gas-inventories>

Absolute Emissions (non-LULUCF) per Capita, 1990-2023



Tasmania is overtaken by two other states in lowest absolute emissions per capita

Tasmania was the lowest absolute emitter of all Australian states, as shown, from 1990, until South Australia overtook us in 2022. This year, Victoria too, has passed us and we now rank third lowest in absolute emissions per capita. On the current trend, it will likely not be long before New South Wales outperforms us too.

We have been overtaken because these states have been working hard to cut their emissions across the board, while in most sectors Tasmania's emissions have remained stable or even increased their emissions, apart from LULUCF and a small decrease in transport emissions.

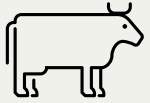
Over the past 21 years, Victoria has decreased its absolute emissions per capita by 39.4%, South Australia 39.9%, and New South Wales by 39.5%.

In contrast, Tasmania has only managed a 18.9% reduction. Much of this is due to a decline in transport emissions for take up of more efficient cars, and more recently, EVs.

**Please note, NT and the ACT have been excluded from this chart – NT because its absolute emissions are quite literally off the chart; and ACT because its absolute emissions are so low, due to a lack of heavy industry and electricity production, that it skews the chart in the opposite direction.*



Tasmania's emissions by sector



Agriculture

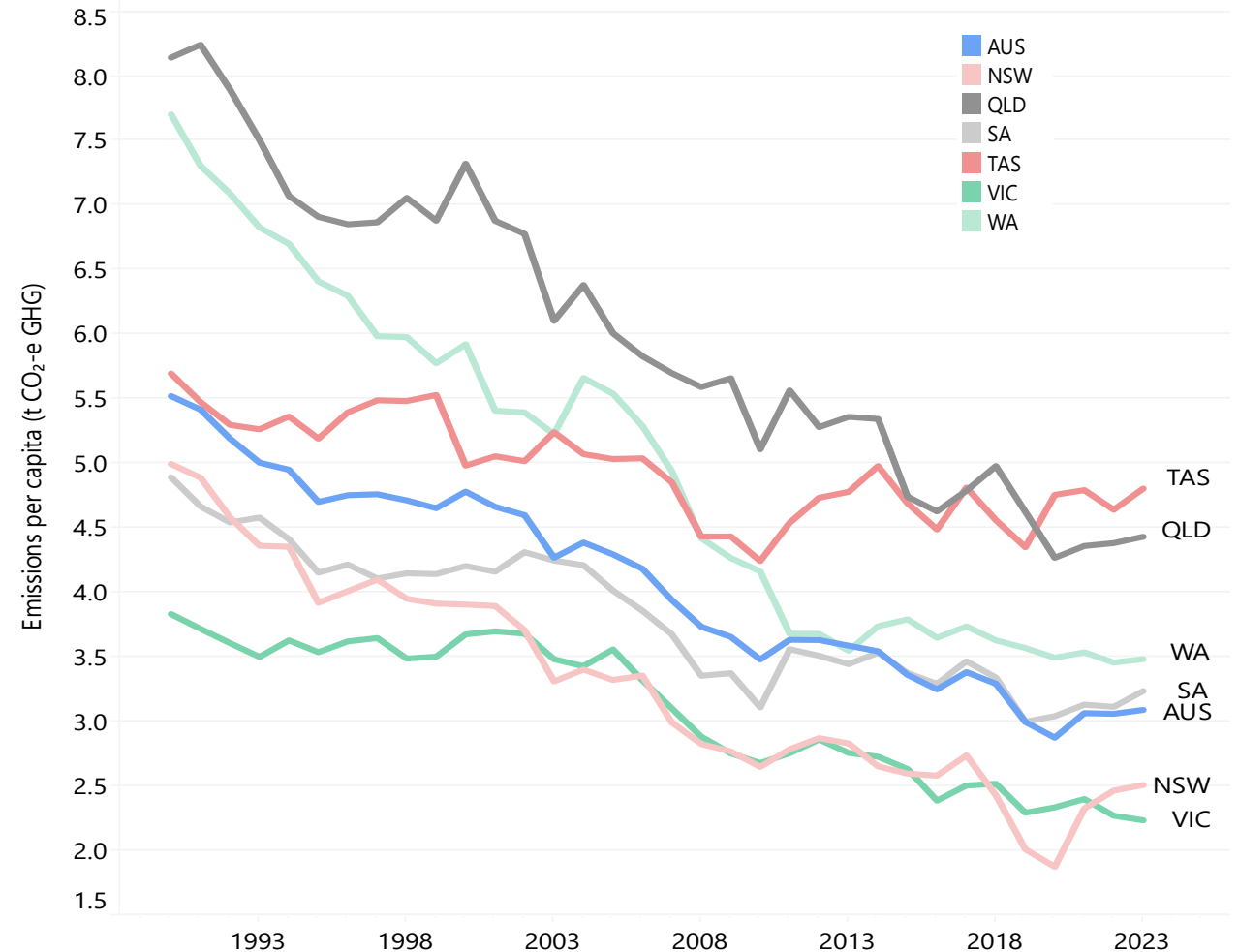
Emissions in this sector include those from livestock, manure management, crop residue, rice cultivation, use of nitrogen in soils, and burning of agricultural residues.

Tasmania's per capita emissions from agriculture remain the highest in the nation excepting the NT, which has not been included on this chart because the structure of its agriculture sector and small, sparse population make direct comparison misleading. Similarly, the ACT has not been included, but because its agricultural emissions are so small.

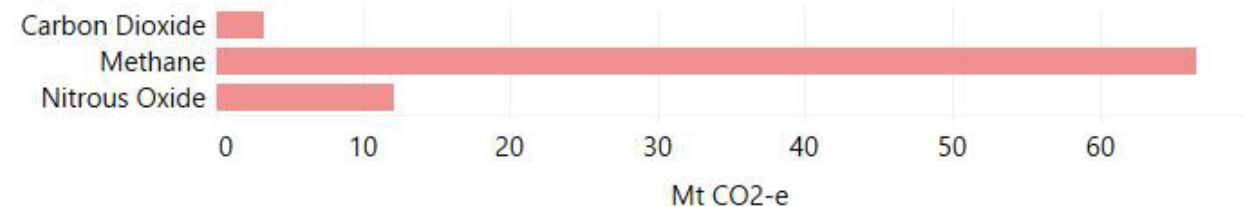
Tasmania's total agriculture emissions (i.e., not adjusted for population) have risen by 4.0% since the last inventory. Enteric fermentation (methane emission from ruminant livestock) remains the biggest contributor, adding 66.7Mt to Tasmania's total CO₂-e GHG emissions. This also makes it our single highest emitting subsector, highlighting the need to scale deployment of new technologies (like Asparagopsis feed supplements) to rapidly reduce emissions.

It's true that our agricultural output has increased over the past 10 years, although other states, such as WA, have managed significant increases in output while at the same time cutting emissions.

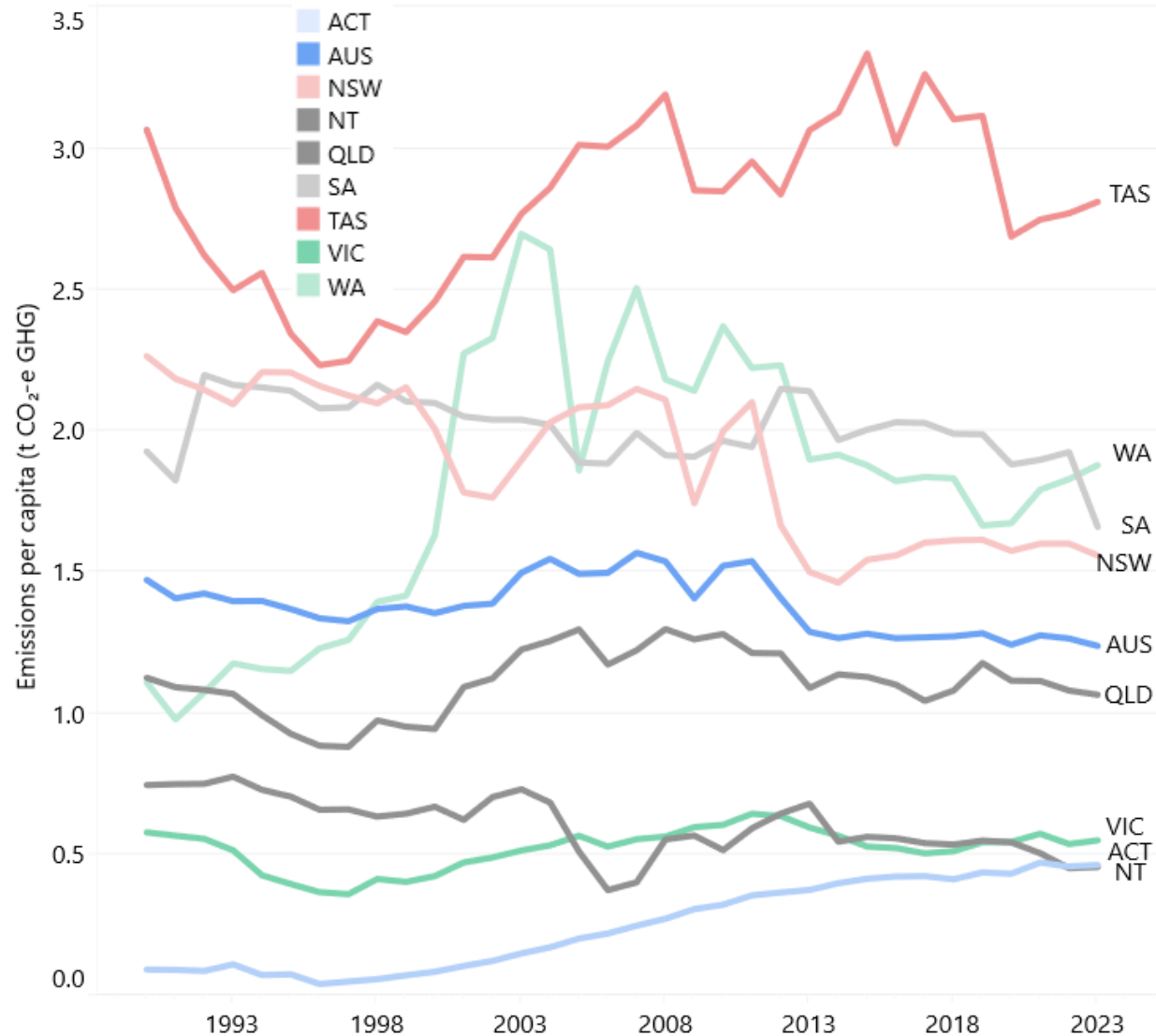
Per Capita Emissions from Agricultural Processes by State and Territory, 1990-2023



Agricultural Emissions, Tasmania, 2023



Per Capita Emissions from Industrial Processes by State and Territory, 1990-2023



Industrial Processes



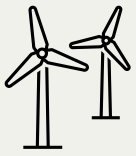
[Emissions from this sector](#) include those created from non-energy related industrial production and processes, including those from hydrofluorocarbons used in refrigerants and air conditioning.

Tasmania's industrial processes and product uses (IPPU) emissions remain the highest in the country on a per capita basis. They have been on the rebound after a steep drop during the first year of the COVID-19 pandemic.

Tasmania hosts several large industrial facilities in hard-to-abate sectors. While much of the emissions impact of these facilities is in the energy sector, their activities likely also add significantly to our high IPPU emissions.

This sector, which is a major employer and makes a significant contribution to the state economy, will need to be a key focus of investment and targeted emissions reduction efforts in the coming years, particularly as many of the large facilities contributing to this sector are covered by the [Safeguard Mechanism](#).

The Safeguard Mechanism requires facilities that emit more than 100,000 tonnes of CO₂-e to reduce their emissions below a set baseline, or purchase ACCUs to offset their emissions that are above the baseline. Whether Tasmania's emissions and energy intensive industries will remain viable in the years ahead is increasingly uncertain.



Energy (not including transport)

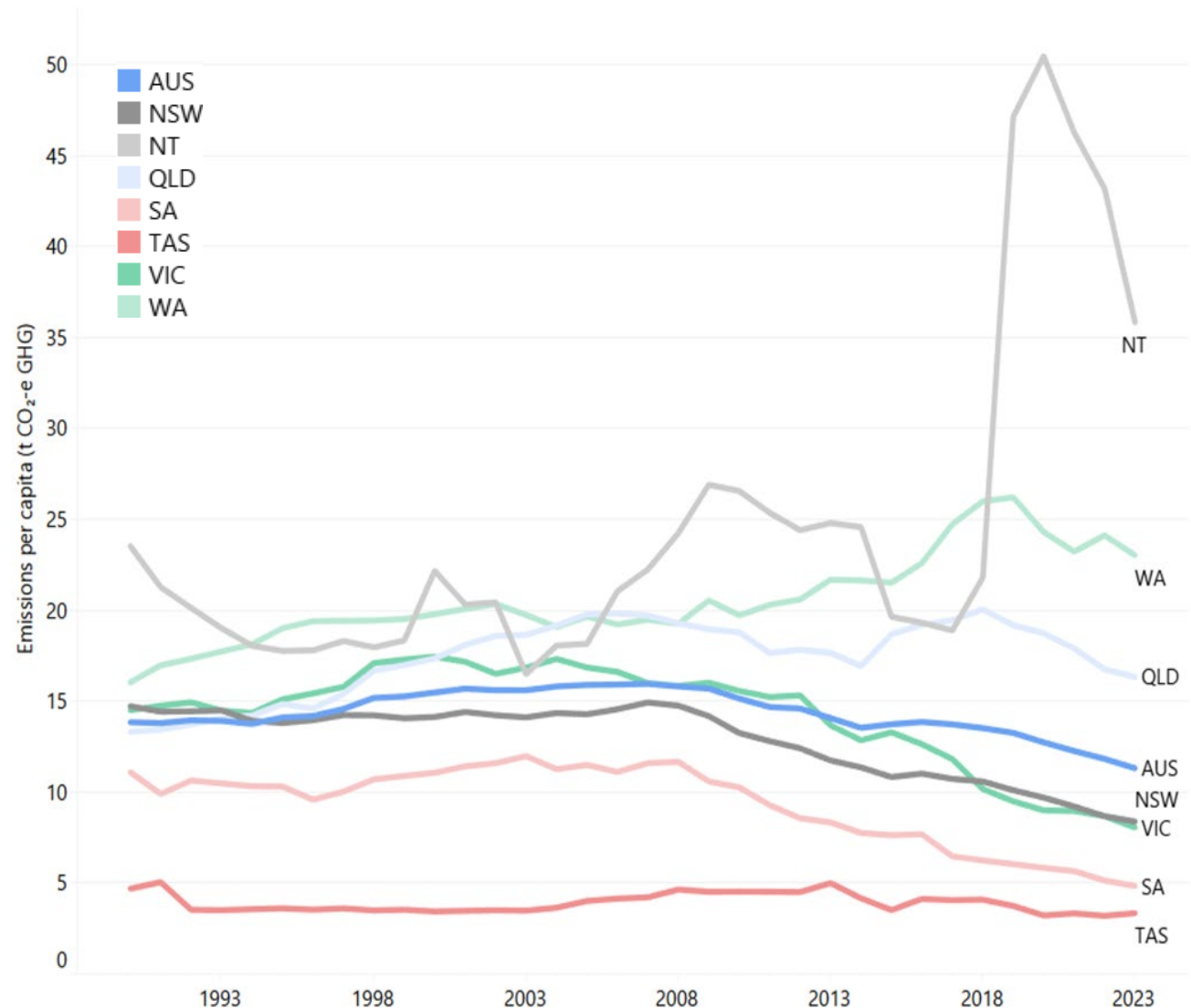
The greenhouse gas inventories report all emissions from energy together, but to aid an understanding of where to focus our efforts we are reporting energy emissions (excluding transport) and transport emissions (see next page) separately.

In this chart, [emissions](#) include those from the combustion of fuels to generate energy and those from stationary energy – that is, the combustion of fuels to generate steam, heat or pressure, not used for energy generation or transport.

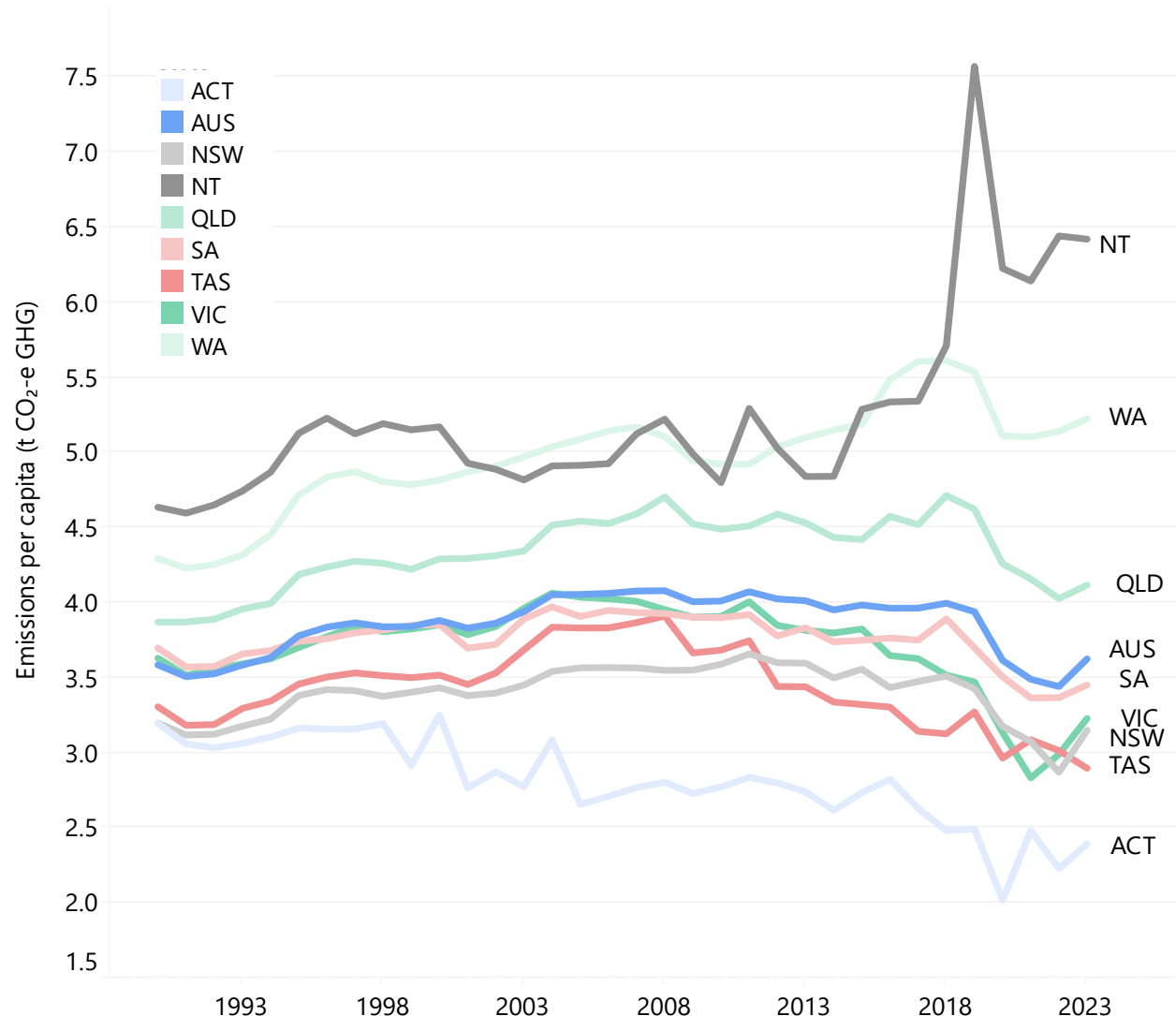
Tasmania's stationary energy emissions remain low largely due to our hydroelectricity. However, our renewable electricity 'self sufficiency' is already coming under strain. In [four of the past five years](#), Tasmania was a net importer of electricity – we are no longer generating enough renewable electricity on-island to meet our own needs. Coal continues to account for 7.5% of our total energy needs.

We need to invest in new renewable generation and potentially clean fuels to reduce our dependence on imported fossil fuels and support the decarbonisation and expansion of industries into the future.

Per Capita Emissions from Stationary Energy by State and Territory, 1990-2023



Per Capita Emissions Transport by State and Territory, 1990-2023



Transport

One of the good news stories from this year's data is that Tasmanian per capita transport emissions have continued to decline. Over the last 10 years there has been an overall reduction by 15.83%.

We could speed up reduction in this sector's emissions in two key ways: 1. Support uptake of EVs, and 2. Increase the use of active and public transport. Both these options are challenging in Tasmania: EVs are generally more expensive than equivalent ICE vehicles and our small, decentralised population makes scaling up use of public and active transport difficult.

Tasmanians also have more cars per capita than those in other states and territories: the average Tasmanian owns 0.93 vehicles whereas Australians own 0.80 vehicles. What's more, our cars are older than the national average, meaning they are likely less efficient and therefore more polluting.

The TPE has [published](#) extensively on how we can reduce transport emissions.

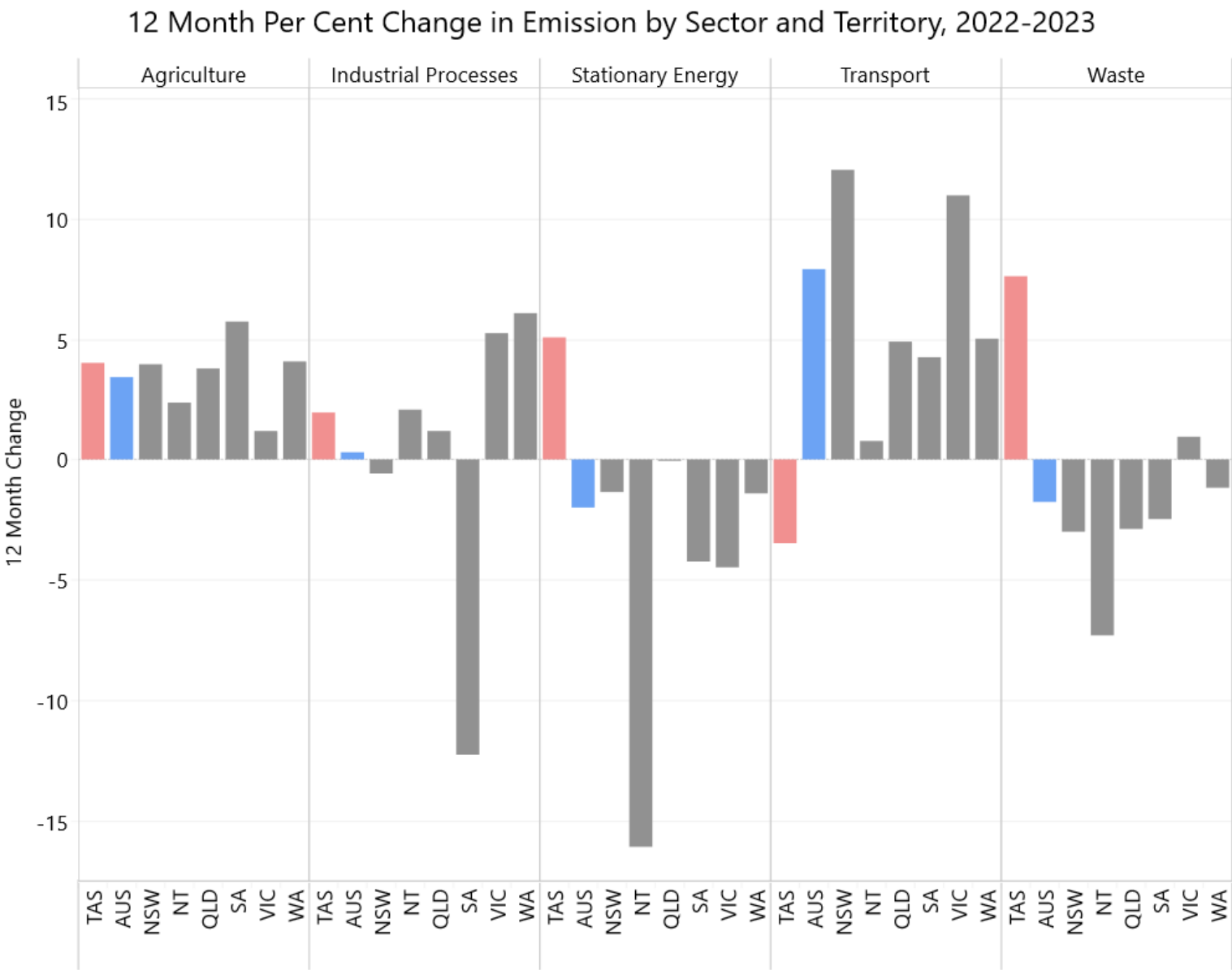
Relative performance since 2022 by jurisdiction

Tasmania has increased its emissions from the previous year across most sectors as shown here.

After reducing our agriculture emissions by approximately 2% in 2022, they increased double that rate (4%) across 2023.

Notably, our waste emissions jumped substantially in 2023, well above the rates of other jurisdictions shown here.

As discussed above, our transport emissions decreased by 3.45% in 2023, leaving us the only jurisdiction in the chart to have achieved a reduction over the twelve-month period.





Is the focus on net zero preventing meaningful action?

2023 marked the twelfth consecutive year of net-negative emissions for Tasmania. That is a significant achievement: It means our state removed more carbon from the atmosphere than it emitted.

While this is obviously an achievement to be proud of, our absolute emissions have barely changed in 30 years. This means we are not doing anything as a state to reduce our greenhouse gas emissions.

Now that the ACT, South Australia and Victoria have lower absolute emissions per capita than us, and New South Wales is looking over our shoulder, it is time to work on reducing our emissions across the sectors.

The best places to make changes now are in transport, agriculture and energy, as we already have solutions we can apply.

There are ongoing opportunities for Tasmanians to encourage the State Government to refocus its attention on reducing greenhouse gas emissions. In the short term, submissions can be made to the [draft Future Clean Fuels Strategy](#) and the [2024-25 Independent Review of the Climate Change \(State Action\) Act](#).

What's next and where should we focus our energy?

There are things we can do right now to reduce our absolute emissions. Here is a list, not exhaustive, of things we could get started on:

- Accelerate Tasmanians' uptake of EVs through the implementation of an EV sales target
- Implement [a carefully designed and temporary waiver of stamp duty on EVs](#), balanced with slightly higher duties on ICE vehicles
- Transition bus fleets to zero-emissions vehicles
- Focus on improving the [quality of service of public transport](#)
- Develop [safer active transport infrastructure](#)
- Support the scaling up of [asparagopsis supplements](#) to address the considerable methane emissions coming from Tasmania's cows
- Encourage more soil carbon sequestration projects under the [Australian Carbon Credit Unit](#) scheme
- Support an increased renewable electricity generation so that it can support all our needs now and into the future
- Support the production of affordable, sustainable and ethical clean fuels that can be used in hard-to-abate industry and heavy transport as a substitute for diesel and other fossil fuels.



Update prepared by the
**Tasmanian Policy
Exchange**

www.utas.edu.au/tpe