



**A journey towards
net zero emissions:
our action plan**

An update on progress - September 2024
Hydro Tasmania Group

Acknowledgement of Country

We pay respect to the rich, long and ongoing history of the Traditional Owners and Custodians and their connections to land, sea and community. The mountains, lakes and rivers that capture and channel water for hydropower are rich in Aboriginal history, culture and tradition.

We acknowledge the ongoing connection to culture and custodianship of the lands and waters of places we share. We pay our respect to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.



CEO update

In July 2023, we announced our ambitious plan to put the business on a pathway to net zero carbon emissions. Today, 12 months on, we've made important strides.

Thanks to the commitment of many staff across Hydro Tasmania, Momentum Energy and Entura, we are on track to achieve net zero reportable scope 1 and scope 2 emissions from 1 June 2025. And we are well advanced in our work to quantify our scope 3 emissions, which will support further emission reduction strategies.

Achieving net zero emissions is not an easy task for any business. As a renewable energy business that already has very low carbon emissions, offsetting is an important part of the plan, with emission reductions wherever possible.

Our work over the past year to implement our action plan includes:

- ✓ electrifying more of our vehicle fleet
- ✓ reducing the use of diesel on the Bass Strait Islands
- ✓ supporting Momentum Energy customers to electrify through a partnership with 'Goodbye Gas'
- ✓ identifying preferred offsetting projects, ready to commence offsetting from 1 June 2025.

'Renewable energy and sustainability are in Momentum's DNA. We're determined to support Australia's drive to net zero emissions by providing the education and products our customers, both large and small, need to help them reduce emissions'

Lisa Chiba
Managing Director, Momentum Energy

When we launched our action plan last year, we acknowledged that we did not yet have all the answers. What we do have, is a commitment to work diligently towards our net zero aspirations and to be transparent throughout the process. This updated plan reflects that commitment.

We recognise that in low inflow conditions such as those experienced recently, the use of the Tamar Valley Power Station may be necessary. While this can add to our own carbon footprint, gas-fired generation still has an important role to play in the renewable energy transition as a backup to variable renewable energy, such as wind and solar. Hydro Tasmania will continue to significantly contribute to accelerating the renewable energy transition and decarbonisation of the National Electricity Market (NEM).

We've also shone a light across the business, monitoring emissions, reviewing data, and looking for where we can improve practices.

I'm very proud of Hydro Tasmania's track record as the largest generator of renewable energy in the country. Through our work, we are not only reducing our own emissions but are providing a low-carbon source of fuel to help Tasmania and Australia achieve their net zero emission goals.

Ian Brooksbank
Chief Executive Officer

'Entura plays a unique role sharing expert skills and knowledge honed over a century on Tasmania's hydro schemes. We work in Australia and around the world helping communities to transition to renewable energy and reduce their carbon emissions'

Amanda Ashworth
Acting Managing Director, Entura



Climate solutions for a sustainable future

Our climate is changing

Human activities, such as burning fossil fuels and land use change, release greenhouse gases into our atmosphere. The consequences include increasing temperatures, sea level rise, ocean acidification, melting snow and ice, and changes in extreme events such as storms, floods, drought and bushfires.

The devastating bushfires and floods experienced by Australia over recent years are a timely reminder of why climate change requires urgent action.

Countries around the world have committed to climate change action

World leaders adopted the Paris Agreement in 2015. The Agreement set global targets to limit temperature rise to 2 °C above the pre-industrial era, with ambitions to limit temperature rise to 1.5 °C.

Since then, the world has started on a path towards decarbonisation.

The Tasmanian Government has legislated an emissions reduction target of net zero emissions, or lower, from 2030, while the Australian Government has committed to net zero emissions by 2050. It has also proposed a new national Net Zero Authority, responsible for promoting the orderly and positive economic transformation associated with achieving net zero emissions.

Our towards net zero emissions pathway supports the Tasmanian Government's emission reduction target and aligns with the state's climate change policies.

Renewable energy is critical for our clean energy transformation

Electricity generation from burning fossil fuels produces a significant proportion of the world's greenhouse gas emissions. In Australia, according to the CSIRO, the burning of fossil fuels produces 33.6% of our emissions. Replacing fossil fuels with renewable energy will play an important role in our energy transformation.

Hydro Tasmania's emissions are already very low but we can do more

Our first hydropower station was built more than a century ago and we now manage and maintain a portfolio of 30 hydro power stations, 54 large dams and one gas-fired power plant, as well as a joint venture partnership in three Tasmanian wind farms.

As Australia's largest generator of renewable energy, our emissions are already very low compared to other generators – at just 0.1% of the biggest carbon emitter in the sector according to a 2021-22 report by the **Clean Energy Regulator**. This is a great place to start. We are committed to better understanding and reducing our emissions, planning for the future and continuing to be part of Australia's climate solution.

Hydro Tasmania scope 1 and 2 greenhouse gas emissions

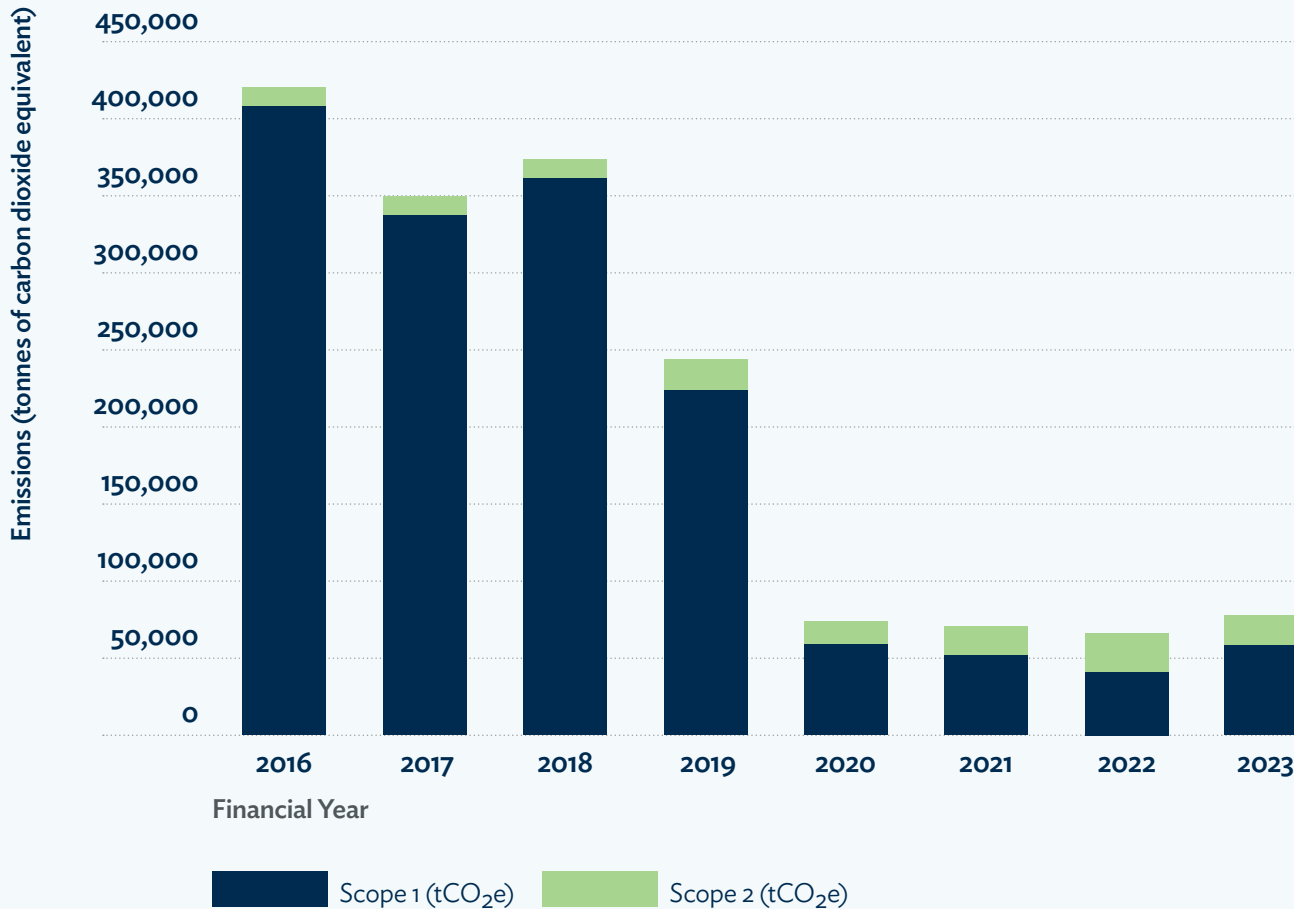


Figure 1. Hydro Tasmania’s annual reportable scope 1 and 2 emissions (tCO₂e) across all three businesses. (Data from Australian Government’s National Greenhouse and Energy Reporting (NGER) scheme Corporate emissions and energy data, 2022-23).

This graph shows the relatively high scope 1 and 2 emissions from 2016–19 driven by periods of extremely low rainfall and an extended outage of the Basslink interconnector (which transfers energy between Tasmania and the mainland). This meant an increase in the use of the gas-fired Tamar Valley Power Station (TVPS) was required. By 2020, we had replenished hydro storages and new wind farms came online, and Tasmania was able to proudly claim 100% net self-sufficiency in renewable energy. There was a small increase in emissions during 2023. This was following a thorough audit of our emissions accounting process which identified an additional emissions source.

Emission Sources

To reduce emissions, we need to know what they are and where they come from.

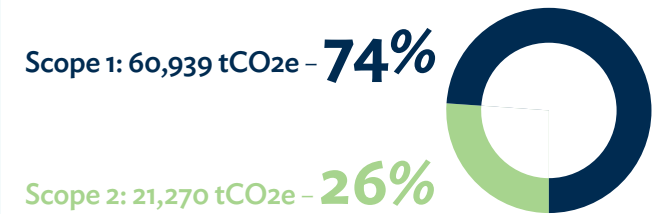


Figure 2. The proportion of Hydro Tasmania’s reportable scope 1 and 2 emissions (tCO₂e) for 2022-23.

What are scope 1, 2 and 3 emissions?

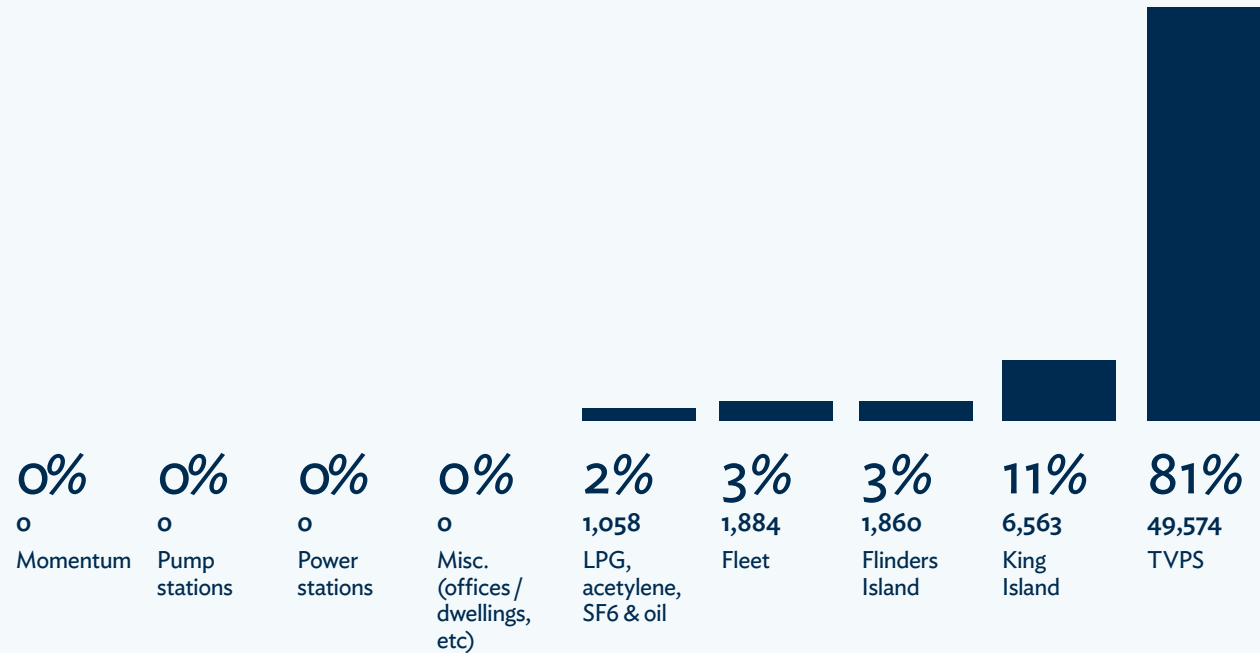
Scope 1 emissions: produced as a direct result of activities at a facility. For example: emissions from electricity production at a power station.

Scope 2 emissions: indirectly produced to power a company’s work. For example: emissions from electricity used to heat or cool a building.

Scope 3 emissions: indirect emissions produced when a company’s goods or services are used. For example: emissions from suppliers or customers.

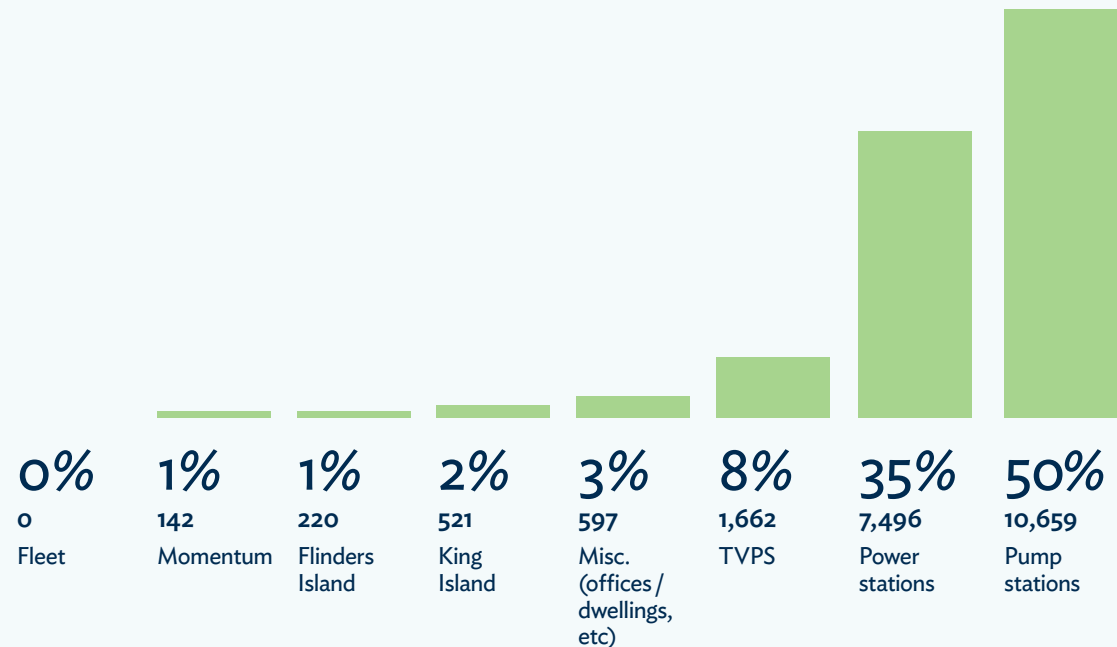
Hydro Tasmania's scope 1 emissions by source, 2022-23

Figure 3. The percentage contribution and tonnes of carbon dioxide equivalent (tCO₂e) from scope 1 emissions sources for 2023-23. (Data source: NGERs).



Hydro Tasmania's scope 2 emissions by source, 2022-23

Figure 4. The percentage contribution and tonnes of carbon dioxide equivalent (tCO₂e) from scope 2 emissions sources for 2023-23. (Data source: NGERs).



Towards our net zero emissions target

The Hydro Tasmania group is already one of the lowest carbon emitters in the Australian energy sector. But we can – and must – do more. Sustainability is part of our DNA. Our journey towards net zero emissions is the next step in our story, and our contribution to helping Tasmania, Australia and the world to limit global warming.

We are on track to achieve net zero reportable scope 1 and scope 2 emissions from 1 June 2025, and to quantify scope 3 emissions.

We will focus on reducing scope 1 and 2 emissions where practicable and offsetting the remaining emissions.

Our target also includes scope 3 emissions quantification. These emissions are not required to be reported under the NGER scheme, but they are important to understand and track if we are to truly move towards net zero emissions.



Our approach

We are adopting the following approach:



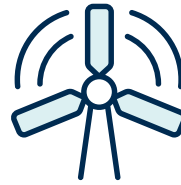
Action 1: Reduce the emissions we can

We are reducing our emissions by replacing our passenger vehicle fleet with electric vehicles, reducing reliance on diesel fuel (particularly in the Bass Strait Islands), increasing the generation of renewable energy through proposed new construction projects and enabling Australia's transition to renewable energy.



Action 2: Plan for change

We are quantifying and measuring scope 3 emissions and lake emissions, developing a scope 3 emissions reduction plan, assessing the development and optimisation of renewable infrastructure on the Bass Strait islands and identifying carbon reduction initiatives for our major new construction projects. We will plan for external factors that influence our emissions profile.



Action 3: Purchase renewable energy

We will reduce our remaining scope 2 emissions by purchasing renewable energy through Large-scale Generation Certificates or emerging renewable energy incentive schemes, such as the Renewable Energy Guarantee of Origin certificates when they become available.



Action 4: Offset our remaining emissions

We will offset our remaining reportable scope 1 emissions with projects that deliver emission reductions that are measurable, verifiable and long-term, prioritising Tasmanian offset projects.



Action 5: Build awareness and support others

We'll provide information, products and services to inform and empower our customers, clients and the community to help reduce power usage, increase energy efficiency and reduce greenhouse gas emissions.

Tracking our progress

Our target: From 1 June 2025, net zero scope 1 and 2 emissions and quantification and tracking of scope 3 emissions

2023

Setting our target and getting on with it



- ✓ First electric vehicles purchased
- ✓ King Island solar farm commissioned
- ✓ Start quantifying scope 3 emissions
- ✓ Ongoing lake emissions measurements and research
- ✓ Offset strategy developed
- ✓ Momentum Energy customer insights and tools

2024

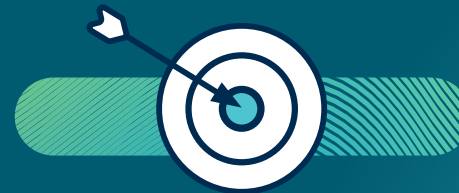
Delivering on our commitments



- Revamp King Island infrastructure and assess expansion feasibility
- Carbon reduction initiatives for major construction projects
- Investigate Tamar Valley Power Station future options
- Energy efficiency initiatives in buildings and facilities
- Offset tender finalised
- New energy efficiency products and services for Momentum Energy customers

2025

Initial target achieved



- Remaining reportable scope 1 and 2 emissions offset
- Scope 3 emissions quantified and reduction plan developed
- More electric vehicles and charging stations
- Electrification and gas transition plan developed for Momentum Energy customers

beyond 2025 ...

Setting the bar higher



- Goal for all passenger vehicles to be electric by 2030
- Implement scope 3 emissions reduction plan
- Momentum Energy continues electrification journey for customers
- Entura continues to expand its client services to help reduce emissions and energy usage

Roadmap actions towards net zero



Action 1: Reduce the emissions we can

We aim to reduce our greenhouse gas emissions at the source where we can. We are prioritising activities that lead to long-term emission reductions, meaning we will have fewer emissions to offset as we progress along our journey.

What we said we'd do:

Switch to electric vehicles

How we're tracking:

Our goal is to replace our fleet of almost 130 diesel passenger vehicles with electric vehicles by 2030 and build our own network of charging stations around the state. We now have 20 new electric vehicles and 10 charging stations at locations around the state to ensure maximum charging coverage for our EV fleet.





Action 1: Reduce the emissions we can



What we said we'd do:

Begin operation of the new King Island Solar Farm

How we're tracking:

The 1.5 megawatt Huxley Hill solar farm on King Island is now complete. Since commissioning in early 2024, it has produced about 10% of the island's demand and 7,000 KWh of energy. During particularly sunny periods, it is capable of supplying 100% of the island's demand. We expect the solar farm to reduce diesel consumption by about 30,000 litres and cut carbon emissions by about 800 tonnes each year.



What we said we'd do:

Upgrade King Island ageing assets

How we're tracking:

Plans to refurbish and replace ageing renewable and supporting infrastructure on King Island are well advanced. Built in 1998, the Huxley Hill wind farm was Hydro Tasmania's first wind farm and is one of the oldest in the country. A \$11.5 million upgrade is due to commence in late 2024. The three-year project includes the replacement of the nacelles and battery energy storage system, refurbishment of the blades, and minor remediation of several towers. We'll continue to investigate, assess and trial opportunities to increase renewable energy and reduce emissions on the King and Flinders Islands.



What we said we'd do:

Help Momentum Energy customers to understand their usage

How we're tracking:

Momentum Energy is educating customers on the important role renewable energy plays in tackling climate change and how the choices they make in their homes and businesses can make a difference. In mid-2023, Momentum launched 'Power Tools', a weekly email and personalised update that helps customers understand their electricity usage.



Action 2: Plan for change

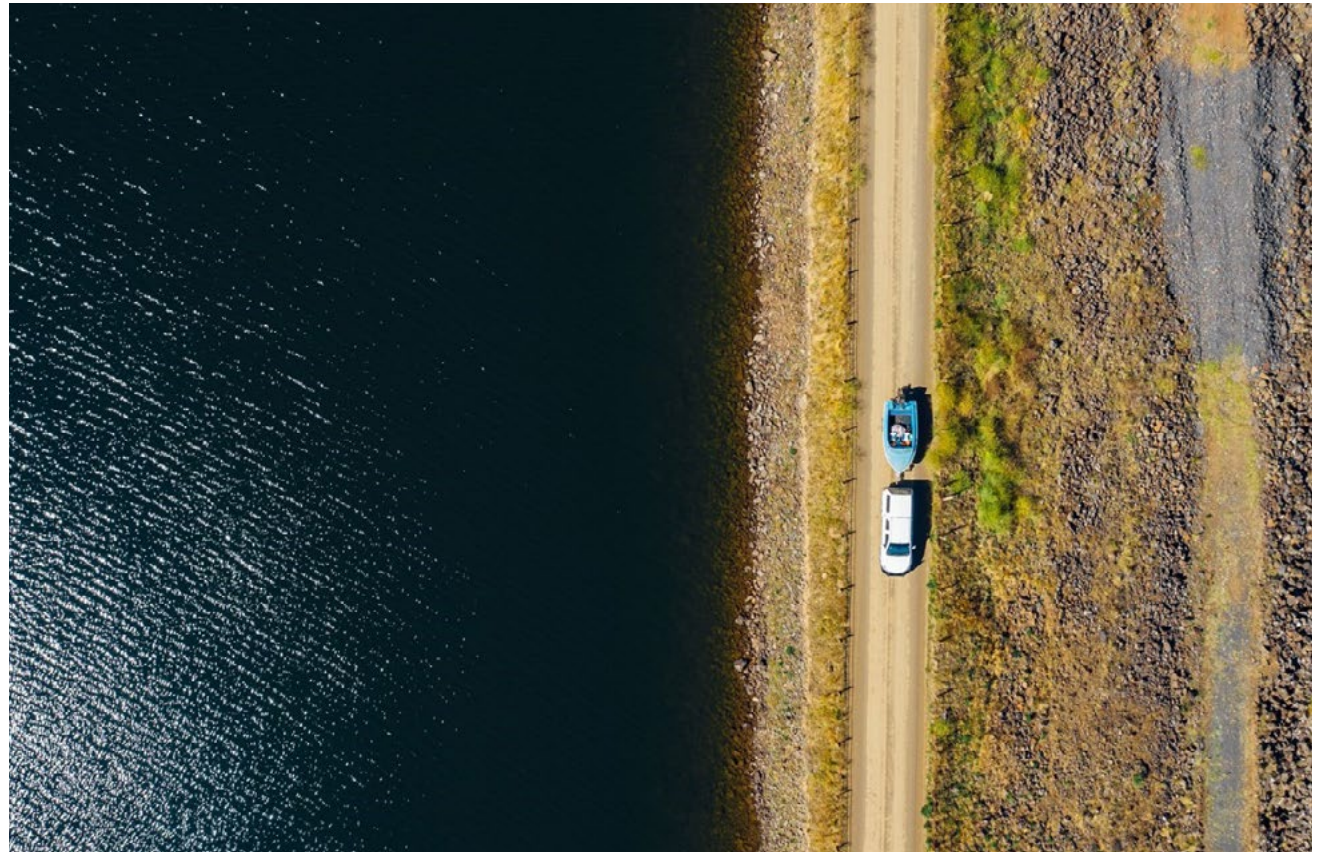
While we are starting from a very low emissions base, there is still a lot we can do to progress towards net zero emissions. We need to plan our next steps and identify new opportunities to reduce our greenhouse gas emissions further.

What we said we'd do:

Quantify our scope 3 emissions and plan for mitigation

How we're tracking:

Hydro Tasmania has engaged external consultants Northmore Gordon to prepare our scope 3 inventory in accordance with the Greenhouse Gas Protocol. We are on track to publish our scope 3 emissions by 1 June 2025.





Action 2: Plan for change



What we said we'd do:

Contribute to international research on lake emissions

How we're tracking:

Hydro Tasmania is supporting the Methane Measurement in Reservoirs Project. The project is a partnership between the International Hydropower Association, Université du Québec à Montréal, and BlueMethane. Lake Gordon has been selected as a reservoir as part of this global initiative to develop in-situ greenhouse gas measurements for reservoirs.



What we said we'd do:

Carbon reduction initiatives for major construction projects at Tarraleah and Cethana

How we're tracking:

We have assessed potential greenhouse emissions associated with the proposed re-development of the Tarraleah Hydro Scheme and for building pumped hydro at Lake Cethana. While both projects would incur emissions, it is important to note that they would also reduce emissions at a state and national level by increasing the availability of renewable energy. Carbon reduction plans are being incorporated into the requirements for construction partners, and we will continue to monitor and evaluate emissions and emissions reduction opportunities throughout the project development process.



Action 3: Purchase renewable energy

Our priority is to reduce our emissions where practicable. We will reduce our remaining scope 2 emissions by purchasing renewable energy through Large-scale Generation Certificates and other emerging renewable energy incentive schemes, such as the Renewable Energy Guarantee of Origin certificates when they become available.

What we said we'd do:

Purchase renewable energy to reduce our scope 2 emissions

How we're tracking:

As a leader in the Australian renewable energy industry, Hydro Tasmania is committed to managing our scope 2 emissions by ensuring that our electricity consumption is matched with renewable energy certificates.

We've adopted a **market-based accounting approach** for our scope 2 emissions. This approach is supported by the Clean Energy Regulator and aligns with current leading practice, market trends and industry leaders. The market-based accounting approach allows total electricity consumption to be reduced by the renewable electricity consumed by a company (megawatt hour) before applying an emissions factor to the residual grid-imported electricity. By matching each megawatt hour with a suitable renewable energy certificate, all of Hydro Tasmania's electricity consumption will be considered renewable and zero emissions.

Adopting a market-based approach promotes grid decarbonisation and enhances the value of renewable energy. We will use our Large-scale Generation Certificates (LGCs) or other credible renewable energy certificates, such as the Australian Government's proposed Renewable Energy Guarantees of Origin (REGO) scheme or internationally recognised International Renewable Energy Certificates (IRECs) produced from Tasmanian hydropower generation. Buying renewable energy is generally considered a better option than buying carbon offsets because it directly reduces the emissions released into the atmosphere. Adopting this approach demonstrates our commitment to environmental sustainability and supports the transition to a low-carbon economy.





Action 4: Offset our remaining emissions

We will offset our remaining scope 1 emissions with Australian Carbon Credit Units (ACCU) from projects that deliver additional, measurable, verifiable and long-term emission reductions. We will prioritise ACCUs from Tasmanian projects.

What we said we'd do:

Source carbon offset projects

How we're tracking:

Remaining reportable scope 1 emissions will be offset with ACCUs. In early 2024, we conducted a request for proposal to identify potential offset projects, prioritising ACCUs generated in Tasmania. We have now committed to purchase sufficient ACCUs to cover the forecast need for gas-fired generation in Tasmania from 1 June 2025. We are also negotiating with Tasmanian ACCU projects to offset our remaining emissions from our day-to-day operations.

Hydro Tasmania's offset strategy (market-based accounting)

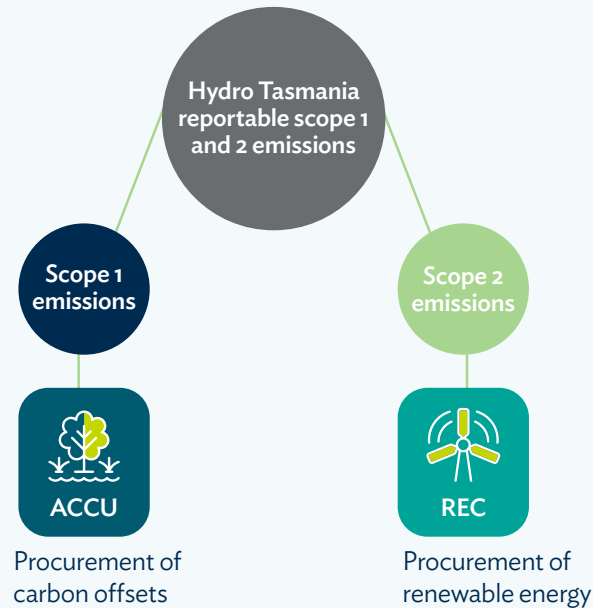
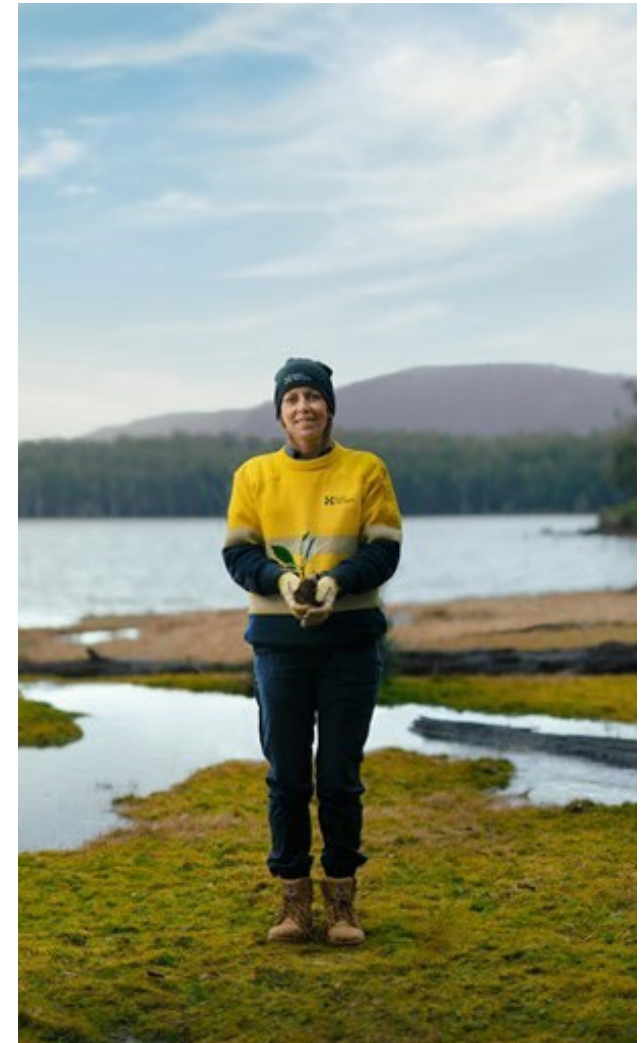


Figure 5. Our offset strategy to reduce and offset reportable emissions.





Action 4: Offset our remaining emissions

What we said we'd do:

Annual review of offset strategy and reporting

How we're tracking:

Through ongoing reviews, Hydro Tasmania has identified the key sources of emissions and is tracking emissions on a regular basis. We are creating a tool to continuously monitor and report on emissions to enable better management, reduction and offsetting where required. By splitting our offset strategy into three parts (scope 1 – gas-fired generation, scope 1 – other, and scope 2), we have been able to develop a tailored response. Each emissions set will be monitored and offset on a monthly basis.

Hydro Tasmania will report our emissions according to the emissions reporting requirements of the Australian Sustainability Standard – Disclosure of Climate-related Financial Information.





Action 5: Build awareness and support others

We will support, inform and empower our customers, clients and the community to decrease power usage and increase energy efficiency, ultimately helping to reduce greenhouse gas emissions.

What we said we'd do:

Support and seed the Tasmanian offset industry

How we're tracking:

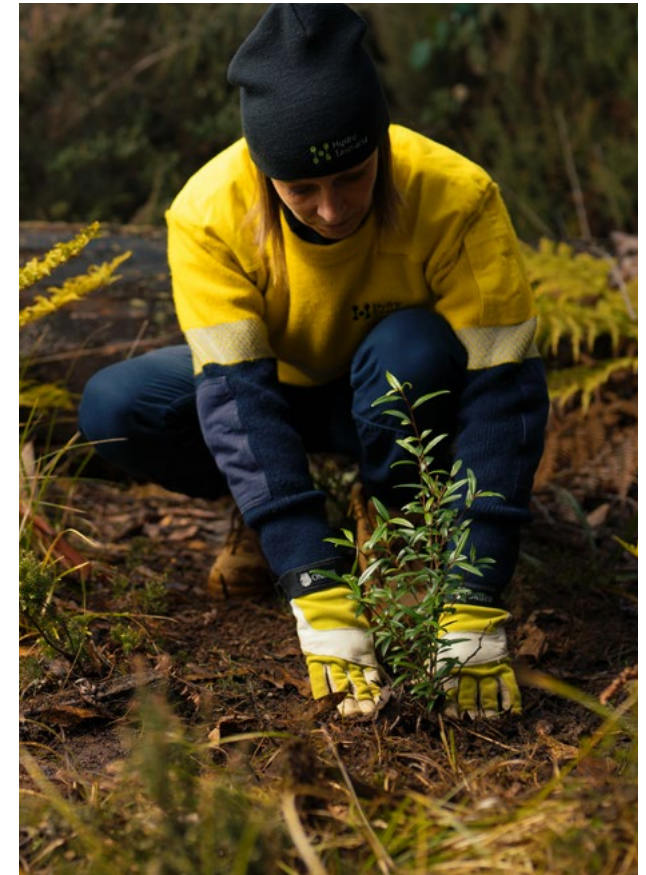
Hydro Tasmania has undertaken an extensive request for proposals to find the best projects to provide offsets for our remaining emissions. Through this process, we have already committed to procuring sufficient ACCUs to offset the forecast operation of gas-fired generation in Tasmania, and have identified options to support Tasmanian projects. We are also negotiating directly with providers to source our baseline emissions offsets from Tasmanian ACCU producers.

What we said we'd do:

Support Momentum Energy customers

How we're tracking:

We've partnered with some of Australia's key providers of energy services to support our customers on their journey towards net zero emissions. By helping customers electrify their homes and supporting their EV journey and solar and battery installation, we are continuing to find new solutions that fit the needs of our customers. We've also partnered with organisations such as The Design Files and The New Joneses to create content to help educate our customers about the energy transition and the part they can play.





Action 5: Build awareness and support others



What we said we'd do:

Ensure clients align with sustainability goals

How we're tracking:

As part of Entura's commitment to sustainability, all clients, partners and infrastructure projects are screened to evaluate them against sustainability principles. This screening ensures Entura helps clients who contribute positively to national and international action to improve sustainability and progress the transition to renewable energy.

What we said we'd do:

Encourage other renewable and low-emission initiatives in Tasmania

How we're tracking:

As leaders in renewable energy generation, we strongly encourage others in Tasmania and Australia to start (or accelerate) towards their net zero emissions ambitions. We'll assist wherever possible, share information, and communicate transparently about our own challenges and successes. By encouraging Tasmania's low-emission and renewable future, we're supporting the decarbonisation of our economy and strengthening Tasmania's reputation as a great place to live and do business.

Our challenges

As Australia's largest generator of renewable energy, we already have a low emissions profile. But we can – and must – do more.

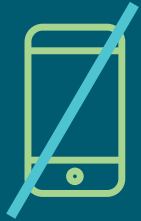
For more than a century, Tasmanians have relied on our hydropower to grow and support the state's communities and economy. We've led clean energy innovation in Australia – building 54 major dams, 30 hydropower stations and 2 major wind farms. We offer world-leading consulting services through our consulting business, Entura, as well as retail energy to customers on mainland Australia through Momentum.

The Hydro Tasmania group has the skills, experience and passion to help create an energy future that's clean, reliable and affordable. But we know there will be challenges along the way.

With more than 90% of the energy we generate coming from renewable sources, we already have a very low emissions profile. This makes reducing our remaining emissions harder.

While our action plan reflects what we can do, we also need to look at our key challenges. Our key challenges include the lack of quantification methodology for scope 3 and lake emissions, emissions from the Tamar Valley Power Station and pump stations, and reducing Momentum Energy's scope 3 emissions.





Lack of quantification methodology for scope 3 and lake emissions

The lack of consistent methodology for quantifying scope 3 and lake emissions is an ongoing challenge for Hydro Tasmania and other energy companies. We're participating in national and international research to better understand and quantify lake emissions, but it takes time. Quantifying these emissions will be critical for identifying the best actions to mitigate them as part of our journey towards net zero emissions.



Emissions from the Tamar Valley Power Station and pump stations

The Tamar Valley Power Station is our largest source of scope 1 emissions and the way we manage this asset in future will be an important factor for us to consider. It is also an important consideration in Tasmania's overall energy transition and timing of new renewable energy projects, new customer loads and additional interconnection.

Pump stations are core infrastructure that transfer water between some of our lakes and streams to the power stations to produce renewable energy but they contribute significantly to our scope 2 emissions.

Given the critical nature of this infrastructure, these emissions will be offset while we develop longer-term strategies to directly reduce emissions.



Reducing Momentum Energy's scope 3 emissions

We have not yet fully quantified our scope 3 emissions, but we know that all energy retailers have relatively high scope 3 emissions due to the contribution of fossil fuels to Australia's energy supply until it decarbonises. The push to decarbonise the energy market in Australia and internationally will result in continued declines in scope 3 emissions. Momentum Energy will continue to support its customers on their decarbonisation journey.



Looking to the future

We have set an ambitious and achievable path to 2025 and beyond. We don't yet have all the answers and we recognise that a lot may change, not just within our businesses but within the broader energy market.

Hydro Tasmania aims to accelerate the renewable energy transition and create renewable energy for future generations. The target and actions set out in this document are the first steps along our journey. We will strive to go even further.

It will be critical to keep an eye on the changing market conditions and adjust our action plan as needed along the way. Rigorous and transparent monitoring and reporting on progress are key to any net zero target or journey – and ours is no different.

We commit to:

- ✓ tracking and reporting our greenhouse gas emissions
- ✓ reporting our carbon emissions under the Climate Related Financial Disclosures Standard
- ✓ communicating openly on our progress, challenges and solutions.

Our journey towards net zero emissions is one we promise to pursue with passion and commitment.



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