Greenhouse Gas Emissions Reduction Strategic Plan

2022 – 2030

UNIVERSITY *of* **TASMANIA**

Version	Date	Author	Revision
1.0	April 2022	Sustainability	Released version
1.1	June 2023	Sustainability	Net-zero target updated

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Glossary

Carbon	In this document, carbon refers to all greenhouse gases included in the Kyoto Protocol.
Carbon neutrality	Carbon neutrality is achieved when greenhouse gas emissions are reduced where possible and the remainder emissions are compensated by investing in carbon offset projects from activities that: prevent emissions from being released into the atmosphere; reduce the amount of emissions being released into the atmosphere; or remove emissions that are already in the atmosphere (carbon sequestration).
Climate Active	Climate Active is the only government accredited carbon neutral certification scheme in Australia. The Climate Active initiative and Climate Active Carbon Neutral Standard supports and guides businesses as they account for and reduce carbon emissions.
Climate adaptation	The process of adjustment to actual or expected climate change and its effects to live with and minimise destruction and suffering.
Climate emergency	A situation in which urgent action is required to reduce or halt climate change and avoid irreversible environmental and socio-economic damage resulting from it. In this respect, responding to the climate emergency requires the urgent real-world application of mitigation and adaptation thinking, policies, and technology (climate action). In other words, it entails a response of scale and urgency proportionate to the reality that climate change is the greatest threat currently faced by society and the planet.
Climate justice	Recognition of the severity, complexity, disproportionate impacts of, and responsibilities for, the climate crisis and the impacts on the ability of human communities and natural systems to respond.
Climate positive	Going beyond achieving net-zero carbon emissions to create an environmental benefit by removing additional carbon dioxide from the atmosphere. This means having a negative amount of carbon emissions and positively impacting the climate.

Climate resiliency	An ongoing process of diverse, interconnected relationships and processes that activate and build up resilience-enhancing capacities within and across a community.
CO_2-e	Carbon dioxide equivalent. A measure that allows comparison of the emissions of other GHGs relative to one unit of CO_2, that is, their global warming potential (GWP) over 100-year period.
Divestment	The removal of investment capital from stocks, bonds, funds, and other financial instruments connected to companies involved in extracting fossil fuels.
EFTSL	Equivalent full time student load
ESD	Environmentally Sustainable Design
ERSP	Emissions Reduction Strategic Plan
GHG	Greenhouse gas (e.g., methane, carbon dioxide, nitrous oxide)
GWP	Global Warming Potential over 100-year period
ISD	Infrastructure Services and Development
KPI	Key performance indicator
Net negative	A situation wherein more greenhouse gases are removed from the atmosphere than are emitted into it. Net-negative status is part of a climate-positive approach, as described above.
Net zero	'Net-zero' emissions are achieved when the amount of greenhouse gases being emitted into the atmosphere is balanced by the amount being taken out (sequestered), typically measured on an annual basis.
Scope 1 emissions	Direct emissions produced from sources within the boundary of an organisation and because of that organisation's activities.
Scope 2 emissions	Indirect emissions associated with a purchased energy product (e.g., electricity).
Scope 3 emissions	Indirect emissions generated in the wider economy because of an organisation's activities, but physically produced by the activities of another organisation.
SIPS	Sustainability Integration Program for Students
UTAS	University of Tasmania

Executive summary

One of the greatest challenges facing humanity and the natural world is the climate emergency and the required global response to keep warming below 1.5C through rapid decarbonisation of our economies, societies, communities, organisations, and individual lives.

The University of Tasmania has a lead role to play in these required responses at all levels. We are already a significant contributor to climate change research both within the Intergovernmental Panel on Climate Change (IPCC) process as well as other efforts supporting mitigation and adaptation. We achieved carbon neutral certification in 2016 and are one of only two certified carbon neutral universities in Australasia and a handful globally, meaning that we include all material emissions from our activities in line with the greenhouse gas protocols as part of the Australian Government's Climate Active Program. We have also achieved full divestment from fossil fuels in our direct and managed investment portfolios by 2021, coupled with a positive screen for investments that support the United Nations Sustainable Development Goals.

The University has focused efforts on reducing emissions for over a decade, with specific actions in transport, energy, and waste. We are now taking the next step and presenting detailed actions across all our material emission sources in this Emissions Reduction Strategic Plan (ERSP). Target ranges have been set for each emission source that will support delivery of an overall gross emissions reduction target of a minimum 50% by 2030.

The actions identified in this ERSP require a whole of institution focus and support at all levels from individuals to Colleges and Divisions. Specific enablers in governance structures and implements, data and emission factors availability, an internal price on carbon, and effective engagement and outreach efforts support achieving our goals.

Introduction

We are facing a climate emergency that demands urgent global and local action.

The recently published Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) highlighted the magnitude and seriousness of the challenge ahead. According to the IPCC, warming of the planet is on track to exceed 3°C on average – with some regions likely to experience greater levels of warming – and will experience increased 'frequency and intensity of heat extremes and heavy precipitation and droughts in some regions.[1] The IPCC report also found that climate change is unequivocally caused by humans and is already having a profound impact on the environment and society.

The need for aggressive climate action is clear and compelling. While confronting, this is a challenge that we must embrace with a sense of hope rather than despair. The IPCC finds that concerted aggressive action that results in cumulative global CO_2-e emissions peaking by 2040 can reduce climate impacts and help avert social and ecological catastrophe.

The need for urgent global evidence-based action in the face of a catastrophic climate future has led countless governments, communities, and organisations (including the University of Tasmania) to declare a climate emergency. The radical climate action the world needs is possible and there may be no better place in the world where that can be demonstrated than here in Tasmania.

Tasmanian context

On 13 October 2021, the Tasmanian Government released a draft of the next proposed Climate Change Act. The headline commitment to be legislated in the new Act is to achieve net-zero carbon emissions by 2030. The Government's draft Climate Change Act makes a clear commitment to

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[1] Intergovernmental Panel on Climate Change (2021). *Climate Change 2021: The Physical Science Basis - Summary for Policymakers*, Working Group 1 contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, https://www.ipcc.ch/report/ar6/wg1/

maintaining Tasmania's world-leading emissions profile into the future while acknowledging that this will require significant emissions cuts across the Tasmanian economy to 2030 and beyond. The Act also provides the foundations for a systematic approach to climate action in Tasmania.

Examples of climate action undertaken by the State Government include commitment to electrification of the government vehicle fleet, supporting deployment of an electric vehicle charging network, setting a 200% renewable energy target, piloting methods for decarbonizing public transport (e.g., Metro Tasmania trials of electric and hydrogen powered buses), and supporting a statewide waste management approach to reduce waste-related emissions.

The communities in which the University has campuses have also been leading in emissions reduction activities for over a decade, especially the City of Hobart, Tasmania's capital.

The University of Tasmania context

The University of Tasmania (UTAS) aims to be place-based, but globally connected and excellent, right-sized, and responsive, to have a regionally networked model designed to deliver quality and access to higher education for the whole state, and to highlight the importance of a people-centred approach of collaborating with each other to deliver our mission.

The University is committed to operating and focusing on sustainable outcomes for ourselves, our surrounding communities, and the world. While respecting the traditional owners and their deep history with these lands and waters, we will strive to act in the best interests of not only the current generation but generations yet to come. We holistically embed this in the ethos of our operating model, our teaching, learning and research activities, and through engagement with our partners and stakeholders.

"The University of Tasmania recognises the responsibility that it holds within the Tasmanian community to lead in response to the realities of climate change."

Public Disclosure Statement, Climate Active
Carbon Neutral certification 2020

In accordance with the University of Tasmania Sustainability Policy, the University is committed to the incorporation of inclusive and equitable sustainability principles and practices in, and informed by, its governance, teaching, research, community engagement and operations. The University's Strategic Framework for Sustainability expands on this commitment and provides an essential foundation for the University to undertake a holistic approach to sustainability.

As part of its commitment to sustainability, the University of Tasmania is deeply committed to climate action in all its activities and operations, from its internationally recognised climate research and teaching through to collaborating with communities and industry on responding to climate-related risks while developing and promoting low- and zero-carbon innovations, technologies, and lifestyles.

In recognition of the urgency of the climate crisis and the need to limit warming to 1.5C[2], the University of Tasmania is committed to support development of a zero-carbon economy, as demonstrated by:

- Being carbon neutral certified by the Commonwealth Climate Action Carbon Neutral Standard since 2016. To achieve carbon neutral certification, entities must:
    - Measure and reduce emissions where possible
    - Offset remaining emissions
    - Publicly report on their carbon neutrality
    - Undertake independent validation (i.e., audit or verification)
- Becoming an International Universities Climate Alliance member in 2020.
- Achieving full divestment from fossil fuels in 2021.
- Leading national research and development efforts to promulgate carbon storage in the agricultural sector, such as the Carbon Storage Partnership.
- Joining Race to Zero (previously Global Climate Letter for Universities and Colleges) in 2021, which commits the University to:
    - Pledge: having a 2050 or sooner net zero target.
    - Plan: explain what steps will be taken toward achieving net zero.
    - Proceed: taking action towards net zero.
    - Publish: commit to report progress annually.

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[2] https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/

Additionally, UTAS reports its greenhouse gas emissions under the *National Greenhouse and Energy Reporting (*NGER*) Act 2007*, and the Tertiary Education Facilities Management Association (TEFMA) benchmarking survey.

Co-benefits to climate action and risk management

While impactful action on the climate crisis is critical to improving UTAS' contribution to GHG emissions reduction, there are many other benefits to UTAS and our communities, including:

- Building on UTAS' internationally recognised reputation and leadership in climate action and sustainability in operations and research both within and beyond the higher education sector.
- Sharing and amplifying UTAS' place-based climate research and solutions that help accelerate climate action at a local, regional, and global scale.
- Meeting UTAS students, staff, and the broader community expectations with regard to climate action leadership, which is backed up by several whole of UTAS community sustainability surveys that found increasing support for being certified carbon neutral (in 2020, 89.2% of students and 95% of staff) and fossil fuel divestment (in 2020, 78% of students and 87% of staff) and 90% of staff supporting development of this plan.
- Leveraging student and staff-led applied research using the campus as a living laboratory.
- Supporting sustainability challenges within the institution and capitalising on teaching, learning, and research opportunities.
- Leveraging innovation, research, and development at UTAS with industry and business partners, including:
  - Contributing to livestock herd management through enteric fermentation reduction methods (e.g., feed additives).
  - The Carbon Storage Partnership that aims through research and development to achieve a carbon neutral livestock sector for Australia by 2030.
  - Renewable fuels (e.g., electricity, hydrogen, biofuels).
  - Land restoration initiatives that deliver biodiversity protection and enhancement including planting trees and shelter belts on farms (thus contributing to the National 1 Billion Trees target) and riparian restoration and biodiversity preservation through protection of native and endangered Tasmanian grasslands.

- Supporting pursuit of external funding and investments into University infrastructure priorities (e.g., green bonds and loans).
- Increasing resiliency, capacity, and diversification of UTAS' energy infrastructure and built infrastructure in the face of the climate crisis.
- Future-proofing UTAS' buildings to the impacts of the climate crisis, including passive measures and whole systems infrastructure.
- Contributing to the Tasmanian Government's goals of transitioning to a low carbon economy, net zero emissions by 2030, 200% renewable energy by 2040 for on-island demand, electrification of transport, minimisation of waste to landfill (especially organics and recyclables) and reduced reliance on fuel imports.
- Leveraging external funding and partnerships to advance key research and innovation priorities by UTAS.
- Mitigating UTAS' exposure to future volatility in conventional energy costs and supply chains.
- Protecting UTAS against the increasing costs of carbon offsets and preparing for the possibility of internal carbon pricing re-introduction.
- Complementing and building on existing brand and profile and aligning with work being conducted by Brand Tasmania.
- Strengthening the UTAS community's resilience and sense of individual and collective agency by equipping/supporting community members to act on the climate crisis.
- Increasing UTAS' overall community resilience, health, and wellbeing (e.g., through increased uptake of active and other sustainable transport modes, reduced air pollution and congestion).

These co-benefits will be considered alongside technical and financial risks, and other criteria when assessing future investments in our ERSP priorities.

Opportunities for Tasmania

Pursuing and achieving carbon neutral certification has helped clarify our emissions sources, thus helping us focus on areas with the greatest impact for emissions reduction. The University sees opportunity for the State Government itself to consider becoming certified carbon neutral and support the Local Government Association of Tasmania to, in turn, support local governments to achieve the same. This would set examples for private businesses and upskilling the Tasmanian workforce in carbon accounting,

planning and management. In addition, such an effort could focus support on developing and supporting Tasmanian-based offsets through development of a Tasmanian offset industry using land and water based approaches as well as energy (production and efficiency), and processes.

Emissions baseline data

Figure 1 depicts the three scopes of greenhouse gas emissions and examples of sources within each scope.
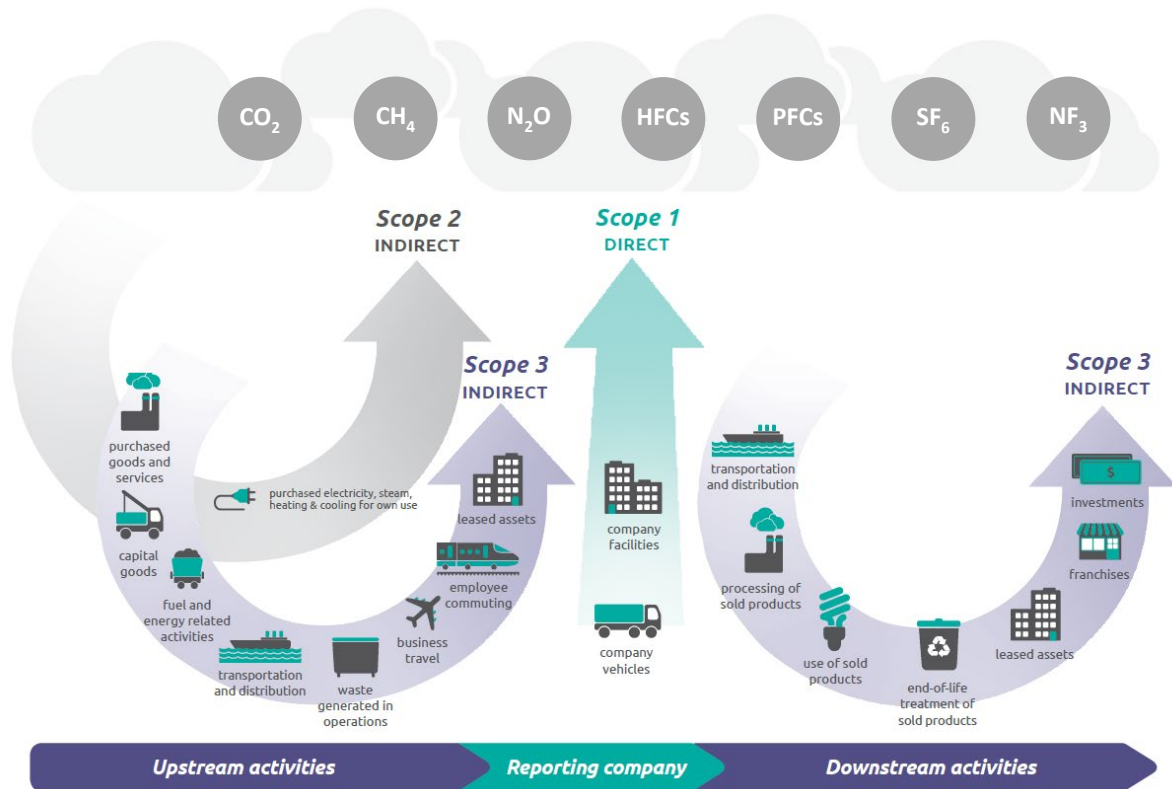
Figure 1. *Greenhouse gas scopes and categories of emissions (source: https://www.fourkites.com/blogs/what-are-scope-3-emissions)*

Figure 2 shows the University's carbon footprint and therefore offsets purchased as reported to Climate Active for carbon neutral certification since 2015, which is used as the baseline year.
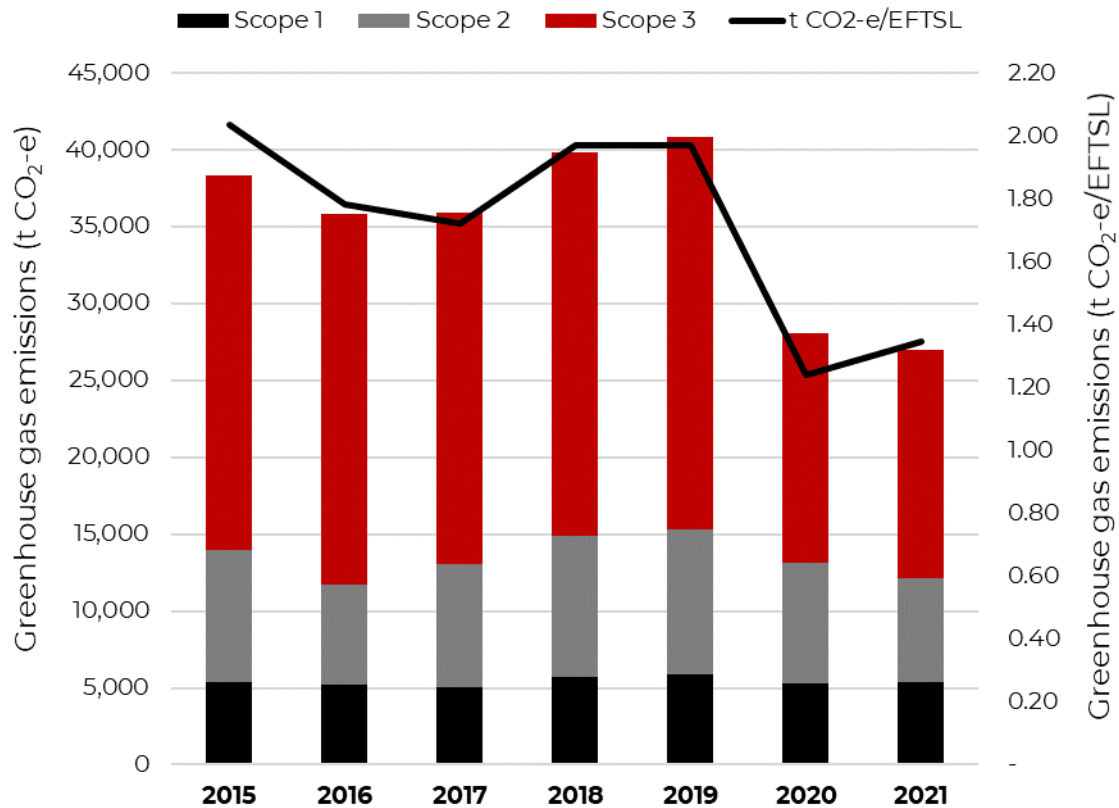
Figure 2. *UTAS historical GHG emissions by scope and per EFTSL (Australian-based students only)*

Emissions reduction initiatives to date

Various University policies, strategies and action plans have already included principles, objectives, targets, and actions that aim to reduce the University's greenhouse gas emissions. These are all available from the University's sustainability webpage (www.utas.edu.au/sustainability).

- Strategic Framework for Sustainability: A university committed to sustainability in its facilities and operations management as a part of a broader coverage.
- Energy Strategic Plan (2018-2022): To improve energy security and reduce all forms of energy use, reduce costs, and reduce carbon emissions.
- **Sustainable Transport Strategy** (2012-2016; 2017-2021; 2022-2032): To reduce greenhouse gas emissions from university transport sources and work towards transport carbon neutrality.
- Waste Minimisation Action Plan (2021-2025): To minimize carbon emissions associated with the production and management of waste.

- Treasury and Investment Policy: The University's investment decisions will be governed by a negative fossil fuel screen and a positive screen that considers the United Nations Sustainable Development Goals.
- Risk Appetite Statements: High appetite for making sustainability central to new building design, and for being a carbon neutral operation which minimises emissions over time, as well as a moderate appetite to align procurement and waste management to maximise environmental outcomes.
- Sustainability Engagement Plan: To enable activities that align with the strategic goals for the year around increasing sustainable transport behaviour, zero waste to landfill (including plastics minimisation), improving energy efficiency and sustainable food systems. Climate resilience being a focus for all four goals.

Examples of emission reduction efforts since 2006 include:
- Electrode boiler, diesel, and LPG fuel source replacement with natural gas at various facilities, as well as energy performance contracts, building management and control systems upgrades. This action reduced the University's greenhouse gas emissions by a total of 2,540 t CO_2-e between 2006 and 2015.
- Installation of photovoltaic generation on UTAS facilities avoided the emission of 105 t CO_2-e between 2012 and 2019.
- Implementation of sustainable transport initiatives from the UTAS Sustainable Transport Strategy that have led to an estimated reduction of ~1,000 t CO_2-e from staff commuting based on comparison of the 2015 and 2019 results of the biennial UTAS Travel Behaviour Survey.
- Procurement of carbon neutral certified paper between 2013 and 2017 led to an overall reduction in greenhouse gas emissions of 544 t CO_2-e.
- Reduction of office paper use derived from the implementation of an online Shared Services forms and approvals solution and deployment of a new On-site Managed Print Service (OMPS). This has led to a 2019 reduction in greenhouse gas emissions of 22 t CO_2-e.
- Implementation of standard ITS hardware bundles that are less material intensive in 2021.
- More than 32% reduction in embodied carbon compared to a 'Standard Practice' building (based on energy efficiency requirements of the National

Construction Code 2019 Section J) for the Rivers Edge and Willis Street building designs and construction at Inveresk.

- Waste management initiatives, including:
  - Re-use Program. This is an online system for the cataloguing and claiming of re-usable furniture and other items. The program avoided (overall) emissions of 220 t CO_2-e between 2016 and 2021.
  - Established e-waste approach.
  - Rollout of organic waste bins and recycling walls across all campuses in 2020-2021.

The development of this Emissions Reduction Strategic Plan (ERSP) is the next step in the University's climate action journey. It is also a requirement of our continuing commitment to certified carbon neutrality by the Climate Active Carbon Neutral Standard.

Strategic Plan overview

As the inaugural Emissions Reduction Strategic Plan (ERSP) of the University of Tasmania, this document provides the collective climate actions required to support informed and strategic decisions to reduce GHG emissions across all three emission scope categories. The decisions will be made in awareness of the need to consider climate adaptation, increase climate resiliency, address climate justice issues at the University, and work for a climate positive future.

Our overall emissions reduction strategy objectives are captured in Figure 3 and include:

1. Provide clear and publicly available data on our carbon emissions to enable effective planning, decision making, and accountability.
2. Set goals and deliver an ambitious plan for carbon reduction that are ahead of current global standards, so we are a model for how to transition our society and economy to a low to zero carbon basis.
3. Use an internal carbon price based on our cost of creating offsets to drive down residual carbon generating activity.
4. Create our own offsets in Tasmania so that we capture the benefits of the transition locally.
5. Share our progress and learning to support others in the transition.

While some actions in this ERSP are already underway, or about to start, others require further scoping to implement fully. Through our strategic investment decisions in high impact climate action areas over the past five years and the commitments in this ERSP, UTAS has sought to leverage institutional, operational, and intellectual capacities and partnerships to take a decisive leadership role for the higher education sector and the Tasmanian community. These investments provide a platform to enhance teaching, learning, and research, attract and retain staff and students, and ensure UTAS continues to be a role model.

Figure 3. *Holistic approach to emissions reduction on an annual cycle for certification*

Scope

This ERSP uses the Climate Active Carbon Neutral Certification Standard as a guide for operational and organisational boundaries.

The emissions of all greenhouse gases included in the Kyoto Protocol (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride) are included in this ERSP, as well as all scope 1, 2 and 3 emissions sources reported to Climate Active. Inclusion of scope 3 emissions are critical given they often make up more than half of an organisation's emissions.

All the University's Australian campuses and facilities (Figure 4) are included in the Strategic Plan.

Figure 4. *University of Tasmania campuses*

The University is well-advanced on a major transformation that involves the relocation of Tasmanian campuses to the three major regional cities as well as major building upgrades to our Sydney campus. The transformation involves an increase in construction and renovation activity. Although buildings are being and will be constructed and renovated with sustainability at the fore (including a target of >20% embodied carbon reduction in construction materials, inclusion of renewable energy, and focus on energy efficiency, water efficiency, sustainable transport, and circular economy). This will result in a temporary additional footprint within the targeted carbon emissions and presents a major challenge in demonstrating an on-going reduction in emissions for the duration of this ERSP.

Strategic Plan development

As a foundation to developing the ERSP, a series of university community consultation sessions were conducted. An online whiteboard was available for staff and students to add their contributions following a university-wide panel session on climate change, climate action and sustainability conducted in September 2021. In addition, a series of open invite workshops were conducted in October 2021. Participants discussed potential emissions reduction actions and explored solutions for all the University's emission sources reported under the Climate Active Carbon Neutral Standard. Consultation resulted in 210 contributions and 177 unique ideas that were considered for inclusion in the ERSP (Table 1).

Table 1. *Number of contributions and unique ideas per emission source resulting from consultation workshops and online whiteboard (the latter marked with an asterisk)*

	Emissions source	Contributions	Unique ideas
Workshop 1: Built Environment	Natural gas	8	8
	Electricity *	19	16
	Construction *	8	6
	Refrigerant gases	6	5
Workshop 2: Transport and Travel	Transport fuels *	14	10
	Air travel *	12	10
	Staff commuting *	28	22
Workshop 3: Waste, water, and other resources	Waste to landfill *	46	37
	Water and wastewater	14	11
	Washroom paper	5	5
	Office paper	4	3
	Other procurement	10	9
Workshop 4: ICT and Services	Catering	14	14
	Cleaning	5	5
	Security	7	6
	IT hardware *	10	10
		210	**177**

The University has a long record in focusing on emissions minimisation and reduction since 2006, with specific inclusion into strategies from 2012 and culminating in the development of this ERSP in 2021/22 (Figure 5). Specific actions from existing strategies relating to emissions reduction are included in the Strategic Actions section within the ERSP to ensure a holistic understanding and approach.

Sustainability Integration Program for Students (SIPS) internship projects have focused on exploring emissions reduction approaches, collecting data, and applying methodologies for emissions calculations. These projects and reports have also supported development of this ERSP.

Based on the efforts noted above, targeted discussions with relevant stakeholders were then organised to determine feasible emissions reduction initiatives, key performance indicators and, where applicable, achievable SMART targets.

Development of the ERSP actions has considered the principles of climate justice as particularly relevant when developing climate actions related to food systems, commuting and business air travel. These actions are designed to align with embedding wellbeing, community resilience, equity, and diversity across university systems and structures, such as the UTAS Mental Health and Wellbeing Framework, Pathway Programs, and the Strategic Plan for Aboriginal Engagement. This approach is ongoing and achieves significant co-benefits across many ERSP emission sources, particularly those related to scope 3 emissions.
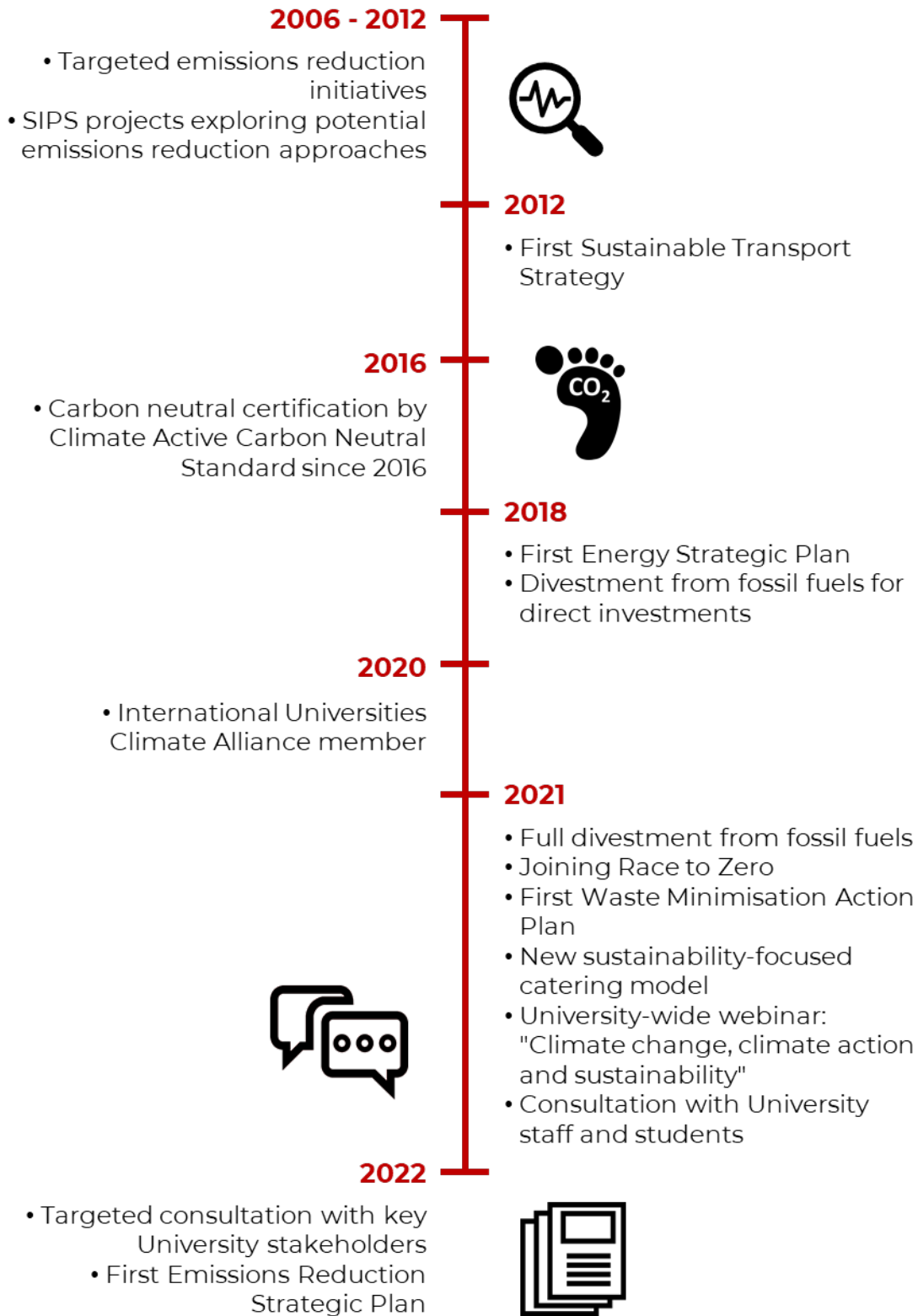
2006 - 2012
- Targeted emissions reduction initiatives
- SIPS projects exploring potential emissions reduction approaches

2012
- First Sustainable Transport Strategy

2016
- Carbon neutral certification by Climate Active Carbon Neutral Standard since 2016

2018
- First Energy Strategic Plan
- Divestment from fossil fuels for direct investments

2020
- International Universities Climate Alliance member

2021
- Full divestment from fossil fuels
- Joining Race to Zero
- First Waste Minimisation Action Plan
- New sustainability-focused catering model
- University-wide webinar: "Climate change, climate action and sustainability"
- Consultation with University staff and students

2022
- Targeted consultation with key University stakeholders
- First Emissions Reduction Strategic Plan

Figure 5. *Climate action and ERSP development timeline.*

Lessons from the COVID-19 pandemic

Drafting the ERSP started during the COVID-19 pandemic. The impacts of COVID-19 heightened awareness and possibilities of and requirements to do things differently. Reflections include leveraging learning from remote working and online class delivery, ensuring flexibility and support remain in place to support student and staff well-being, and optimising the use of space to reduce energy, GHG emissions, and associated costs. Specific lessons and actions are referenced in the relevant sections below.

With online classes and a significant reduction of on-campus activities during 2020 and 2021, the pandemic also had an impact on UTAS' GHG emissions. Despite this, the pandemic has had minor impact on the analysis presented in this plan as most findings are based on the data collected in pre-pandemic periods. Moving forward, the impacts of the COVID-19 pandemic on campus travel patterns, air travel, and the other issues and opportunities it presents for the near future, will be monitored through the ERSP implementation process.

Target

This Emissions Reduction Strategic Plan sets out how the University will accelerate and broaden climate action to address carbon emissions from all three emission scopes. Our efforts are guided by the 1.5°C Paris Target (IPCC pathway) that requires a global net anthropogenic GHG reduction of 45% by 2030 and reaching net zero before 2050. As set out above, the UTAS objective is to set goals and deliver an ambitious plan for carbon reduction that are ahead of current global standards, so that we are a model for how to transition our society and economy to a low to zero carbon basis.

Thus, **our implementation plan will reduce gross emissions by at least 50% by 2030** from a 2015 baseline year.

By 2025, the University will also achieve net (and below)-zero emissions using the Climate Active Standard by combining the ambitious emissions reduction actions in this document with carbon removal from the atmosphere (sequestration) on UTAS and other properties. In addition, these self-generated carbon sequestration offsets will integrate UTAS research and teaching activities.

Implementation

ERSP implementation will continue to demonstrate UTAS' commitment and leadership to address the climate crisis through a climate justice lens, increase the future resiliency of our campuses to withstand the impacts of acute climate shocks and events, and reduce immediate to longer term operational costs associated with increased carbon pricing.

This ERSP is a UTAS-wide effort, and will require continued leadership, appropriate resourcing (human and financial), and cross-campus engagement with all Colleges and Divisions. The ERSP includes an accountability framework that outlines responsibilities for implementation as included in the below strategic action tables, monitoring progress, and governance for decision making over time. For example, environmental performance data related to emissions, both at strategic and operational levels, are included in online dashboard available to all staff and reported to the University Council. These include sustainable transport (commuting mode share, percentage of zero emission fleet vehicles, air and ground travel), energy use (renewable energy use, self-generated energy, and energy efficiency), and waste to landfill reduction (waste generation and compostable and recycling diversion).

In addition to institution-level change, successful delivery of UTAS' climate action requires the entire UTAS community to be engaged and participate to achieve collective impact. This is especially true for our scope 3 emission sources, such as commuting, air travel, catering, and waste. Supported by UTAS' existing and emerging programs, infrastructure, tools and resources, our students and staff, through personal choices and as a community, have an opportunity to take relevant actions and contribute to these emission reduction areas.

Enablers for climate action

There are university-wide enablers required to ensure the University can effectively incorporate emissions reduction considerations into decision-making. These include institutional governance instruments that support and prioritise climate action, including policies and procedures, access to high-quality and detailed data and implementation of an internal price on carbon.

Policies, procedures, and guidelines

The primary policies and procedures directly influencing climate action outcomes are the Sustainability Policy, the Facilities, Infrastructure and Asset Management Policy, the Procurement Policy, Treasury and Investment Policy, and the Risk Management and Business Resilience Policy. There are a suite of procedures and guidelines directing University activity and decision making that incorporate the principles embedded in these core policies, such as the Travel Procedure and built environment design guides and project scopes.

Data and emission factors availability, adequacy, and quality

Access to high-quality, detailed data is key to the integrity of a carbon inventory, which is the first step towards meaningful data-driven emissions reduction and carbon neutrality. The University endeavours to collect actual data for emissions calculations. Although this has not been always possible, the University aims to continuously improve data accuracy. For example, waste to landfill activity data (weight) is estimated from number of collections and skip volumes. In the past, the level of skip fullness was unknown, requiring estimations of volume of waste collected. The University is now deploying bin sensors in all waste to landfill skips, so skips are emptied only when full. This will increase data accuracy. Ideally skips are weighed for more reliable data and waste audits conducted to understand the composition of waste (to facilitate use of more specific emission factors).

The use of relevant and current emission factors is also a principal element in carbon accounting, especially when considering carbon emissions reduction. For example, emission factors that use expenditure as activity data are often challenging when attempting to calculate emissions reductions. By way of illustration, the University currently uses expenditure to calculate emissions from security services. The University intends to engage with the service provider to leverage a switch to hybrid/electric vehicles; however, this change would not reduce expenditure on the provided services (or it might even increase expenditure) and therefore this emission reduction would not be captured in the Greenhouse Gas Inventory if the same emission factor continues to be used.

The University will continue to work towards improving data availability and quality, as well as emission factors relevance and accuracy.

Internal carbon price

There is an opportunity to establish an internal carbon price framework at the University to support emissions reduction efforts. While further work is being undertaken to understand how this may be implemented, an internal carbon price for the University of Tasmania may include having two components: 1) a non-budgetary 'cost' per tonne of emissions to support operational decision making in respect to carbon emission reduction scenarios, and 2) a budgetary mechanism or 'carbon charge' that involves application of a real cost to actions taken.

The non-budgetary component would support aligning financial decision-making criteria with climate and sustainability goals. Carbon pricing is seen as a key policy tool and a financial mechanism to address the climate crisis. It works by incorporating the true costs of carbon pollution into the decision-making process. So far, external climate policy has lagged behind providing an actual representation of the costs of damages associated with the climate crisis. To address these challenges, the ERSP includes exploring implementation of an Internal Carbon Price (ICP) to better align financial decision-making criteria with UTAS' climate and sustainability goals and provide certainty, predictability, consistency, and rigour for decision-making. The application of an internal carbon price can result in more money being invested initially in climate-friendly systems that reduce carbon dioxide emissions; however, an internal carbon price can also often save money when factoring in the life cycle cost-benefits of the solution.

A carbon charge embedded into the budgeting mechanism of the University as a real cost to actions taken with respect to emissions generated can be applied at various levels, including at the natural account code. It is envisioned that the carbon charge will be set for a budget year based on the cost of creating UTAS' own certified offsets (e.g., Australian Carbon Credit Units (ACCUs)) versus purchasing them in the market. For example, business air travel is a significant source of organisational emissions, accounting for approximately 21% of total reportable emissions in 2019 (the last year with non-COVID impacted travel – a 'normal year'). Much of this travel is undertaken by University academic and professional staff to attend conferences, conduct research, and further advance University goals. Applying a real cost to this travel with respect to carbon emissions and putting in

budget levels designed to encourage carbon-conscious decision making will allow the University to significantly reduce this emission source.

By leveraging the availability of better communication technology solutions, greater social awareness, and recent learnings from the COVID-19 pandemic, air travel and associated emissions can be reduced while providing an opportunity to maintain or improve the University's education and research objectives. These technology solutions are also a key opportunity to increase access to educational opportunities for students and staff lacking means for engaging in extensive travel. This acknowledges the dependence upon air travel for researchers to carry out certain types of research and scholarly projects. Identification and removal of barriers to choosing travel alternatives will be integral to shifting cultural norms, while ensuring an equitable approach.

Engagement and outreach

Implementation of the ERSP will require widespread University community support and buy-in. An engagement and outreach plan will assist in modelling to track, support and coordinate implementation of ERSP-related engagement communications, campaigns, and programs.

Student and staff participation delivering on this plan will be critical. For example, the Sustainability Integration Program for Students (SIPS) will be a key contributor to ongoing engagement and behaviour change to achieve net zero emissions as well as undertaking research related to emission reduction approaches and outcomes.

Strategic Actions

Figure 6 presents the cumulative estimated decrease in emissions across all sources by 2030 with specific actions to achieve targeted reductions outlined within this section.
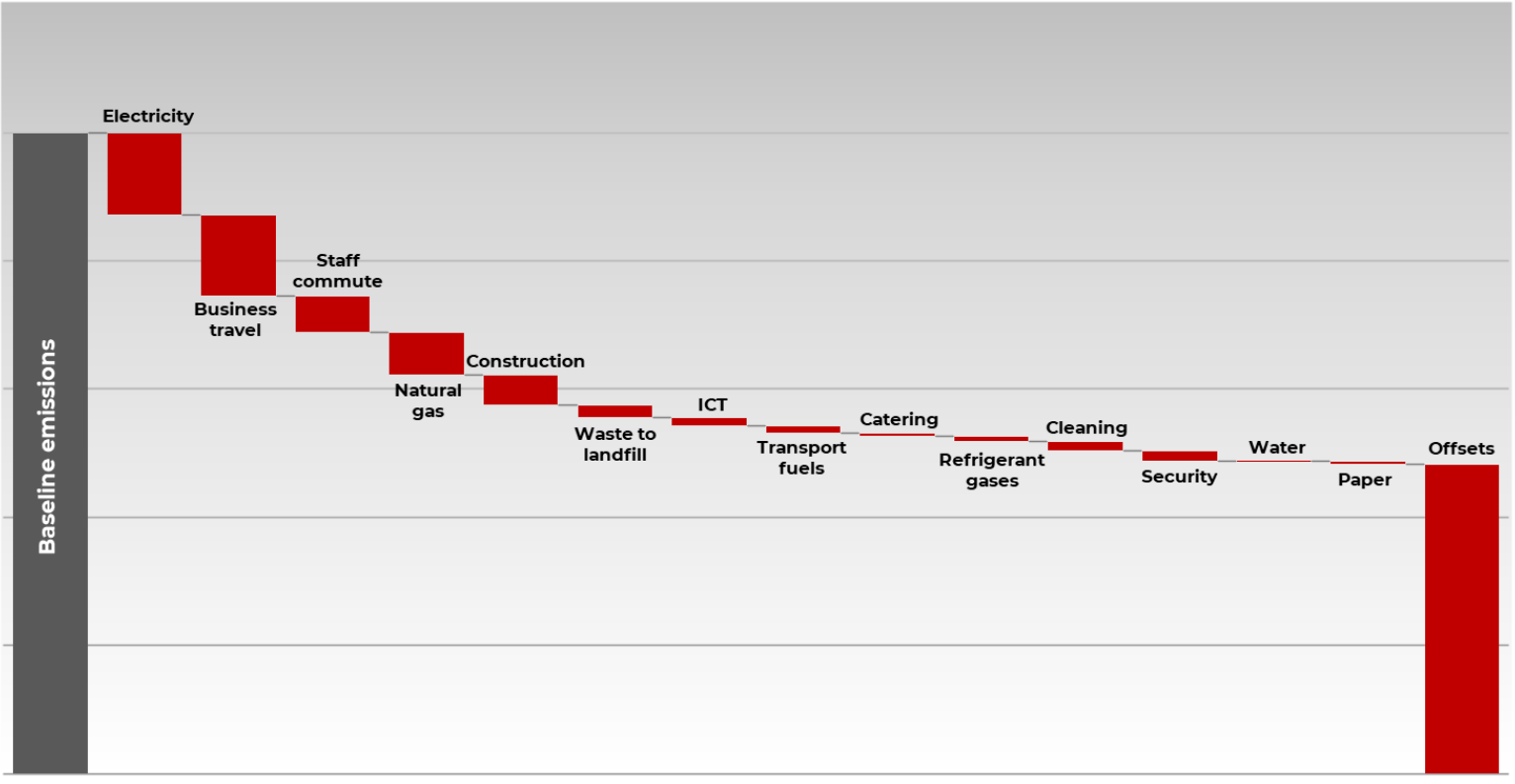

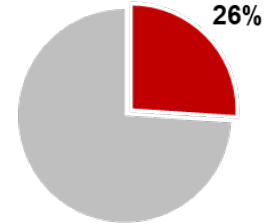**Figure 6.** *Projected emissions reduction by 2030 from 2015 baseline year*

This section presents each material (and relevant non-material) emission source reported to the Commonwealth Government's Climate Active program as part of our carbon neutral certification license agreement. For each emission source, the following information is provided (unless otherwise stated):

- A written description of the emission source, with a pie chart depicting the source emission percentage of overall emissions for the baseline year (2015).
- Targets for 2025 and 2030 (where applicable), with a graphical depiction of past reported emissions and the estimated emissions reductions through to 2030. Targets of overall reduction on baseline emissions are an amalgamation of all initiatives for that source. These targets include a range, which acknowledges that there is uncertainty related to various elements of the initiatives and limitations in available methodologies.
- A list of enablers required to support achievement of the actions.
- A table of strategic actions that includes: KPIs and/or targets per initiative, timeframe, cost levels, responsible areas, and explanatory notes.
- Cost levels refer to indicative budgets required for action implementation.
- Notes provide clarification for the action and relevant aspects for consideration. For example, for equipment and technology related actions, the efforts will include cost-benefit assessments aligned with life cycle assessments and scheduling for upgrades at end-of-life.
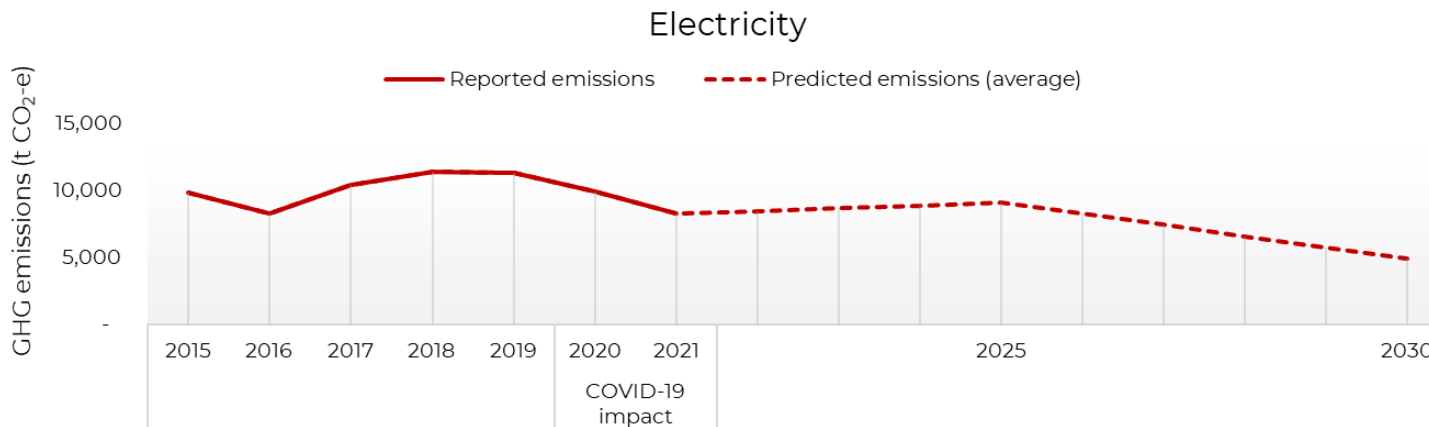
Electricity

Electricity at the University is used for HVAC (heating, ventilation, and cooling), building mechanics (e.g., lifts, fire detection), lighting (including security), domestic hot water, charging transport vehicles, and power for appliances and equipment for teaching, research, and administrative activities.

Delivering 'electrification' of the University (i.e., transitioning from natural gas and other fossil fuels, including for fleet vehicles) will result in increased electricity use. Re-locating to city campuses will also have an effect until building use is rationalised. While implementation of identified ERSP actions will offset these increases, emissions from electricity will not significantly reduce in the first few years of this ERSP.

26%

Overall target reduction on baseline

- 2025: 5-10%
- 2030: 45-55%

Electricity

— Reported emissions — — — Predicted emissions (average)

GHG emissions (t CO$_2$-e)

15,000
10,000
5,000
-

2015 2016 2017 2018 2019 2020 2021   2025   2030

COVID-19 impact

Enablers

- Building design scopes and guides to clarify energy efficiency requirements
- Inclusion of University requirements in tenders, contracts, and leases
- Behaviour change initiatives to reduce use (e.g., HVAC, lights, IT/AV equipment)
- Effective data collection and maintenance
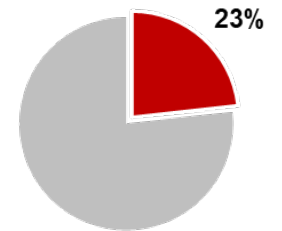- Available technology (e.g., sensors, building management systems, etc.)

Actions

#	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Deliver power purchase agreement (PPA) agreements through renewable sources where feasible, to contribute to minimising grid-based carbon emissions	% of electricity used is from PPAs	2030	nil capital	ISD and Finance	• A PPA is a way to secure renewable electricity solely for the University's consumption. (e.g., a 5MW solar farm at Bell Bay is an option to contribute to this), which reduces the calculated emissions from energy use.
2.	Install behind the meter on-site renewable energy systems, where practicable	Installation (in MW) of renewable energy systems % of electricity used from behind the meter installations	Ongoing	$50,000 - $200,000 each installation depending on building	ISD and Transformation	• Each project requires cost-benefit assessment • Potential projects may involve retrofits to existing buildings (e.g., IMAS Salamanca and Taroona, Inveresk Library, NRAS accommodation and University Apartments at Sandy Bay) and incorporation into Rivers Edge (2023) and Willis Street (2024) • May involve innovative approaches such as a Virtual Power Plant

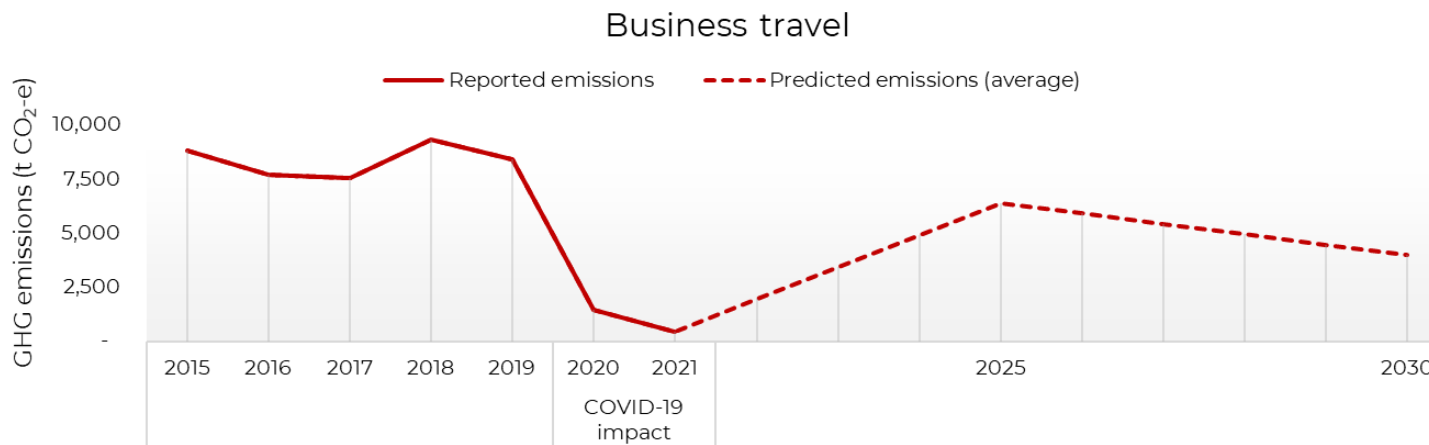| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
3.	Upgrade existing non-base building electric elements to maximise efficiency	% of electric fittings upgraded	2030	$5,000 - $50,000 each element depending on building and use	ISD	• Each project requires cost-benefit assessment • For buildings expected to remain in UTAS use beyond 2025 • Undertaken at end-of-life replacement or proactively • May be accomplished through Energy Performance Contracts
4.	Ensure new builds and major refurbishments achieve a 10% or better reduction in energy intensity	Building energy intensity (modelled and actual)	Ongoing	Depends on building and project	ISD and Transformation	• From a reference building under the National Construction Code

Business travel

Staff, postgraduate students, and visitors often use transport modes other than University-managed vehicles (e.g., taxis, rideshare, air travel) and stay at hotels while travelling to undertake research, teaching and administrative commitments within Australia and internationally.

Overall target reduction on baseline

- 2025: 25-30%
- 2030: 50-60%

23%

Business travel

GHG emissions (t CO$_2$-e)

— Reported emissions - - - Predicted emissions (average)

10,000
7,500
5,000
2,500
-

2015 2016 2017 2018 2019 2020 2021 2025 2030

COVID-19 impact

Enablers

- Provision of appropriate services (e.g., carpool system, centralised booking system)
- UTAS Travel Procedures prioritise lower emission travel choices
- Inclusion of University requirements in tenders, contracts, and leases
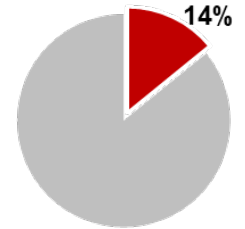- ICT facilities that obviate the need for physical travel for university business

- Behaviour change program, including Healthy and Safe Active Transport Use guidelines, and initiatives to reduce air and land travel and single occupant vehicle use
- Effective data collection and maintenance

Actions

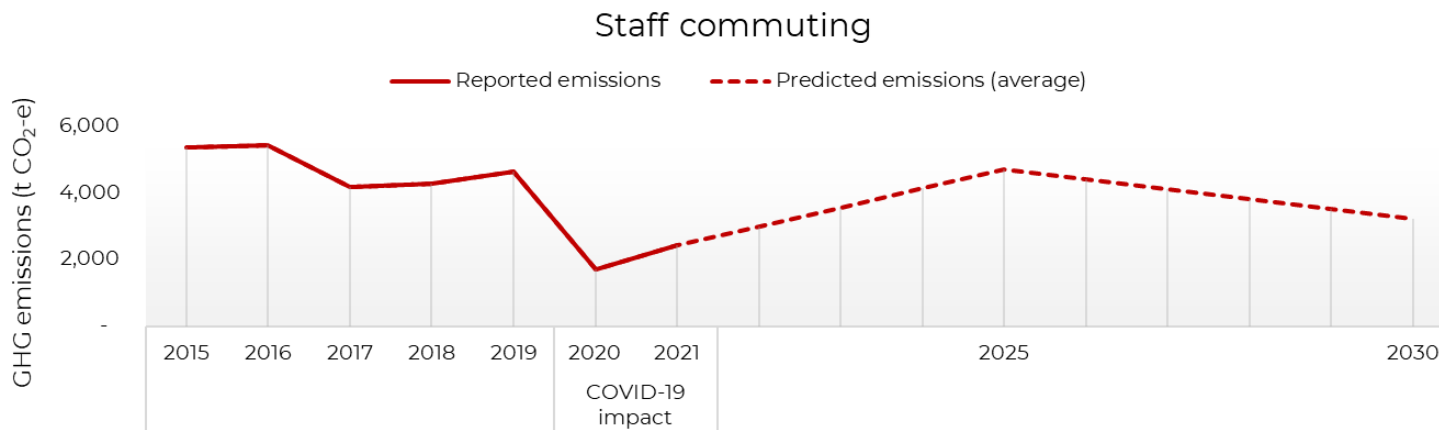| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Implement an internal carbon price and establish a cap on non-research-related air travel per business unit	Distance travelled per business unit	2022	nil	University Executive Team	• Air travel emissions are >90% of this emission source category • Research-related travel exempted from the cap, but offset cost applied to budgets as line items
2.	Implement incentives and rewards scheme to encourage use of public transport, active transport, and UniHopper (in Hobart) for intra-regional travel	Scheme established Scheme uptake	2022 and ongoing	$5,000 - $20,000	Transformation and ISD	• Scheme may include e-bike salary sacrifice, subsidised public transport, work with local government to identify scooter hub opportunities

Staff commuting

Staff at the University of Tasmania use different transport means to travel to and from the different University campuses, including cars, taxis, motorbikes, bicycles, buses, and on foot, as well as train in mainland campuses.

14%

Overall target reduction on baseline

- 2025: 10-15%
- 2030: 35-45%

Staff commuting

— Reported emissions   - - - Predicted emissions (average)

GHG emissions (t CO_2-e)

6,000

4,000

2,000

-

2015   2016   2017   2018   2019   2020   2021   2025   2030

COVID-19 impact

Enablers

- Provision of appropriate services and infrastructure (e.g., carpool system, high frequency public transport with real time information, active transport routes, electric vehicle charging, ferry services) by UTAS and key partners (e.g., State Government, Metro Tasmania, local governments)
- Transformation Program delivering modal shift as demonstrated in Travel Behaviour Surveys
- ICT facilities that obviate the need for physical travel for university business
- Increased flexibility to work from home

- Behaviour change initiatives to reduce travel and single occupant vehicle use (e.g., information and familiarisation opportunities, e-bike salary sacrifice scheme)
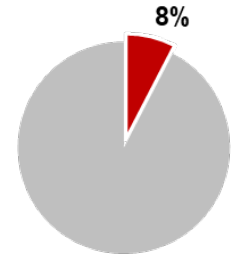- Effective data collection and maintenance

Actions

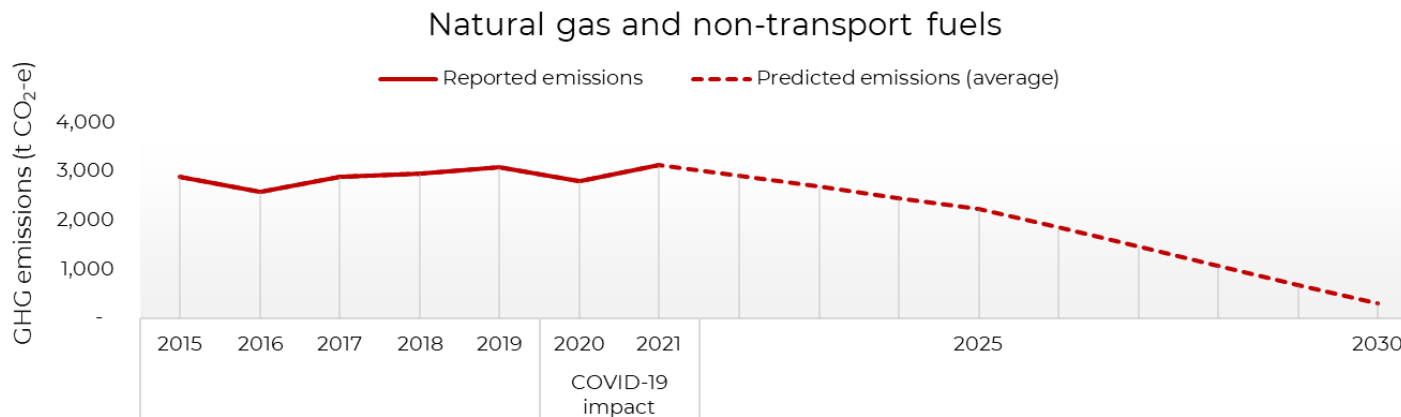| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Install electric vehicle charging for staff, students, and visitors	Number of charging stations installed	Ongoing	$50,000 – $500,000	Transformation and ISD	• Need assessed regularly • $500k already approved and budgeted for charging stations in 2022
2.	Provide discounted electric vehicle charging to staff and students	Scheme established Scheme uptake	2023 and ongoing	$5,000 - $20,000	ISD	• Ensure issues of equity addressed
3.	Maintain and advertise the e-bike and electric car salary sacrifice schemes to all employees	Scheme uptake	Ongoing	nil	Finance and People and Wellbeing	• Needs improved communications approach
4.	Continue to offer flexible parking access and cost/payment options such as maintaining appropriate voucher parking	Included in parking strategy	2023	nil	ISD	• Avoids payment scheme locking in users to 'full-time' car use • 'Book a space for days needed' system and PAYG
5.	Implement incentives and rewards scheme to encourage use of public transport and active transport	Scheme established Scheme uptake	2022 and ongoing	$25,000 - $100,000	Transformation and ISD	

Natural gas and non-transport fuels

Natural gas at the University supports heating, domestic hot water for buildings, high temperature hot water ring mains, cooking, and heating pool water.

Fuels and other petroleum-based products (unleaded petrol, diesel, liquefied petroleum gas, petroleum-based oils, solvents, kerosene, dry wood) used on university campuses support purposes other than transport, primarily in generators and as lubricants, but also in firefighting training and farm equipment.

8%

Overall target reduction on baseline

- 2025: 20-25%
- 2030: 85-95%

Natural gas and non-transport fuels

Reported emissions — — — Predicted emissions (average)

GHG emissions (t CO$_2$-e)

4,000
3,000
2,000
1,000
-

2015 2016 2017 2018 2019 2020 2021   2025   2030
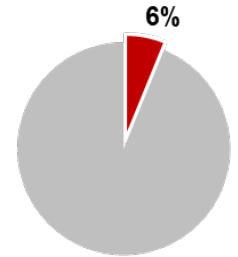
COVID-19 impact

Enablers

- Building design scopes and guides to clarify all-electric requirements
- Inclusion of all-electric university requirements in tenders, contracts, and leases (e.g., catering, grounds)
- Behaviour change initiatives to reduce use before complete phase-out (e.g., heating)
- Effective data collection and maintenance

Actions

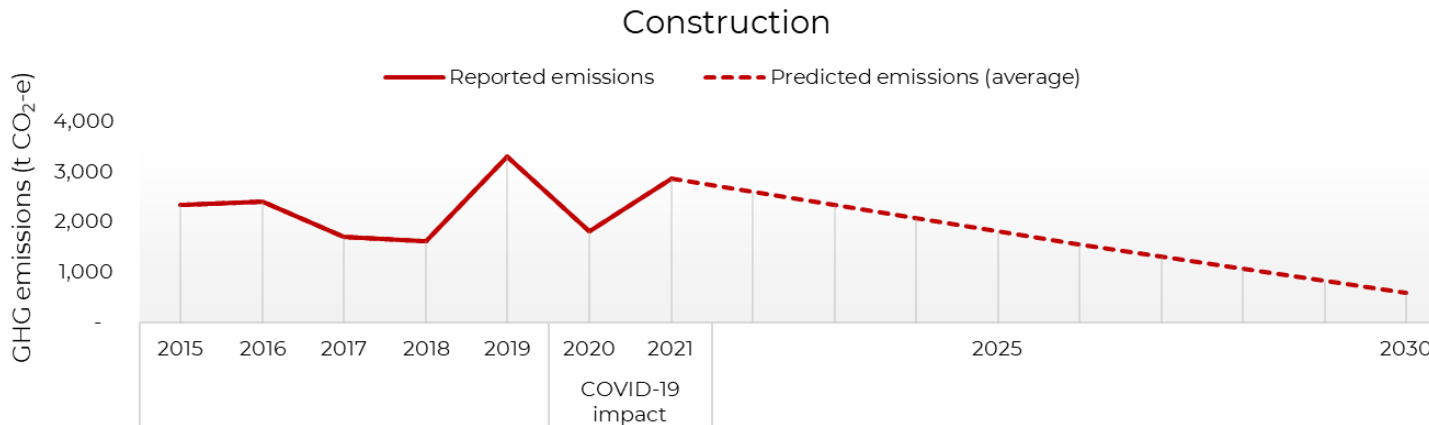| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Conversion of existing equipment using natural gas to electric, while all new equipment is electric	25% reduction of gas use (GJ) 95% reduction of gas use (GJ)	2025 2030	$5,000 - $200,000 each installation depending on item	ISD and Transformation	• Requires designing in electric options into new developments or refurbishments • Life cycle costing to be considered when scheduling conversion
2.	Replace fossil-fuel powered generators with non-fossil fuel powered systems	25% reduction of diesel use (L) 95% reduction of diesel use (L)	2025 2030	$50,000 - $200,000 each installation depending on system	ISD	• Technology available now • Life cycle costing to be considered when scheduling conversion
3.	Replace unregistered fossil fuel vehicles and equipment (e.g., forklifts, farm equipment)	50% replacement of fossil fuels (L)	2030	$5,000 - $50,000 depending on item	Colleges and Divisions	• Technology dependent
4.	Replace LPG cooking equipment with electric, including cafes and outdoors BBQs	90% reduction of LPG use (L) for cooking	2025	$25,000 for BBQs $200,000 for Saltz cafe	ISD	• Saltz Restaurant is a primary emissions source, could convert at 2022 contract end • Three Investigator Hall kitchens scheduled for upgrade in 2022-23

Construction

The University is well-advanced on a major transformation that involves the relocation of Tasmanian campuses to the three major regional cities as well as major building upgrades to our Sydney campus. The transformation involves an increase in construction and renovation activity through 2030. Once this intense development period ends, significant reductions will eventuate in this emission source as well as positively impact reductions in other sources through more efficient and centrally located buildings.

6%

Overall target reduction on baseline

- 2025: 20-25%
- 2030: 70-80%

Construction

GHG emissions (t CO$_2$-e)

—— Reported emissions   ---- Predicted emissions (average)

2015 2016 2017 2018 2019 2020 2021   2025   2030
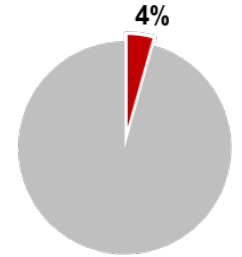
COVID-19
impact

Enablers

- Building design scopes and guides prioritise ESD outcomes and carbon reduction
- Inclusion of circular economy principles in tenders, contracts, and leases (e.g., requiring resource recovery of construction and demolition materials)
- Effective data collection and maintenance

36

Actions

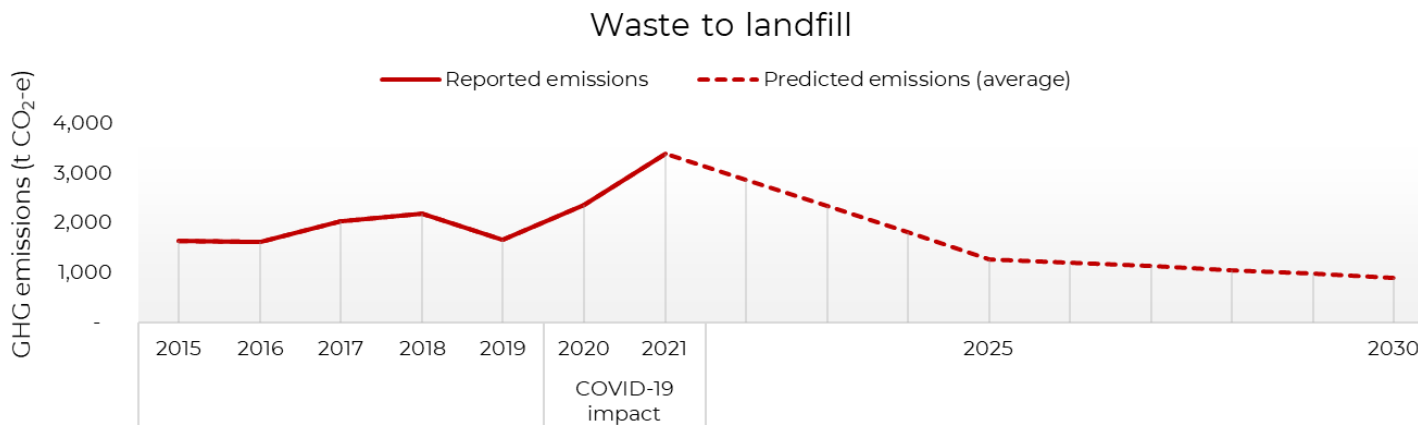| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Ensure all new and refurbished buildings preference low carbon materials and fittings	Minimum 20% reduction in embodied carbon compared to a reference building	2022 and ongoing	nil - $500,000 depending on building	ISD and Transformation	• Cost estimation is material and fitting dependent
2.	Minimise use of new materials in favour of reuse and refurbishment	% of value of materials that are new	Ongoing	nil - $50,000 depending on project	ISD and Transformation	• Cost estimation is material and fitting dependent • Adaptive reuse, includes existing building stock versus new builds as well as specific materials within builds

Waste to landfill

The University produces diverse types of waste from its research, learning and teaching and operational activities, including laboratory and medical waste, general office waste, food and green waste, and construction and demolition waste.

Overall target reduction on baseline

- 2025: 20-25%
- 2030: 40-50%

4%

Waste to landfill

Reported emissions ——— Predicted emissions (average) ----

GHG emissions (t CO$_2$-e)

4,000
3,000
2,000
1,000
-

2015 2016 2017 2018 2019 2020 2021 2025 2030

COVID-19 impact

Enablers

- Provision of appropriate services and infrastructure (e.g., composting and recycling bins and down-size/remove waste-to-landfill bins)
- Building design scopes and guides for required bin infrastructure
- Inclusion of circular economy principles in tenders, contracts, and leases (including provisions in the Code of Practice for maintenance contractors; eliminate single-use plastics and non-compostable items; encourage use of office products with recycled content and minimising virgin resources)

- Behaviour change initiatives to reduce waste generation and contamination (i.e., effective signage, choosing the right bin)
- Effective data collection and maintenance (e.g., bin sensors on all external skip bins)

Actions

#	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Implement Waste Minimisation Action Plan 2021-2025	25% reduction of waste to landfill per EFTSL from 2021 (t/EFTSL) 50% reduction of waste to landfill per EFTSL from 2021 (t/EFTSL)	2025 2030	$50,000 – $500,000 depending on initiative	ISD with Colleges and Divisions	• The plan includes an Objective 4: To minimise carbon emissions associated with production and management of waste
2.	Improve provision and coordination of e-waste reuse and recycling	Number of e-waste clean-outs each year Quantity by weight of organisational and individual/personal e-waste collected	2022	nil - $50,000 depending on project	ITS, ISD with Colleges and Divisions	• E-waste includes computer equipment, printer and toner cartridges, mobile phones / accessories, batteries, but not household appliances
3.	Implement a waste minimisation program during residence and building clean-outs	Decision making guide published for proper disposal of various waste types Quantity by weight diverted from landfill	2022	nil	ISD	• Requires management through the accommodation Transaction entities

#	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
4.	Ensure hazardous and non-hazardous medical/research wastes are minimised and appropriately managed	Amount and type of materials through system	Ongoing	nil	ISD and Colleges	• Non-hazardous medical and experimental waste (e.g., PVC IV bags, masks and tubing, animal carcasses, trade waste) • Non-hazardous medical waste from the Royal Hobart Hospital by Envorinex (of IV bags) • Others generated through the University's research and teaching activities)
5.	Monitor and report on a green / garden waste management	Quantity by weight and type of materials through system	2022	nil	ISD	• Requires collaboration with Grounds contractor regarding data capture and reporting • Composting machine installed at Inveresk
6.	Investigate and implement systems to recycle other waste types (e.g., polystyrene, low density polyethylene)	Assessment undertaken / engagement with waste contractor	2023	$5,000 - $20,000 depending on waste type	ISD	• Examples: TIA and hay bale plastic wrap; non-hazardous medical waste as per collection from the Royal Hobart Hospital by Envorinex (of IV bags)

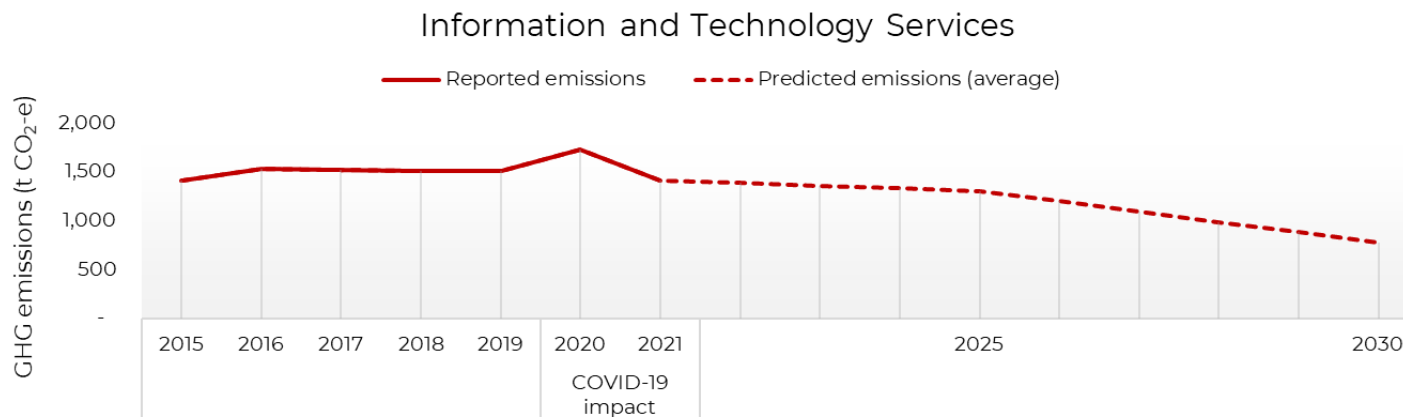# Information and communication technology (ICT)

4%

University staff and students use Information and Communication Technology (ICT) equipment and telecommunication services for learning and teaching, research, and administration, including phones, internet access, hardware purchase. Power use for ICT equipment is included in electricity emissions above. If communications and internet services come from companies that are certified carbon neutral or 100% renewable powered, this emission source would only include hardware purchases.
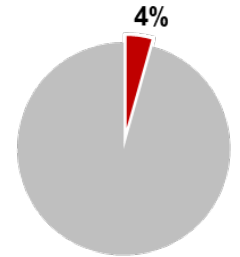
Note that with the Transformation Program focusing on new 'smart' buildings there is an increased projection for spending on IT equipment for the next few years.

Overall target reduction on baseline

- 2025: 10-15%
- 2030: 30-40%

Information and Technology Services

Reported emissions — — — Predicted emissions (average)

GHG emissions (t CO$_2$-e)

2,000
1,500
1,000
500
-

2015 2016 2017 2018 2019 2020 2021   2025   2030

COVID-19 impact

Enablers

- Inclusion of University requirements in tenders, contracts, and leases
- Effective data collection and maintenance

Actions

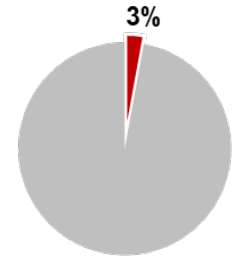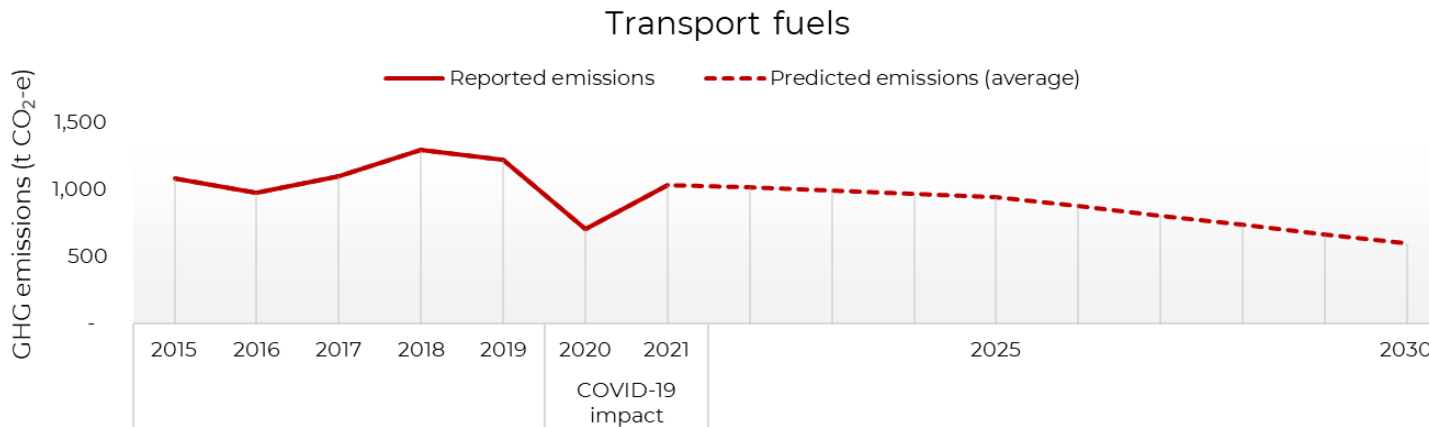| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Procure internet/communication services from companies certified carbon neutral or 100% renewable	All services meeting requirements	2025	nil - $50,000 depending on provider	ITS	
2.	Prioritise procurement of energy efficient and minimising quantities of ICT equipment	Expenditure on hardware	Ongoing	nil	ITS	• For example, changing standard computer bundle from two screens to one

Transport fuels

University staff and postgraduate students use University-owned cars and boats, as well as outsourced (long and short-term hire) vehicles, to conduct teaching, research, and administration. Though not University owned, outsourced vehicles are under the University's operational control. Fuels used in these vehicles include unleaded petrol and diesel.

Note that transport fuel used in boats is likely not replaceable until after 2030. Thus, we have not addressed this emission source in this ERSP.

3%

Overall target reduction on baseline

- 2025: 10-15%
- 2030: 40-50%

Transport fuels

GHG emissions (t CO$_2$-e)

—— Reported emissions - - - - Predicted emissions (average)

1,500

1,000

500

-

2015 2016 2017 2018 2019 2020 2021   2025   2030

COVID-19 impact

Enablers

- Inclusion of university requirements in tenders, contracts, and leases
- Behaviour change initiatives to reduce travel before complete replacement
- Effective data collection and maintenance

Actions

#	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Replace passenger vehicle fleet with electric, including required charging infrastructure	20% vehicles 100% vehicles	2023 2024	$500,000 – $750,000	ISD with Divisions and Colleges	• Strategy already approved and implemented from mid-2022
2.	Replace commercial vehicle fleet vehicles (i.e., utes and field work vehicles) with low or zero emissions	20% vehicles 80% vehicles	2026 2030	$500,000 – $750,000	ISD with Divisions and Colleges	• Recognises the difficulties for some 'vehicle' types, such as boats, tractors, etc
3.	Contract for short-term hire vehicles to be hybrid or electric	50% electric vehicles 100% electric vehicles	2023 2030	nil - $100,000 depending on provider	ISD	
4.	Change UniHopper bus service to zero emission fuel	UniHopper changed	2023	$150,000 – $500,000	Transformation	• Likely electric, but will consider options (e.g., 'green' hydrogen)
5.	Develop and integrate a carpool option with short-term vehicle hire booking system	System is in use	2023	nil - $20,000	ISD, Procurement and ITS	• Aligns with contract re-tendering timeframe
6.	Designate priority parking spaces for low emission vehicles	Included in parking strategy	2022	nil	ISD	
7.	Advocate for improved inter-regional bus services and associated bus stop infrastructure	Bus service expanded Bus stop shelters at all UTAS stops	2022 and ongoing	nil	Transformation and ISD	• For example, cost, frequency, quality, routes

Livestock

For UTAS, cattle (dairy cows, bulls, and heifers) comprise our reportable livestock emissions. During digestion of feed, cattle produce methane (CH_4), a greenhouse gas. Teaching and research activities at the University Elliot Dairy Farm require cattle. Management optimises herd size to support academic activities, therefore it is important to note that an increase in research needs might result in an increase of overall emissions from this source in the future. Hence, the ERSP provides no target for this emission source.

3%
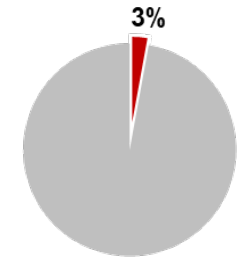
Enablers

- Herd size management to control emissions relative to research requirements
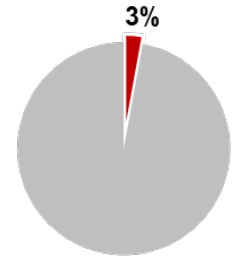- Effective data collection and maintenance

Actions

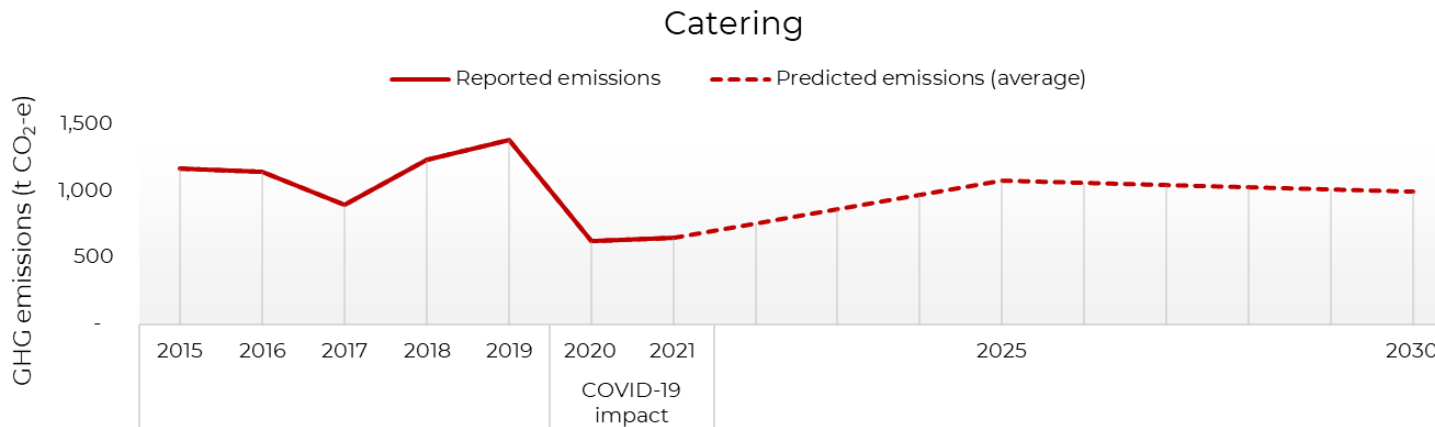| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Review all aspects of the farm, including feed quality and source, fertilizer use, etc.	Emissions intensity of milk production (kg CO_2-e/kg fat and protein-corrected milk)	Ongoing	nil	Tasmanian Institute of Agriculture	• Involves developing a 10 step plan for reducing the carbon footprint of Tasmanian dairying by end of 2022

Catering

This emission source relates only to catering provided for functions on campus such as graduation ceremonies, dinners and receptions, exhibitions and various student, staff and/or community entertainment events. The catering may be provided by by on-site or off-site suppliers.

This emission source does not cover leased or contracted on-site café operations.

3%

Overall target reduction on baseline

- 2025: 5-10%
- 2030: 10-20%

Catering

GHG emissions (t CO$_2$-e)

— Reported emissions   --- Predicted emissions (average)

1,500

1,000

500

-

2015 2016 2017 2018 2019 2020 2021   2025   2030
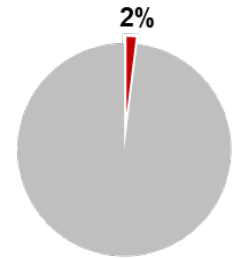
COVID-19
impact

Enablers

- Inclusion of University requirements in tenders, contracts, and leases
- Behaviour change initiatives to inform on catering choices and emissions
- Effective data collection and maintenance

Actions

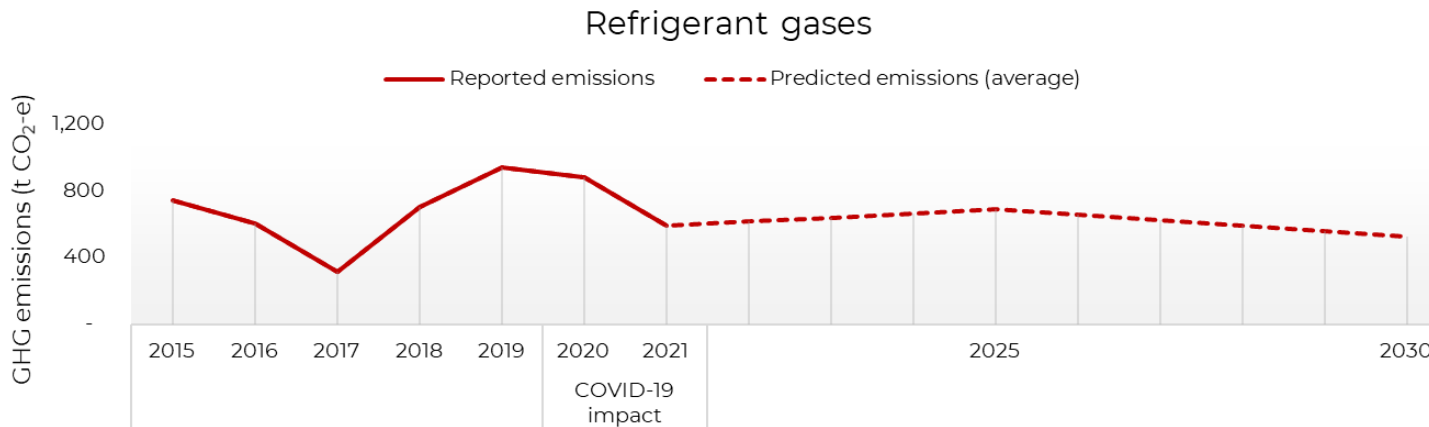| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Require event organisers to ensure at least 50% of food is vegan or vegetarian	15% reduction in catering associated emissions	2022	nil	All	• Currently 25% of vegan/vegetarian food on average • Requires enforcing Green Event Guidelines

Refrigerant gases

Refrigerant gases have a variety of uses, including building and vehicle air conditioning, and for kitchen and laboratory refrigerators. The University reports only refrigerants for building air conditioning.

Overall target reduction on baseline

- 2025: 5-10%
- 2030: 35-45%

2%

Refrigerant gases

GHG emissions (t CO_2-e)

— Reported emissions   ---- Predicted emissions (average)

1,200

800

400

-

2015 2016 2017 2018 2019 2020 2021   2025   2030
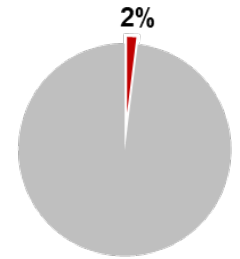
COVID-19 impact

Enablers

- Building design scopes and guides to clarify low global warming potential (GWP) gases requirements
- Inclusion of low GWP gases requirements in tenders, contracts, and leases
- Equipment purchasing standards to include requirements for low GWP gases
- Effective data collection and maintenance

Actions

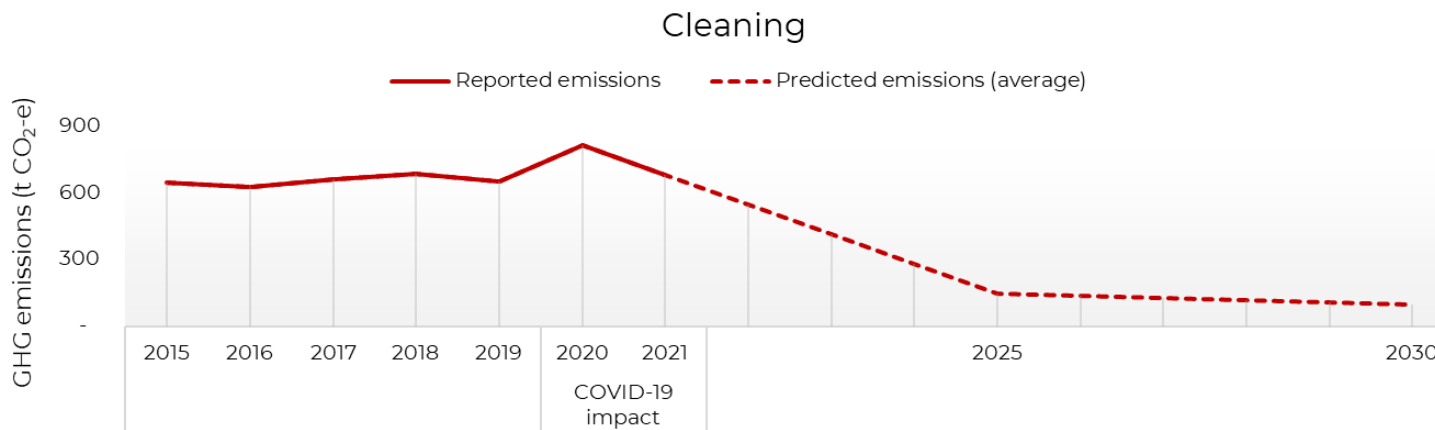| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Replace heat pumps/air conditioning units with alternative heating/cooling refrigerant systems.	25% units upgraded or replaced 100% units upgraded or replaced	2025 2030	$5,000 - $50,000 each installation depending on system	ISD	• Swap out high GWP refrigerant for lower GWP • Undertaken at end-of-life replacement or proactively
2.	Replace refrigerators/freezers that use high GWP gases with alternative refrigerant systems.	25% units upgraded or replaced 100% units upgraded or replaced	2025 2030	$5,000 - $50,000 each installation depending on building	Colleges and Divisions	• CO_2-based technology, for example • Undertaken at end-of-life replacement or proactively • Emissions from refrigerators / freezers not currently reported to Climate Active

Cleaning

The University outsources cleaning services. Given Climate Active emissions reporting requirements, if cleaning vehicles are changed to low/zero emission and/or Z-Water is used University-wide, this emission source would not pass the Climate Active relevance test and would no longer be reported.

2%

Overall target reduction on baseline

- 2025: 75-80%
- 2030: 80-90%

Cleaning

- Reported emissions
- Predicted emissions (average)

GHG emissions (t CO$_2$-e)

900
600
300
-

2015 2016 2017 2018 2019 2020 2021   2025   2030

COVID-19 impact

Enablers

- Inclusion of University requirements in tenders, contracts, and leases
- Effective data collection and maintenance

Actions

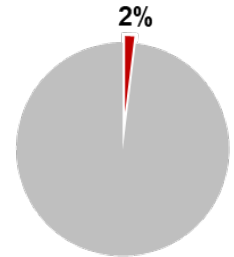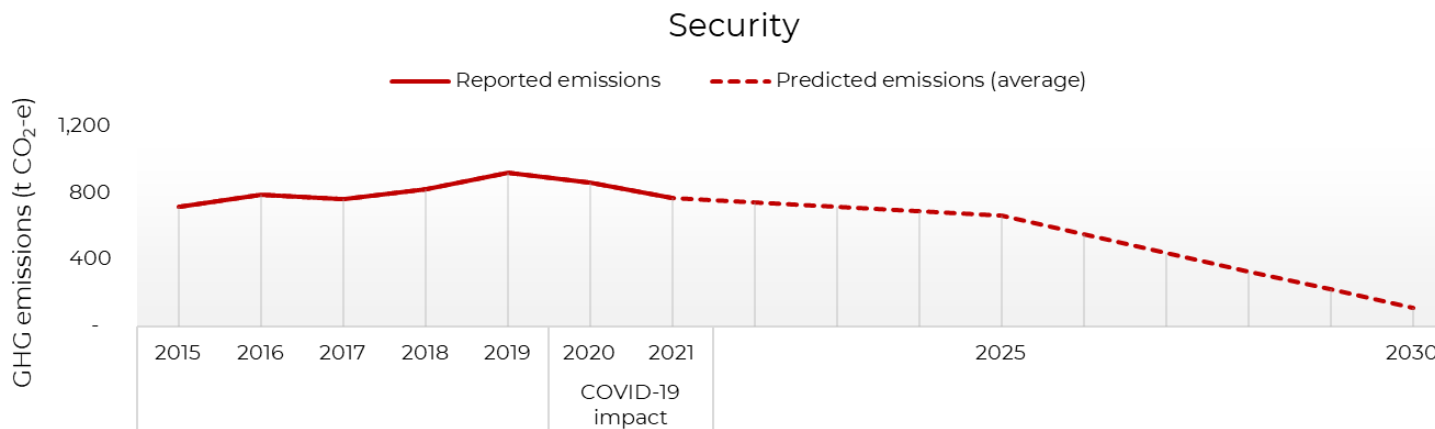| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Require Z-Water use at all campuses	Deployed to all campuses	2022	$15,000 - $20,000 depending on campus	ISD and contractor	• Z Water is an environmentally friendly clearing product that replaces most chemicals
2.	Require all cleaning contractor vehicles to be low to zero emission	Cleaning contract includes requirement	2025	nil - $50,000 depending on provider	ISD and contractor	• Requires cost-benefit assessment • May have additional cost embedded in contract given upfront cost premium for electric vehicles, but offset by lower running costs

Security

The University outsources security services for facilities under the University's operational control. Given Climate Active emissions reporting requirements, if security vehicles are changed to low or zero emission this emission source would not pass the Climate Active relevance test and would no longer be reported.

The emissions reductions achieved will not be reflected in our inventory unless we use fuel data instead of expenditure as activity data.

2%

Overall target reduction on baseline

- 2025: 5-10%
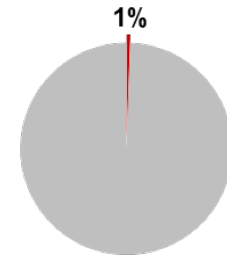- 2030: 80-90%

Security

Enablers

- Inclusion of University requirements in tenders, contracts, and leases
- Effective data collection and maintenance

Actions

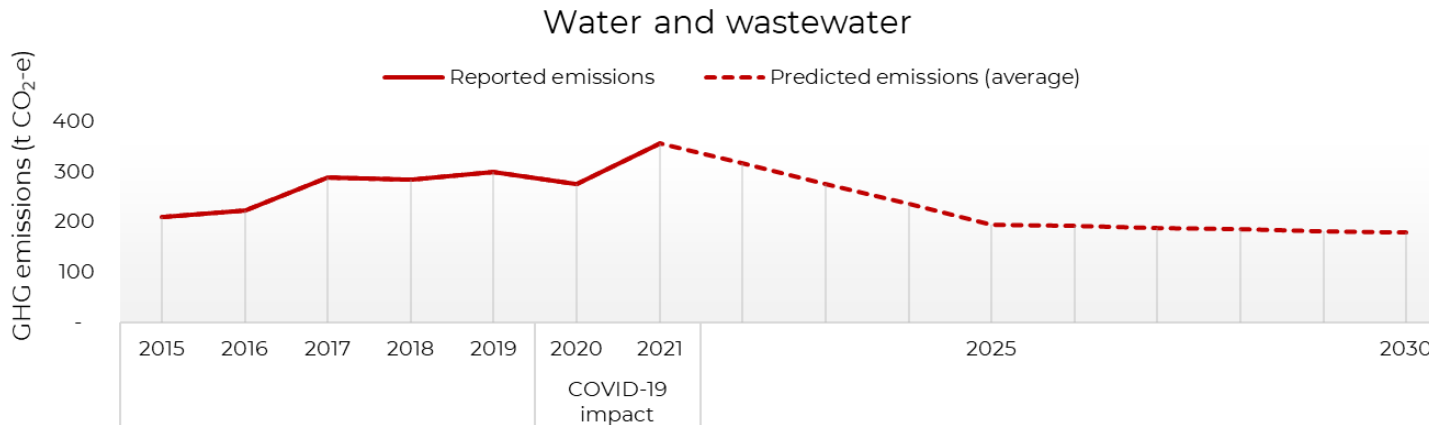| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Require route optimisation for security vehicles	Requirement in contracts	2022	nil	Contractor	
2.	Require security services vehicles to be non-fossil fuel-powered	Requirement in contracts	2025	nil - $50,000 depending on provider	ISD	• Requires cost-benefit assessment • May have additional cost embedded in contract given upfront cost premium for electric vehicles, but offset by lower running costs

Water and wastewater

The delivery of water requires energy use by the water authority, which has emissions associated with both the supply of potable water and treatment of sewerage removed from the site.

1%

Overall target reduction on baseline

- 2025: 5-10%
- 2030: 10-20%

Water and wastewater

GHG emissions (t CO$_2$-e)

—— Reported emissions   ---- Predicted emissions (average)

400
300
200
100
-

2015 2016 2017 2018 2019 2020 2021   2025   2030
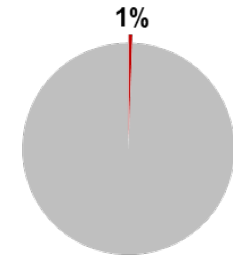
COVID-19
impact

Enablers

- Provision of appropriate services and infrastructure (e.g., rainwater tanks, stormwater retention beds)
- Building design scopes and guides for required water efficient infrastructure (e.g., water fittings and appliances)
- Inclusion of university requirements for water efficiency in tenders, contracts, and leases
- Behaviour change initiatives to reduce water use
- Effective data collection and maintenance

Actions

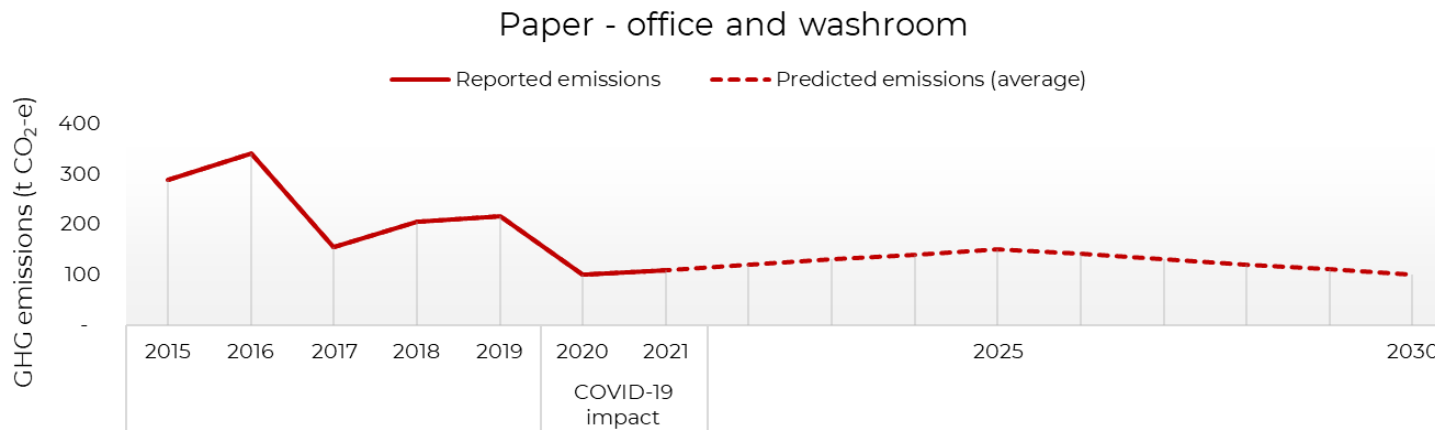| #	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Upgrade existing water fittings to maximise efficiency	100% water fittings upgraded	2030	$250,000 - $500,000	ISD	• In buildings expected to remain in UTAS use beyond 2025 • Undertaken at end-of-life replacement or proactively
2.	Water efficient irrigation / plant choices	Management plans for all areas managed by grounds contractors and farms reviewed for water efficiency	2025	nil	ISD and Tasmanian Institute of Agriculture	• For grounds area expected to remain in UTAS use beyond 2025 • Undertaken at end-of-life replacement or proactively

Paper - office and washroom

Office paper is used in teaching, research, and administrative activities, while paper towels and toilet tissue are used throughout all campuses as washroom consumables. Calculated emissions associated with the manufacture of these products are included in this category, while emissions associated with the disposal of these products are captured in the waste emissions category.

1%

Overall target reduction on baseline

- 2025: 45-50%
- 2030: 60-70%

Paper - office and washroom

— Reported emissions   ---- Predicted emissions (average)

GHG emissions (t CO$_2$-e)

400

300

200

100

-

2015 2016 2017 2018 2019 2020 2021   2025   2030

COVID-19
impact

Enablers

- Provision of appropriate services and infrastructure (e.g., electric hand dryers)
- Ensure digitalisation focus maintained (vs paper forms or communications)
- Building design scopes and guides for required infrastructure
- Inclusion of University requirements in tenders, contracts, and leases
- Behaviour change initiatives to reduce paper use
- Effective data collection and maintenance

Actions

#	Action	KPIs / Targets	End by	Cost Level	Responsibility	Notes
1.	Maintain digitalisation focus (vs paper forms or communications)	Reduced paper use	Ongoing	nil	ITS	• Have already reduced emissions from office paper by 50%+ since baseline
2.	Provide effective electric hand dryers in all toilets	50% of toilets have hand dryers 90% of toilets have hand dryers	2025 2030	$50,000 – $500,000 depending on equipment choice	ISD and Transformation	• Hand dryers must meet minimum performance specifications

Offset approach

Emissions that cannot (yet) be avoided are offset to achieve carbon neutral certification that requires reducing dependence on offsets over time. Although offsets are not technically an emissions reduction action and should be the last resort in carbon mitigation, they are an integral part of the process.

A carbon offset (or carbon credit) is generated from an activity that prevents or reduces emissions or removes emissions from the atmosphere. UTAS has taken a portfolio approach to carbon offsets acquiring both targeted international and domestic verified carbon offsets that are prioritised as Tasmanian-based.

Our strategic objectives for carbon offset purchases are:

- Where possible, provide opportunities to achieve the University's strategic objectives in teaching, learning and research.
- Deliver benefits to the Tasmanian community.
- Deliver benefits to the communities in regions where the University of Tasmania provides education and research services as well as regions from which our international students originate.
- Achieve best value for money while achieving the nominated strategic objectives.
- Achieve co-benefits aligning with the University's values (e.g., diversification of local economy; increased local employment; protection of traditional culture; avoided loss of biodiversity (internationally certified); reduced local air pollution; increased awareness of environmental issues.

The University is transitioning from this portfolio approach to one involving self-generation of certified carbon offsets within Tasmania (both nature and technology-based solutions) to better capture value to the Tasmanian community, including UTAS researchers and students. Implementation of this approach may involve preservation and planting of trees in unproductive areas on Tasmanian research farms and other properties. In addition, application of an internal price on carbon is noted in the Enablers for Climate Action section above.

Find out more information on carbon emissions and verified offsets at the [University of Tasmania Sustainability Greenhouse Gas Emissions webpage](#).