UNIVERSITY of TASMANIA

Waste Minimisation Action Plan 2021-2025

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Glossary

CFS	Container Refund Scheme
Co-mingled recyclables	Common recyclables, mostly packaging such as glass, hard plastics, aluminium and steel cans, cardboard, paper, liquid paperboard (milk cartons) (but not long-life packaging). 'Dry recyclables' excludes organic material.
Circular economy	An economic system or organisation approach aimed at eliminating waste and the continual use of resources. Circular systems employ reuse, sharing, repair, refurbishment, remanufacturing and recycling to create a closed-loop system, minimising the use of resource inputs and the creation of waste, pollution, and carbon emissions.
Construction and Demolition (C&D) waste	Construction and demolition waste. Material generated from commercial, government or residential building sites.
Commercial and Industrial (C&I) waste	Waste originating from commercial and/or industrial activities (non-municipal and not construction & demolition).
Commercial Composting	A commercial scale process for a set period of time and high temperature that speeds up the biological process happening in household size composts. A commercial scale compost is able to process human made plant-based materials such as plates and cups made from corn starch. The same material will take longer to degrade in home composts and therefore pose a risk to animals because the material remains at sizes that can choke animals for longer.
Composting	The biological process that converts organic (usually food and gardening) material into a useful soil additive. This process diverts organic material from landfill and so prevents the production of methane (a powerful greenhouse gas).
EFTSL	Equivalent Full-Time Student Load
E-waste	Electronic or electrical waste (anything with a plug or battery), such as televisions, computers, refrigerators, printers, kettles, irons, microwaves, etc. In Australia this is often used to refer to goods covered by product stewardship legislation. TerraCycle™ only accept IT E-waste not anything with in attached cord and plug.
FOGO	Food organic or garden organic waste

General waste	Material that is intended for disposal to landfill, usually what remains after compostables and recyclables have been collected separately (see mixed waste).
GFA	Gross Floor Area; used to normalise data for analysis.
Green waste	Plant material generated from gardens and parks (e.g., grass clippings and vegetation prunings; see also organic waste).
GHG	Greenhouse Gases (usually expressed as carbon dioxide equivalent – CO_2-e)
ISD	Infrastructure Services and Development (UTAS)
Mixed waste	Waste that due to difficulty in separation after mixing (e.g., general waste and recyclables) end up being sent to landfill.
MRF	Materials Recovery Facility comprising plant and equipment for sorting and pre-processing materials from the waste stream for resource recovery.
NGER	National Greenhouse and Energy Reporting
Organic waste	Separated food and/or 'green' material (e.g., grass clippings or garden prunings).
Public place services	Public place services are waste bins (and can be public place recycling bins) permanently located in public areas such as in parks and on the street.
Putrescible waste	Putrescible waste comprises waste capable of decomposition; examples include food organics, green waste, manures, paper, and cardboard.
Recyclables	Materials collectable separately from general waste and sent for recycling. For this document, it includes container glass, most plastic types, ferrous and non-ferrous metals, paper, cardboard. This does NOT include organics/green waste.
Recycling	A set of processes (including biological) that converts solid waste into useful materials or products, net of contaminants/residuals disposed.
Recycling Walls	Collection points for recyclable items that cannot be processed in Tasmania through usual co-mingle recycling services.
Reuse	Recovering value from a discarded resource in its original state without reprocessing or remanufacture (e.g., moving clean sand from one construction site to another or furniture from one workspace to another). Term also applied where an otherwise disposable item is replaced by a more durable item to avoid creation of waste (e.g., using a ceramic coffee mug in place of disposable cups).
SDGs	United Nations Sustainable Development Goals
SFS	UTAS Strategic Framework for Sustainability
SIPS	UTAS Sustainability Integration Program for Students
STARS	Sustainability Tracking, Assessment and Rating System - a transparent, self-reporting framework for higher education to measure sustainability performance.
TEFMA	Tertiary Education Facilities Management Association
Transfer station	Location where waste and recyclables are collected and stored temporarily before transport to their destination. Transfer stations may be at a landfill premises or at an independent site. Some sorting of recyclables may occur at these sites.
TUSA (TUU)	Tasmanian University Student Association (nee Tasmanian University Union)
Waste audit	Detailed analysis of waste using physical sorting and weighing to identify composition and weight of each material in the waste stream.
Waste composition	The proportion of different materials or products present in each waste stream (e.g., 10% glass, 50% general waste, 30% paper and cardboard, 10% plastics.)
Zero waste	Zero Waste is a philosophy that encourages the redesign of resource life cycles so that all products are reused. The goal is for no rubbish to be sent to landfills, incinerators, or the ocean.

CONTEXT

The University of Tasmania Waste Minimisation Action Plan responds to the UTAS Waste Management Discussion Paper 2019 that explored the current national and local context (e.g., legal, markets, etc.), sectoral approaches, and current University of Tasmania waste management practices, data and reporting. The discussion paper responded to the University's Strategic Framework for Sustainability and the commitment to be a sector-leading sustainable university that advocates for and delivers sustainability outcomes within Tasmania and abroad. The paper also focused on ways the University can reduce natural resource consumption through sustainable waste management practices for the benefit of the environment, society, and the University's financial bottom line. The paper acknowledged the nature of different waste streams produced by a university (e.g., quarantine, medical, cytotoxic, experimental, etc.), which means that the aspiration for zero waste to landfill can present both challenges and opportunities.

The initiatives highlighted in this plan outline a multi-layered strategy, including:

- Policy settings and procedural approaches
- Intellectual capacity for research, learning and teaching
- Installing standardised infrastructure, including signage and bins, in campus facilities
- Ensuring the communications are accessible and inclusive for University audiences
- Educating the campus community about the proper sorting of materials into campus bins and waste reduction and reuse best practices
- Reducing the amount and flow of materials
- Reusing, repairing, and re-circulating usable materials
- Upgrading the procurement process to minimise waste
- Engaging campus partners and affiliates to adopt towards zero waste to landfill goals
- Ensuring built environment projects include zero waste principles
- Standardising and institutionalising zero waste practices and behaviours

The contents of this plan are based on current information available at the time of writing and will be updated as initiatives and strategies evolve for different waste streams. Program details and progress reporting will be updated on University of Tasmania sustainability webpages.

ACTION PLAN AIM

The aim of the University of Tasmania Waste Minimisation Action Plan is to engage the entire University community in achieving our resource recovery and waste minimisation objectives.

OBJECTIVES

1) To implement a circular economy approach to waste management in all University operations and activities.
2) To engage and increase participation of students and staff in University waste minimisation initiatives.
3) To engage with external stakeholders for strategy, planning and operational linkages to meet or exceed Australasian tertiary education sector best practice.
4) To minimise greenhouse gas emissions associated with production and management of waste.

TARGETS

This Action Plan recognises the increasing trend towards zero waste and circular economy goals locally, nationally, and internationally and notes that from 2012-2019 the University reduced waste to landfill by only 12% in absolute terms (noting data relies on estimations). This level of reduction was achieved through

deployment of landfill/recycling bin sets in all public place areas (inside and outside) at all main campuses, inclusion of landfill/recycling bin sets in tea rooms and shared spaces across all campuses, improvements in reduced packaging from suppliers, etc.

This plan focuses on the near-term quantifiable and aspirational waste management targets of:

- Reduce operational waste[1] to landfill from 2021 levels by at least 25% per EFTSL by 2025, with a longer-term aspiration to achieve zero waste to landfill.

OUTCOMES

1) Reduction of materials to be handled as waste and increased demand for recovered materials from a procurement perspective (i.e., circular economy approach).
2) Reduction in waste to landfill.
3) Increase composting of FOGO materials, both on- and off-site.
4) Streamlining and standardisation of re-use, recycling, and waste services.
5) Increased opportunities for re-use system expansion to achieve University financial savings.
6) Reduction in greenhouse gas emissions from waste streams.
7) Incorporation of Education for Sustainability (EfS) in waste management communications and operations.
8) Creation of an environment that supports a culture of positive social and environmental change within the University and more broadly within society.

SCOPE

Waste management in the context of the University community applies to all staff, students, service providers, contractors, and visitors.

This Action Plan primarily serves as a guiding document for Infrastructure Services and Development (ISD) and Procurement within the Division of the Chief Operating Officer but informs action planning for other professional and academic areas within the University and external service providers (e.g., accommodation providers) and contractors with procurement and waste management responsibilities.

Although this plan specifically targets facilities owned by the University, to align to SDG 17 (partnerships), ISD and relevant areas will proactively engage with those who have operational control over leased facilities that we as a community use to help deliver University waste minimisation goals in this area and in line with local and state government goals.

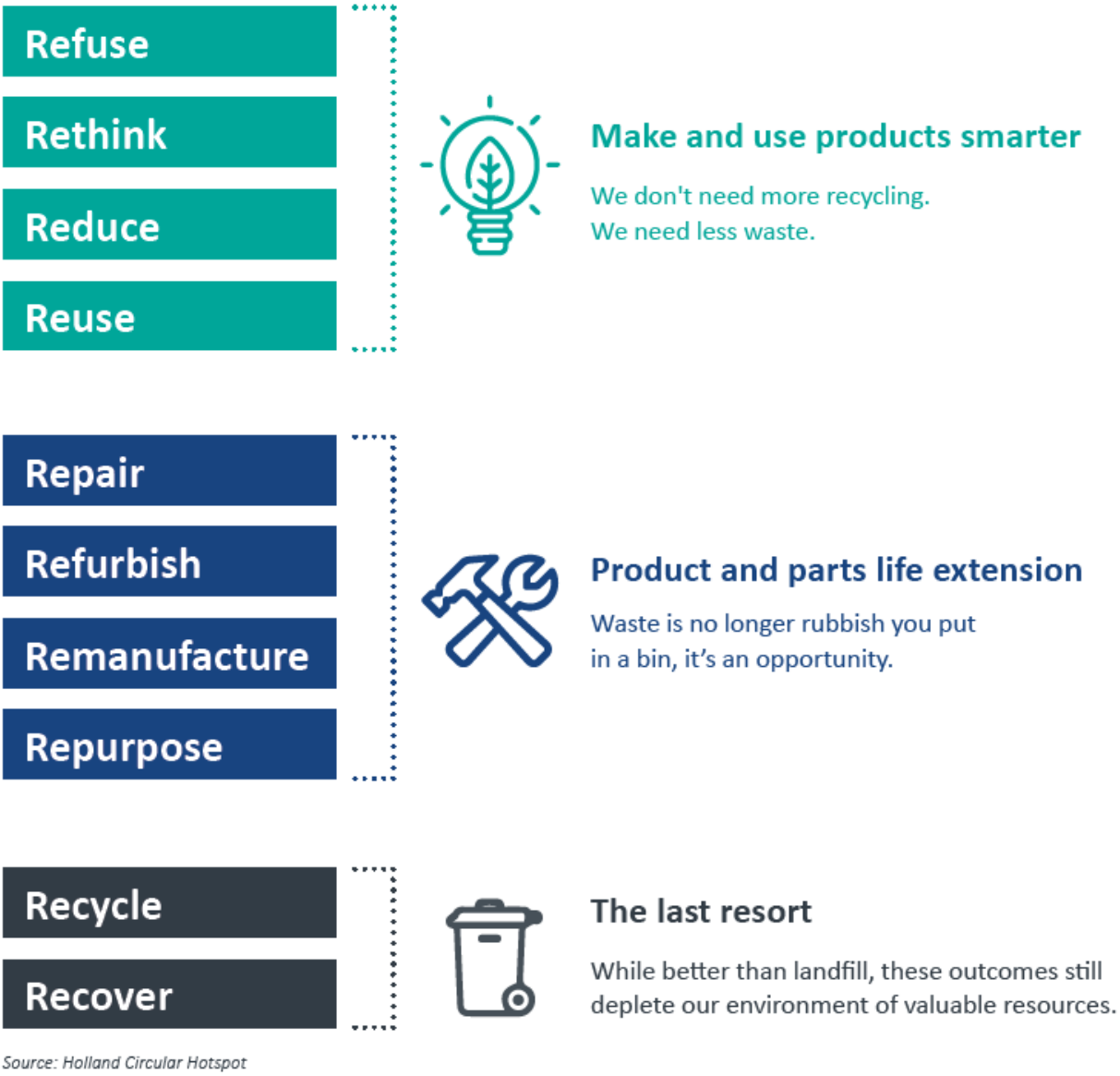
Responsibilities:

1) ISD has formal responsibility for ongoing day-to-day operational and waste contract activities, including management of waste and cleaning contractors, auditing, funding, engagement, and reporting (see Initiatives Table below).
2) Where cited in the Initiatives Table, other professional and academic areas are responsible for the development and management of waste reduction actions in line with relevant University policies, complementary strategies and procedures within their own areas and the University Strategic Framework for Sustainability.

[1] Operational waste excludes construction and demolition waste from new developments.

GUIDING PRINCIPLE

The Action Plan provides a framework for University waste management with a focus on moving away from the traditional and linear waste hierarchy to being guided by the 10R's of waste and a circular economy approach, with provision of safe and appropriate disposal to landfill as last resort.



Source: Holland Circular Hotspot

RESOURCING

Resourcing for the initiatives included below are predominantly expected to be included in annual budgets and team and individual activity planning cycles.

REPORTING AND REVIEW

Auditing and measurement are critical to support evaluation of the success of this action plan as well as to support reporting requirements. ISD will review and report annually on action plan implementation based on data provided by and through:

- The University's waste contractors, food outlets and accommodation providers.
- Data collected from the University's Information Technology Services, Financial Services, ISD Project Managers, other internal stakeholders, and relevant external contractors.
- Internal audits, including through the Sustainability Integration Program for Students (SIPS).
- Periodic reviews of the number and types of services and programs provided.
- Assessing the level of student and staff engagement and satisfaction with progress towards the targets by gauging feedback and participation with the actions.

Waste data contributes to:

- Effective management of contracts, in particular servicing frequencies.
- Climate Active Carbon Neutral Standard reporting for certified carbon neutrality.
- Sustainability Tracking Assessment and Rating System (STARS) reporting.
- Tertiary Education Facilities Management Association (TEFMA) voluntary reporting.
- Performance reporting to the Sustainability Committee, senior leadership, and University Council.

INITIATIVES TABLE

The Initiatives Table includes key performance indicators to gauge progress towards zero waste to landfill aims and align with waste management elements of the TEFMA annual benchmark survey.

Explanation for the Initiatives Table:

- Each Objective includes specific 'Actions' that are identified by Objective and Action number (e.g., 1.1 = Objective 1, Action 1)
- 'Timeframe' = timing code indicates commencement of the action:
  - A = commences in year 1 (or underway or immediately)
  - B = commences in year 1-2
  - C = commences in year 2-3
- 'Completion' = when the Targets/KPIs will be met and/or are 'ongoing'.
- 'Responsibilities' = provides the organisational framework identifying the lead area(s).
- 'Targets/KPIs' = used for reporting and measuring progress.
- 'Reporting frequency' = how often the status on the action is reported.

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
Objective 1: To implement a circular economy approach to waste management in all University operations and activities.						
1. Increase coverage in University facilities of composting, recycling, and down-size waste-to-landfill infrastructure as part of standardised service (e.g., bin rationalisation program)	A	2021 and ongoing	ISD (Waste Contract Manager)	• # of areas with standardised composting, recycling, and landfill waste service • Quantity by weight of materials by type • Carbon emissions reduction achieved	Annual	• Includes centralised bin sets including composting, recycling and landfill emptied by cleaners; paper towel bins in toilets emptied by cleaners; paper bins emptied by contractor • Includes: co-mingled, white office paper, cardboard, green waste and food wastes, fluorescent lights

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
2. Expand provision of public place recycling facilities across all campuses to replace remaining single waste bins	A	2021	ISD (Waste Contract Manager)	• Waste bin sets are double (recycling / landfill) or triple (compost / recycling / landfill) as appropriate to location • All single bins for landfill removed • Carbon emissions reduction achieved from reduced waste to landfill	Annual	• Explore opportunities for innovative new tech apply (e.g., Big Belly compactor or 'smart bins') • Public place = common areas both internal and external
3. Improved provision and coordination of e-waste re-use and recycling processes and infrastructure	A	Ongoing	ITS / ISD Sustainability	• # of e-waste clean-outs provided & promoted each year • Quantity by weight of organisational and individual/personal e-waste collected • Carbon emissions reduction achieved from reduced waste to landfill	Annual	• Work with ITS and other areas to locally manage e-waste • E-waste includes computer equipment, printer and toner cartridges, mobile phones / accessories, batteries, but not household appliances • Ideally get data from local e-waste collection sites to show that the UTAS contribution is increasing the total volume of e-waste diversion and not simply providing an alternative drop off point • See State draft Plan
4. Ensure provision of Recycling Walls at main buildings on each campus to provide collection for non-standard recycling streams	A	2021	ISD Sustainability	• # and location of Recycling Walls • # of collection points per non-standard stream • # of recycling streams ended due to successful product redesign • Quantity by weight of materials by type • Carbon emissions reduction achieved	Monthly	• Additional walls would be added as appropriate in new developments – see ISD Capital Works and UTAS Transformation Programs

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
5. Investigate and implement systems to recycle other waste types (e.g., PS, LLDPE)	A	Ongoing	ISD Sustainability / others	• Assessment undertaken / engagement with waste contractor • Carbon emissions reduction achieved	Annual	• Example: TIA and hay bale plastic wrap • Example: Non-hazardous medical waste as per collection from the Royal Hobart Hospital by Envorinex (of IV bags)
6. Expand and promote the Re-use Program for items beyond furniture (e.g., office supplies, student goods, lab/medical supplies and equipment)	A	Ongoing	ISD Sustainability	• System expanded • Amount of activity through system • Quantity by weight • Carbon emissions reduction achieved	Annual	• Need to determine storage space, collection, assessment of quantities
7. Work with the Transformation Program teams and Project Managers (minor & capital works projects) and Facilities Managers to minimise generation of and increase recovery of 'waste' materials	A	Ongoing	ISD (various)	• Waste Minimisation Plans produced within projects • Provision of infrastructure and education to collect maintenance and C&D material for re-use and recycling • Quantity of waste diverted from landfill / re-used /recycled by weight • Carbon emissions reduction achieved	Annual	• Includes timber, metals, fluorescent and LED lights, fittings, etc. • Employ construction methods, materials and design allowing re-use and recycling • Using materials with recycled content or come from re-purposed materials • Work with contractors to ensure they are not generating wastes while working on our sites or projects that are not reusable or recyclable • Include provisions in the Code of Practice for maintenance contractors • Lease discussions on external spaces that we are taking on (pre-clean-outs to us getting it with collaboration to minimise waste)
8. Monitor and report on a green / garden waste management scheme	A	2021	ISD (Grounds Contract Manager) / contractors	• Quantity by weight and type of materials through system • Carbon emissions reduction achieved	Annual	• Requires collaboration with Grounds contractor regarding data capture and reporting.

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
9. Implement preferred procurement guidelines in line with the office supplies contract to encourage use of office products with recycled content and minimising virgin resources	A	2021	Procurement	• Initial analysis of what is already covered within the sustainability provisions of current contracts • System established • Quantities and types of products procured • Carbon emissions reduction achieved	Annual	• Explore user of the EcoBuy tool • Planet Friendly products • Replas and REDCycle suppliers (recycled plastic products) • Consider a procurement audit to collect data on what is coming IN to UTAS, not just data on what is going out (waste)
10. Implement preferred procurement guidelines in catering contracts that eliminate single-use plastics and non-compostable items	A	2021	Procurement	• Serving containers, serviettes, disposable tableware, rubbish bin liners, etc. are 100% compostable	Annual	• Ensure serviettes, disposable tableware, rubbish bin liners, etc. are 100% compostable • Responsible Cafes initiative implemented
11. Influence key suppliers to reduce or avoid the excessive use of packaging including materials such as plastic and foam	A	2021	Procurement	• Amount of packaging reduction in waste stream • Carbon emissions reduction achieved • Amount of plastic waste avoided through new supplier agreement for cardboard packaging x number of computers delivered	Annual	• This may be achieved via negotiation, embedded within contracts or agreements, or changing behaviours when procuring products • This will be hard to measure at the disposal end as currently not separated from other streams
12. Ensure hazardous and non-hazardous medical/research wastes are minimised and appropriately managed	A	Ongoing	ISD / Other areas	• Amount and type of materials through system	Annual	• 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) • Alternatives should be sought, where available

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
						• Chemwatch system used to access chemicals already on campus somewhere rather than buying new
13. Implement a waste minimisation program during residence and building clean-outs	A	2021	ISD (Sustainability/ Waste Contract Manager) / Student Living / Colleges	• Decision making guide published for proper disposal of various waste types • Quantity by weight diverted from landfill • Carbon emissions reduction achieved	Annual	• Guide already developed, needs to be published and communicated
14. Implement a single-use petroleum-based plastic ban	B	2022	ISD Sustainability and others	• Quantity of single-use plastic avoided (or still used) • Carbon emissions reduction achieved	Annual	• Need to work out how this would be implemented/promulgated
15. Reduce reliance on single-use products such as paper towels by installing hand dryers at appropriate sites	A	Ongoing	ISD Facilities Management	• Number of hand dryers installed • Number of paper towel dispensers removed • Quantity of paper towels purchased • Net carbon emissions reduction achieved	Annual	• 'Net' as there will be emissions from electricity use in the hand dryers • It may be that a dual approach will need to be provided due to COVID-restrictions/responses • Installation in appropriate location to encourage use
16. Deploy bin sensors to all external skip bins	A	2021	ISD (Waste Contract Manager)	• # skip bins managed through sensor data	Annual	• Pilot 10 sensors prior to full deployment to ensure efficacy
17. Improve service provider data quality/reliability	A	2021	ISD (Waste Contract Manager)	• Data quality improvement verified	Annual	• Includes deployment of bin sensors to gather data on quantities at collection

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
18. Explore and implement relevant new technologies and processes	A	Ongoing	ISD / Other areas	• # of new technologies explored • # of new technologies implemented	Annual	• May include segregation, compaction (esp. for bulk cardboard), shredding, and composting technologies • Explore different accounting and analytical software specifically for waste management and life cycle assessment
19. Avoid excess useable food being sent to landfill	B	Ongoing	All	• Amount of excess food distributed to students • Amount of food sent to composting	Annual	• Will need to work with caterers, event organisers, etc
20. Assess impacts of State Government waste management plans on UTAS (e.g., levy and container deposit scheme)	A	2021	ISD (Waste Contract Manager)	• Report prepared and factored into resourcing decisions	Annual	
Objective 2: To engage students and staff in University waste management initiatives.						
1. Undertake waste and recycling education events and campaigns to encourage better resource recovery and waste minimisation	A	Ongoing	ISD Sustainability	• National Recycling Week campaign each year (or equivalent that better suits the academic calendar) • # of waste-related actions in Green Impact program activities • % of staff engaged or delivery of waste education initiative (using Green Impact Toolkit for one measurement tool)	Annual	• A focus within Green Impact activities, gamification, surveys, workshops, etc. • Better communication of existing services and options for recyclable waste streams • Explore options for guided site visits for staff and students to material recovery facilities, re-use facilities, and landfills

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
2. Embed resource sustainability and waste minimisation into University policy and procedures	A	Ongoing	ISD Sustainability / Procurement / Governance	• Procurement policy • Input provided to Asset Disposal Policy review process	Annual	
3. Monitor and evaluate recycling programs	A	Ongoing	ISD (Waste Contract Manager / Sustainability)	• Baselines established • Visual counts of waste produced internally and external 'public space' • Full waste audits of waste produced internally and external 'public space'	Annual	• Includes commingled through contractor and recycling walls, etc
4. Engage SIPS students and Green Impact teams for project opportunities	A	Ongoing	ISD Sustainability	• # projects/ activities undertaken involving students and / or staff • # activities initiated by students and / or Sustainability Reps	Annual	
5. Maintain and promote sustainable events checklist	A	2021	ISD Sustainability	• # of events using the checklist	Annual	• Include Sustainable Food Consumption Guide and Checklist • Provide educational signage for major University events that explain how to compost / recycle effectively • Word checklist in line with STARS credit(s)
6. Deploy improved bin signage and labelling across all campuses	A	Ongoing	ISD (Waste Contract Manager)	• All bin signage updated • # of new resource recovery opportunities implemented	Annual	
7. Challenge staff and students with an innovation-style competition to identify products that could be manufactured using recycled materials	B	2022	ISD Sustainability	• # of staff and students participating • # of products identified • # of products replaced/changed	Annual	• Work with companies to determine whether it would be feasible to manufacture and procure such products • Will require incentivising the activity

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
8. Explore implementation of an internal incentive budget which offsets the cost of acquiring sustainable materials and recycled products compared with virgin materials	A	Ongoing	Procurement / UC	• Spend on supplies with recycled content compared to other comparable supplies		• This budget should ideally favour a company which collects and recycles our waste for re-manufacturing • Need to work with Procurement on how this could work in practice. • UC and 3D printing – filament and using the materials to produce products used across UTAS (signs, name badges, etc)
Objective 3: To engage with external stakeholders for strategy, planning and operational linkages to meet or exceed Australasian tertiary education sector best practice.						
1. Liaise with non-governmental organisations having similar waste streams and types to explore linkages and opportunities for collaborative projects and funding	A	Ongoing	ISD Sustainability	• # collaborative projects identified and actioned • Participate in the steering committee for the non-governmental organisations working group on waste in Tasmania	Annual	
2. Liaise with cities/regions in which we have campuses to determine linkages and opportunities for collaborative projects and funding	A	Ongoing	ISD Sustainability	• # collaborative projects identified and actioned	Annual	• Northern Tasmania Waste Management Group • City of Hobart Environmental Grants
3. Monitor state and federal policy and programs to determine linkages and opportunities for collaborative projects and funding	A	Ongoing	ISD Sustainability	• # collaborative projects identified and actioned	Annual	• State of Tasmania – draft Plan

Action	Timeframe	Completion	Responsibility	KPIs	Reporting frequency	Notes
4. Seek opportunities to become actively involved with the Tasmanian Government's Waste Advisory Committee (yet to be formed).	A	Ongoing	ISD Sustainability	• Participation in meetings/forums • Submission of documents as feedback, reviews, etc	Annual	• This was a commitment identified within the State's Draft Waste Action Plan.
5. Explore the implications for UTAS of the introduction of a Waste Levy and Container Refund Scheme within Tasmania by the end of 2022.	A	2022	ISD (Waste Contract Manager)	• Report generated on impacts of CFS on UTAS waste management operations and recommendations for actions	Annual	
Objective 4: To minimise carbon emissions associated with production and management of waste.						
See above for inclusion of this Objective within the Actions						