

Status on 'Carry Forward' strategies from UTAS Environmental Management Plan 2009-2011 FINAL REPORT

30 March 2014

Prepared by UTAS Sustainability, Commercial Services and Development

This report has been prepared in response to a request from the University's Sustainability Committee for an update on items from the Environmental Management Plan (EMP) 2009-2011 Final Report with a 'Carry Forward' status. This status update does not duplicate the full content of the EMP final report, but rather uses only a subset of the tables to provide additional information for relevant items. As the EMP was completed in 2011 and an envisioned successor plan has to date not eventuated, the 'Carry Forward' items have been used to guide some aspects of sustainability activities. The following sections detail the implementation outcomes of the EMP by listing the category and objective.

Each category includes a table identifying:

- Strategies used
- Actions undertaken for the 2009-2011 period
- 2011 status – percentage completion per strategy coupled with whether the strategy was planned to be carried forward into a successor plan ("SP" in the status column).
- Actions undertaken for the 2012-March 2014 period
- March 2014 status – percentage completion per strategy as listed or an expanded strategy (i.e., new elements added as identified in the Actions column); 100% denotes strategies were continued and initiatives maintained.

1. Energy & Greenhouse Gases

Objective: To achieve a continual improvement in energy conservation and associated greenhouse gas emissions.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|---|--|---|--|
| 1.1 | Determine and quantify the types of energy used and establish the baseline position of the university's greenhouse gas (GHG) emission inventory. | <ul style="list-style-type: none"> ➤ UTAS first registered for NGERs in 2009/2010, with scope developed and resourcing requirements identified to meet both energy and carbon footprint reporting obligations. ➤ Scope 1 and 2 GHG emissions and energy use quantified for 2008 onwards. ➤ Reported under NGER for the 2010-2011 year. ➤ Allow ability to capture and report Scope 3 emissions in future systems. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward with an alternative base line year if needed | <ul style="list-style-type: none"> ➤ Draft carbon management documents developed, including a 'carbon footprint'/GHG inventory and base line year considerations including expansion to cover some Scope 3 emissions. ➤ Continued annual NGERs reporting. ➤ Participate in TEFMA's annual Environmental Survey (fiscal year) since 2012/13 as part of the overall annual reporting (calendar year) | <ul style="list-style-type: none"> • Expanded strategy: 50% |
| 1.2 | Identify possibility to extend the management of the electricity demand to other than SB & NH campuses. | <ul style="list-style-type: none"> ➤ Load shedding in response to predefined demand threshold within BMS System implemented across Sandy Bay & Newnham. ➤ Identification of existing systems on other sites being undertaken, external funding for required works possibly available from electricity retailers and distributors. | <ul style="list-style-type: none"> • Strategy: 25% • SP: Carry forward | <ul style="list-style-type: none"> ➤ MSP developments included load shedding. ➤ Engaged distribution network service provider (DNSP; Tas Networks) and retailer regarding commercial load shedding opportunities. | <ul style="list-style-type: none"> • Strategy : 50% |
| 1.3 | Review energy consumption patterns and identify areas for improvement and options to reduce energy use. | <ul style="list-style-type: none"> ➤ Extension of real-time meter logging undertaken to provide demand and consumption curves for most large buildings. ➤ Building level reporting has commenced with historical information to enable analysis. ➤ Working energy strategy drafted | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Draft energy strategy developed. ➤ Building energy audits have continued. ➤ List compiled of potential energy saving opportunities. ➤ Energy use 'hot spot' maps produced. ➤ Continue building level reporting / benchmarking. ➤ Additional metering installed. | <ul style="list-style-type: none"> • Expanded strategy: 50% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|---|--|---|--|
| | | <p>for use in future assessments.</p> <ul style="list-style-type: none"> ➤ Green IT Group formed. ➤ Energy auditing of 10 representative UTAS buildings undertaken. | | <ul style="list-style-type: none"> ➤ Design and partial development of database for AMIS integrated energy usage data. ➤ Green IT Working Group was active in 2011-2012, but ceased due to organisational restructure. | |
| 1.4 | <p>Monitor, manage and evaluate performance of the 5 year Energy Performance Contract following completion of targeted upgrade of Building Management System (BMS) in SB in 2007. Explore possibility to bring stand-alone HVAC control systems into the BMS to improve energy use efficiency.</p> | <ul style="list-style-type: none"> ➤ Energy saving resulting from Honeywell Contract documented in quarterly progress reports. Total energy cost savings estimated at \$63,200 for electricity and \$220,750 for natural gas. ➤ Stand-alone HVAC control systems have been identified and brought into the BMS. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry concept forward for EPC review generally | <ul style="list-style-type: none"> ➤ Energy performance contract finished. ➤ Standalone systems being integrated in capital works projects as part of expanded strategy. | <ul style="list-style-type: none"> • Expanded strategy: 75% |
| 1.5 | <p>Continually identify opportunities to use new energy conservation technologies including passive measures, renewable energy sources and energy efficient plant in capital and maintenance project works. Achieve 5 star AGBR performance for major capital works, >\$5m.</p> | <ul style="list-style-type: none"> ➤ All refurbished built and major capital works are now adhering to provision of the UTAS ESD. ➤ Building Services infrastructure plant to be developed, incorporating opportunities to gain efficiencies or utilise differing plant/equipment to existing. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Delivery of 5 Star Green Star buildings (Medical Science 2 and IMAS); exclusion of Newnham Apartments from 5 Star Green Star requirement in late 2013. ➤ ESD Reporting on all projects not standard. ➤ Roll-out of 660 LED lights (\$25,000) in pilot upgrade with estimated 5 month payback. ➤ Heating system projects for certain buildings established to address efficiency and reliability. | <ul style="list-style-type: none"> • Expanded strategy: 75% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|--|---|---|--|
| 1.6 | Establish specific showcase Environmentally Sustainable Design and other sustainability initiative projects. | <ul style="list-style-type: none"> ➤ Working with School of Engineering to explore potential for a showcase project involving renewable energy demonstration. ➤ Partnership with NRM North for two Fellowships to complete an eco-efficiency pilot project at the AMC Swanson building. ➤ Inveresk Green Precinct Project completed. ➤ Central Mall Project. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Delivery of ESD projects including bike hubs, 5 Star Green Star buildings (Medical Science 2 and IMAS). ➤ Installation of photovoltaic (solar power) systems at Bisdee Tier (5kW), Source Wholefoods (2kW), Bike Hubs at Sandy Bay and Inveresk (2kW each), Humanities Building at Sandy Bay (20kW). ➤ Roll-out over 600 LED light upgrades across two campuses as 'proof of technology' and awareness raising. | <ul style="list-style-type: none"> • Strategy: 100% |
| 1.7 | Develop and implement energy reduction/ conservation awareness campaign programs for staff and students. | <ul style="list-style-type: none"> ➤ Energy Reduction Campaign Launched 9 July 2009. ➤ Energy reduction challenge in 2009 and August 2011. Prizes to entrants based on percentage change in energy use and behavioural efforts. ➤ Bulk email, staff website, Unitas, TUU website, TUU Visual Screens, TUU Observer article, posters and stickers. ➤ 84 Sustainability Representatives recruited. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Continue annual energy reduction challenges (via Sustainability Month campaign). | <ul style="list-style-type: none"> • Strategy: 100% |

2A. Water Usage and Disposal

Objective: To achieve continual improvement in water conservation.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|--|---|--|---|
| 2.1 | Establish baseline water consumption for each university campus. | <ul style="list-style-type: none"> ➤ 2008 water consumption determined for main campuses. ➤ 2009 for off Sandy Bay Campus, Inveresk. Cradle Coast, Beauty Point, Rural Clinical School require meter installations and feed in analysis. | <ul style="list-style-type: none"> • Strategy: 25% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Collated data from UTAS staff and TasWater meter readings to create baselines. | <ul style="list-style-type: none"> • Strategy : 100% |
| 2.2 | Install water meters in each building and oval, where feasible, and monitor water consumption levels to establish baseline by area. | <ul style="list-style-type: none"> ➤ Quotes for metering all buildings across UTAS = \$3,300 per building x 60 Buildings without meters = \$198,000 not including BMS connection. | <ul style="list-style-type: none"> • Strategy: 20% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Installation of water meters as part of capital works where appropriate. ➤ New grounds maintenance contract has imbedded requirement for mandating the most efficient use and adjustment of installed irrigation systems, given the limitations in design of the currently installed systems. | <ul style="list-style-type: none"> • Strategy: 50% |
| 2.3 | Review water consumption patterns, identify improvement areas and options for water conservation. | <ul style="list-style-type: none"> ➤ Partnership with NRM North for two Fellowships to complete an eco-efficiency pilot project at the AMC Swanson building. | <ul style="list-style-type: none"> • Strategy: 10% • SP: Carry forward | <ul style="list-style-type: none"> ➤ No additional work undertaken. | <ul style="list-style-type: none"> • Strategy: 10% |
| 2.4 | Implement water conservation technologies and make water efficient fittings and appliances procurement criteria in capital works and maintenance projects. | <ul style="list-style-type: none"> ➤ UTAS Design Guidelines/ Sustainable Built Environment Design Policy ➤ Water efficient irrigation and toilets | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Ensuring high WELS rated fittings are selected as per UTAS design guidelines | <ul style="list-style-type: none"> • Strategy: 100% |
| 2.5 | Develop a landscape water conservation plan | <ul style="list-style-type: none"> ➤ UTAS Design Guidelines requirement for water efficient | <ul style="list-style-type: none"> • Strategy: 0% • SP: Carry forward | <ul style="list-style-type: none"> ➤ No funds provided in approved budgets for irrigation upgrades and irrigation not | <ul style="list-style-type: none"> • Strategy: 0% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|---|--|---|--|--|
| | in conjunction with the University's Landscape Plan. | irrigation. | | provided as part of new building projects (e.g., NRAS Newnham). ➤ New grounds maintenance contract has imbedded requirement mandating the most efficient use of installed irrigation systems, given the design limitations of currently installed systems. | |
| 2.6 | Continually identify opportunities in project works to harvest rainwater for reuse. | ➤ All refurbished built and major capital works are now adhering to provision of the UTAS ESD Policy. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | ➤ Rainwater harvesting is explored in all major works projects and have been installed in Medical Science 2, Domain, IMAS and Small Animal Facility (Cambridge) developments. | <ul style="list-style-type: none"> • Strategy: 100% |
| 2.7 | Develop and implement water conservation awareness campaign for staff and students. | <ul style="list-style-type: none"> ➤ Accommodation Services ran a campaign on World Water Day 2011. ➤ 84 Sustainability Representatives Recruited. | <ul style="list-style-type: none"> • Strategy: 10% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Water conservation is included in the Sustainability Month campaigns each year. ➤ Draft water conservation poster developed in line with 'You don't need a xxx degree to...' poster series theme. | <ul style="list-style-type: none"> • Strategy: 50% |

2B. Storm Water Management

Objective: To minimise pollution entering the stormwater system and improve ecology.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|--|--|--|---|
| 2.8 | Undertake environmental risk assessment of each campus in relation to stormwater and identify mitigation strategies. | ➤ Not commenced on an organised basis, but some data generated during scoping of the proposed Sandy Bay Stormwater Project in late 2011. | <ul style="list-style-type: none"> • Strategy: 10% • SP: Carry forward | ➤ No additional work undertaken. | <ul style="list-style-type: none"> • Strategy: 10% |
| 2.9 | Identify existing infrastructure and practices that generate a residual risk of | ➤ Limited commencement, identification of vehicle wash down practices was initiated. | <ul style="list-style-type: none"> • Strategy: 10% • SP: Carry forward | ➤ Vehicle washdown practices were audited and recommendations implemented. | <ul style="list-style-type: none"> • Strategy: 15% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|---|--|---|---|--|
| | stormwater pollution and develop and install mitigation strategies such as stormwater pollution traps, swales, etc. | | | | |
| 2.10 | Continually identify opportunities in maintenance and capital project works to use water sensitive urban design to minimise negative impacts on urban water cycle through water minimisation, water recycling and environmental protection. | <ul style="list-style-type: none"> ➤ Sandy Bay Central Mall Upgrade. ➤ Installation of a stormwater filtration system off the Sandy Bay campus TUU carpark. ➤ Fine tuning of irrigation regimens to minimise run-off that may contain excess nutrients from athletic fields, research plots, etc. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Explored in all major works projects. ➤ Completion of the natural swale filtration system for the TUU carpark. | <ul style="list-style-type: none"> • Strategy: 100% |
| 2.11 | Develop and raise awareness to prevent or minimise stormwater pollution and identify initiatives to demonstrate how stormwater is a resource. | <ul style="list-style-type: none"> ➤ 84 Sustainability Representatives Recruited. | <ul style="list-style-type: none"> • Strategy: 0% • SP: Carry forward | <ul style="list-style-type: none"> ➤ No additional work undertaken. | <ul style="list-style-type: none"> • Strategy: 0% |

3. Indoor Environment Quality

Objective: To continually improve indoor environmental quality with a view to providing increasingly healthy and productive work environment.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|---|--|---|---|--|
| 3.1 | For targeted existing buildings of high risk areas undertake an IEQ assessment incorporating interior air quality, CO2 level, VOC level, glare control, noise level, hazardous materials, etc. Identify remedies, strategies and implement. | <ul style="list-style-type: none"> ➤ Estimate of cost to undertake a comprehensive assessment (\$4,000 - \$5,000 per building). | <ul style="list-style-type: none"> • Strategy: 0% • SP: Recognise as an OH&S issue, note is embedded in ESD for buildings | <ul style="list-style-type: none"> ➤ Note ESD is embedded in policies for refurbishments and new buildings. ➤ No IEQ assessments undertaken for targeted existing buildings. | <ul style="list-style-type: none"> • Strategy: 0% |
| 3.2 | For new & refurbishment building works, incorporate indoor environment quality strategies that address interior air quality, daylighting, glare control, artificial lighting, external views, thermal comfort, material toxicity and internal noise levels. | <ul style="list-style-type: none"> ➤ Reviewed UTAS Design Guidelines and amended/reinforced as required. ➤ Included in scoping process for projects. | <ul style="list-style-type: none"> • Strategy: Done • SP: Carry forward, note is embedded in ESD for buildings | <ul style="list-style-type: none"> ➤ Note ESD is embedded in policies for refurbishments and new buildings. | <ul style="list-style-type: none"> • Strategy: 100% |
| 3.3 | Embed material toxicity as a selection criteria for products and materials procurement (e.g., fittings, finishes, cleaning products, furnishings). | <ul style="list-style-type: none"> ➤ Reviewed UTAS Design Guidelines - amended/reinforced areas required. No specific standards set. | <ul style="list-style-type: none"> • Strategy: 0% • SP: Carry forward, in ESD for buildings | <ul style="list-style-type: none"> ➤ Implied in ESD requirements embedded in policies for refurbishments and new buildings. ➤ No specific standards set except where building projects meet external certification requirements (e.g., Green Star). | <ul style="list-style-type: none"> • Strategy: 50% |

4. Transport

Objective: To contribute positively to addressing sustainable urban transport issues.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|---|---|--|---|--|
| 4.1 | Determine fuel consumption by University fleet to provide a baseline for measuring improvement. | <ul style="list-style-type: none"> ➤ Completed as part of NGERs obligation investigation. ➤ 2008 UTAS Vehicle Fleet statistics determined. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward with wording change comparing against baseline | <ul style="list-style-type: none"> ➤ Annual data collection continued. ➤ Annuals NGERs reporting continued. ➤ Reported in Sustainable Transport Strategy Implementation Progress Report. | <ul style="list-style-type: none"> • Strategy: 100% |
| 4.2 | Develop, in conjunction with University fleet management, a sustainable fleet management strategy. | <ul style="list-style-type: none"> ➤ Initial discussions have taken place with Vehicle Fleet and Human Resources regarding the updating of the Vehicle Fleet Policy to incorporate sustainability e.g. fuel efficient vehicle procurement, promotion of fuel efficient driving habits, staff carpooling. | <ul style="list-style-type: none"> • Strategy: 20% • SP: Carry forward | <ul style="list-style-type: none"> ➤ A draft Fleet Management Strategy has been developed that incorporates sustainability. | <ul style="list-style-type: none"> • Strategy: 75% |
| 4.3 | In consultation with relevant University planning groups, review campus-planning issues to determine the impact on inter and intra-campus transport requirements. | <ul style="list-style-type: none"> ➤ Development of a Sustainable Transport Strategy. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Sustainable Transport Strategy Implementation Progress Report available. ➤ Inaugural Travel Survey completed with almost 4000 participants. | <ul style="list-style-type: none"> • Strategy: 100% |
| 4.4 | Review, develop and promote the current carpooling scheme under the Australian Greenhouse Organisation TravelSmart initiative. | <ul style="list-style-type: none"> ➤ Bulk email sent to staff and Sustainability Reps. | <ul style="list-style-type: none"> • Strategy: 25% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Engage Cool Pool Tasmania as an online carpooling service provider. | <ul style="list-style-type: none"> • Strategy: 100% |
| 4.5 | Undertake a sustainable transport community | <ul style="list-style-type: none"> ➤ Sustainability Reps provided with information on sustainable transport opportunities at UTAS. | <ul style="list-style-type: none"> • Strategy: 50% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Transport included as a focus area in the August Sustainability Month. ➤ Implementation of the Parking Strategy | <ul style="list-style-type: none"> • Strategy: 100% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|--|--|---|---|
| | awareness campaign, promoting diversity in transport choice. | | | regularly included references to alternative choices to single occupant vehicles. ➤ Travel Survey raised awareness of the diversity of transport choices available. | |
| 4.6 | Undertake research into what influences transport choices. (nb. Potential research project) | <ul style="list-style-type: none"> ➤ Development of a Sustainable Transport Strategy. ➤ Undertake transport-focused AOSIP projects with students. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Undertake transport-focused AOSIP projects with students, including surveys of staff and students. | <ul style="list-style-type: none"> • Strategy: 100% |
| 4.7 | Survey transport modes of UTas staff and students to inform alternative transport strategies, (identifying and addressing 'weak links'), measure impacts and recommend practical actions. (nb. Potential research project) | <ul style="list-style-type: none"> ➤ Development of a Sustainable Transport Strategy. ➤ Undertake online survey of the University bicycle community. ➤ Undertake 'movement' and 'parked bike' counts. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Inaugural Travel Survey completed with almost 4000 participants. ➤ Undertake online survey of the University bicycle community. ➤ Undertake 'movement' and 'parked bike' counts throughout the year. | <ul style="list-style-type: none"> • Strategy: 100% |
| 4.8 | Liaise with local councils to improve pedestrian and cycle routes to university campuses. Monitor usage and increase bicycle parking as required. | <ul style="list-style-type: none"> ➤ UTAS comments on Sandy Bay Walking and Cycling Project. ➤ Continuing to make contacts within Hobart and Launceston City Council | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward and add State Government to list | <ul style="list-style-type: none"> ➤ Participate in DIER-led development of Principle Urban Cycling Networks maps and associated explanatory documents for Burnie, Launceston and Hobart. ➤ Participate in annual regional 'bike counts'. ➤ Support DIER's application development for \$29.4m Nation Building 2 funding to connect universities to their communities – focus on active transport infrastructure. ➤ Support Launceston City Council's grant applications to upgrade the shared walk/cycle way from the Mowbray Connector to the Newnham campus. ➤ Annually review allocation of bicycle parking racks across all campuses and move and/or acquire new as needed. | <ul style="list-style-type: none"> • Expanded Strategy: 100% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|------------|-------------------------|-------------|--|------------------|
| | | | | <ul style="list-style-type: none"> ➤ Installation of significant bicycle infrastructure in major developments (Medical Science Precinct, IMAS, Domain, NRAS Newnham). ➤ Upgrade showers in underserved areas. ➤ Installation of stand-alone bike hubs at Sandy Bay and Newnham campuses, including covered areas, electric bike charging stations, lockers, photovoltaics, repair station and water bottle filling station. | |

5. Waste & Recycling

Objective: To achieve best practice in recycling and waste management.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|--|--|---|---|
| 5.1 | Develop and implement, in conjunction with waste management contractors, a waste monitoring and evaluation process that provides baseline information on annual volume, weight and composition of the waste, recycling and composting streams. | <ul style="list-style-type: none"> ➤ The number, type and size of bins being emptied across UTAS Campuses determined. ➤ Audits undertaken of public litter bins (prior to PPR installation, and in the south in 2011 by 3rd year GES students). ➤ NRM-UTAS fellowship project in 2011 at AMC included a waste audit & implementation of waste reduction actions. | <ul style="list-style-type: none"> • Strategy: 25% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Volume and weight reporting incorporated into new waste contract for waste and recycling streams. ➤ Composition analyses conducted through AOSIP program (annual 3rd yr prac class, SLaF) and Sustainability staff audits. ➤ New grounds maintenance contract has a requirement that all green waste generated on campus is chipped or mulched on site for reuse within the University environment. | <ul style="list-style-type: none"> • Strategy: 90% |
| 5.2 | Introduce & maintain a university-wide recycling program, which includes the use of standard | <ul style="list-style-type: none"> ➤ Public Place Recycling bins installed across all three main campuses externally near food venues (14 bins), and internally in | <ul style="list-style-type: none"> • Strategy: 25% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Maintained existing infrastructure. ➤ University-wide recycling infrastructure still expanding. <ul style="list-style-type: none"> ○ All Tea-rooms being supplied with | <ul style="list-style-type: none"> • Strategy: 90% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|---|--|---|---|
| | recycling bins and promotional media and training in the use of the system. | foyers of main student activity areas. ➤ The Resource Recovery project installed co-mingled and cardboard recycling hubs externally. ➤ Provision of paper, cardboard, and newsprint recycling infrastructure, battery, mobile phone, and toner cartridge recycling infrastructure at a number of locations across the three main campuses. ➤ E-waste amnesty in September 2011 diverted 6.06 tonnes of e-waste from landfill (3.5t in south, 2.56t in north). ➤ Food waste recovery for composting trial (at southern food outlets in 2011) diverted five tonnes of organics over six months. | | comingled recycling bins. ○ Additional PPR bins north & South being rolled out. ➤ E-waste recycling collections available through waste contract. ➤ Populate & maintain website. Posters and web information provided as part of Sustainability Month. ➤ Training opportunities being explored to improve construction / deconstruction recovery and end-of-year Accommodation Services clean-out recovery. | |
| 5.3 | Review the impact of litter on campus and establish recycling points at 'hot spots'. | ➤ 14 PPR bins in key locations near food venues across 3 main campuses. | <ul style="list-style-type: none"> • Strategy: 50% • SP: Carry forward | ➤ No litter audit undertaken yet. ➤ Additional public place recycling bin sets deployed across all campuses (4 sets at Newnham, 3 at Sandy Bay, 1 at Inveresk, 1 at Cradle Coast). | <ul style="list-style-type: none"> • Strategy: 75% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|---|---|--|--|---|
| 5.4 | Implement a purchasing policy that promotes: the use of products manufactured from recycled material, waste minimisation, material reuse and recycling. | <ul style="list-style-type: none"> ➤ Sustainable Procurement Action Group (SPAG) (11 staff volunteers). ➤ 50% recycled copy paper deal with CE. ➤ Recycled paper options for toilet paper & business cards. ➤ Sust procurement clauses into General Purchasing Guidelines. ➤ Draft Sustainable Procurement Guidelines. ➤ 'How To' & basic information onto website. | <ul style="list-style-type: none"> • Strategy: 80% • SP: Carry forward | <ul style="list-style-type: none"> ➤ No additional work undertaken. | <ul style="list-style-type: none"> • Strategy: 80% |
| 5.5 | Establish a strategy for managing e-waste such as toner cartridges, mobile phones and old computers & monitors. | <ul style="list-style-type: none"> ➤ Batteries/mobile phone collection tubes in libraries. ➤ Toner cartridge recycling boxes. ➤ E-Waste Amnesty. ➤ GreenIT working group formed. | <ul style="list-style-type: none"> • Strategy: 50% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Batteries/mobile phone collection tubes monitored and emptied regularly. ➤ Toner cartridge recycling boxes managed by individual area administrative staff. ➤ Ad-hoc e-waste collections held annually and available whenever required through new waste contract. | <ul style="list-style-type: none"> • Strategy: 80% |
| 5.6 | Establish a community awareness program to promote the reuse of materials, recycling and waste minimisation. | <ul style="list-style-type: none"> ➤ Sustainability Reps ➤ Webpages ➤ Unitas articles ➤ Staff news (emails) ➤ NRM North-funded Fellowship project at AMC | <ul style="list-style-type: none"> • Strategy: 25% • SP: Carry forward | <ul style="list-style-type: none"> ➤ Campaign poster developed. ➤ Waste and recycling is included in the Sustainability Month campaigns each year. | <ul style="list-style-type: none"> • Strategy: 50% |

6. Biodiversity

Objective: To manage and improve biodiversity in an ecologically appropriate manner in consultation with the various university communities.

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|---|--|--|--|--|
| 6.1 | Identify and assess localised biodiversity priorities in partnership with students and/or academics for research and monitoring for biodiversity conservation and protection (nb. potential research projects). | <ul style="list-style-type: none"> ➤ As an AOSIP project, partner with School of Geography and Environmental Studies (J. Kirkpatrick) to create a bushland management plan for the Sandy Bay campus University Reserve. | <ul style="list-style-type: none"> • Strategy: 50% • SP: Carry forward. | <ul style="list-style-type: none"> ➤ Draft Natural Environment Strategy developed by CSD identifying key biodiversity elements at each UTAS property from which AOSIP projects may be identifiable. | <ul style="list-style-type: none"> • Strategy : 75% |
| 6.2 | Undertake a pilot ecological audit and then develop a biodiversity action plan for input to the University's Landscape Plan for that locality. | <ul style="list-style-type: none"> ➤ As an AOSIP project, partner with School of Geography and Environmental Studies (J. Kirkpatrick) to create a pilot bushland management plan for the Sandy Bay campus University Reserve. | <ul style="list-style-type: none"> • Strategy: 50% • SP: Carry forward. | <ul style="list-style-type: none"> ➤ AOSIP project with J. Kirkpatrick as academic lead, completed draft bushland management plan for the Sandy Bay campus University Reserve. | <ul style="list-style-type: none"> • Strategy: 80% |
| 6.3 | Assess and report effectiveness of the biodiversity improvements in the pilot projects. | <ul style="list-style-type: none"> ➤ Not yet actionable. | <ul style="list-style-type: none"> • Strategy: 0% • SP: Carry forward. | <ul style="list-style-type: none"> ➤ No further action undertaken. | <ul style="list-style-type: none"> • Strategy: 0% |
| 6.4 | Include protection of biodiversity and minimisation of ecological impact (on topography, hydrology, vegetation, | <ul style="list-style-type: none"> ➤ Included in the Sustainable Built Environment Designs Policy. | <ul style="list-style-type: none"> • Strategy: 100% • SP: Carry forward. | <ul style="list-style-type: none"> ➤ No further action undertaken. | <ul style="list-style-type: none"> • Strategy: 100% |

| Item | Strategies | 2009-2011 Actions Taken | 2011 Status | 2012 - 2014 Actions Taken | June 2014 Status |
|------|--|---|--|---|--|
| | fauna etc) as goals for all maintenance and capital works projects. | | | | |
| 6.5 | Raise awareness among university community of potential significant specific factors that impact on site diversity in at least one locality. | <ul style="list-style-type: none"> ➤ Not yet actionable until the pilot project is complete. | <ul style="list-style-type: none"> • Strategy: 0% • SP: Carry forward. | <ul style="list-style-type: none"> ➤ No further action undertaken. | <ul style="list-style-type: none"> • Strategy: 0% |