UTAS Environmental Management Plan 2009-2011

FINAL REPORT

27 January 2012

Prepared by UTAS Sustainability

The University of Tasmania's commitment to sustainability has been growing through a number of policy and signatory documents, including:

- The 2009 signing of the *Talloires Declaration 1990*, an international agreement for Universities to incorporate environmental literacy and sustainability;
- Adoption of Governance Level Principle No 9 (GLP No9) which has the specific objective of improving the University's environmental performance;
- Integration of sustainable development principles into the Built Environment Governance Level Principle No 10 (GLP No10);
- Implementation of the Environmentally Sensitive Design Policy for Buildings in 2009;
- Inclusion of sustainability criteria in other policies through 2011 (e.g., Purchasing policy);
- Drafting a Sustainable Transport Strategy in 2011.

The Environmental Management Plan (EMP) 2009-2011 was one of the instruments for implementing the University of Tasmania's Governance Level Principle 9 (Environmental Management), with a primary aim to develop a comprehensive and integrated set of sustainability objectives and initiatives to achieve net positive environmental outcomes in a way that was engaging and connected UTAS' operational and academic interests with those of the wider community.

As a pathway towards this vision the EMP aimed to engage the UTAS community with Education for Sustainability by delivering improved environmental performance through the implementation of actions within six categories:

1. Energy and Greenhouse Gases
2. Water
3. Waste and Recycling
4. Transport
5. Indoor Environment Quality
6. Biodiversity

Sustainability staff within Asset Management Services (AMS) had responsibility for implementing the EMP and were answerable to the Environmental Management Group (EMG), an entity made up of interested staff and students with line reporting to the University Council's Built Environment Committee, but also passed information via AMS to the Senior Management Team. As of 2011, the Sustainability Unit became recognised as a distinct entity as part of the new Commercial Services and Development management unit in the Division of the Chief Operating Officer. UTAS Sustainability now reports to the Environmental Management Committee (EMC; nee EMG), which reports directly to the Senior Management Team (SMT). Note that significant organisational and staffing changes over the final 14 months of the implementation period impacted on the results achieved.

At the end of the three year implementation period, and complementarily to the policy and strategies noted above, specific highlights of actions implemented and outcomes from the EMP include:

- ENERGY
    - Upgrade of Building Management System (BMS) upgrade resulting in $284,000 savings from 2007-2011
    - Submission of first legally required Australian Government NGERs report
    - Energy Reduction campaigns and challenges raising awareness of energy conservation (one challenge at Accommodation Services, Sandy Bay resulting in an annualised savings of 7,288 kWh)
- WASTE and RESOURCE RECOVERY
    - Deployment of co-mingled materials and cardboard/newsprint recycling infrastructure
        - internally to 15 buildings
        - externally (3 bin collection hubs & 2 bin public place recycling sets) at most facilities
- TRANSPORT
    - Changes to vehicle policies to be based on NCAP safety ratings, thus allowing for procurement/use of more fuel-efficient vehicles
    - University Council-approved Sustainable Transport Strategy
    - Deployment of student-designed and -built bicycle parking infrastructure
    - Changes made to Redline contract to increase ridership
- PROCUREMENT
    - Sustainable considerations embedded into general Purchasing guidelines

- ENGAGEMENT
    - Outside Partnerships
        - ACTS institutional member and Regional Director role
        - NRM North Fellowships – Australian Maritime College facility focus (2 Fellows – AMC and SGES)
        - Monash Sustainability Institute Green Steps (14 participants) with Tasmanian Climate Change Office grant
        - State Government – particularly transport
        - Metro Tasmania – joint marketing, servicing discussions
        - Local Government – Hobart and Launceston City Councils regarding transport and biodiversity
    - Over 80 staff Sustainability Representatives across the University
    - Academic-Operations Sustainability Integration Program (AOSIP)
        - MOUs established between Commercial Services and Development and:
            - School of Geography and Environmental Studies (SGES)
            - School of Architecture and Design (SA&D)
            - Centre for Environment
        - Nominated by SGES and SA&D Heads of School for VC Teaching Award
        - Integration into DVC Sadler's Education for Sustainability (EfS) Community of Practice underway

The following sections detail the implementation outcomes of the EMP by listing the category objective, targets and performance indicators used and an achievement statement as at the end of 2011. Each category also includes a table identifying:

- the strategies used
- actions undertaken
- status – consisting of percentage completion per strategy coupled with whether the strategy will be carried forward into the successor document, the UTAS Sustainability Plan ("SP" in the status column).

1. *Energy & Greenhouse Gases*

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

Target:

- To reduce absolute energy consumption and greenhouse gas emission levels to 10% below the base level year (2008) by 2011.

Environmental Performance Indicators:
Develop and monitor appropriate energy and greenhouse performance indicators that illustrate true progress against a background of growth for the university. Proposed performance indicators include:

- GJ energy consumption as well as per EFTSU & per sq.m. gross floor area.
- CO2e footprint as well as per EFTSU & per sq.m. gross floor area.

Achievement Statement: The captured data for the baseline period (2008) has been used to determine the scope of data capture for subsequent annual energy consumption data for reporting against the EMP target. As data collection expands (due to National Greenhouse Gas and Energy Reporting [NGER] and EMP requirements), this provides some means of ensuring the baseline and subsequent years can provide valid information for performance reporting. The data captured mainly consists of energy consumption recorded from central account and fuel card expenditure invoices.

Some energy savings achieved:

- 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.
- Energy auditing of 10 representative UTAS buildings undertaken.
- All refurbished built and major capital works are now adhering to provision of the UTAS ESD, which will result in significant savings into the future.

Greenhouse gas emission conversions have been performed using information published by the Department of Climate Change and Energy Efficiency (DCCEE). Using these conversion factors, carbon emissions from electricity consumption have been increasing since the base line period. As the energy consumption of UTAS is typically 78% electricity this makes a substantial impact to the theoretical carbon emissions from UTAS's energy consumption. It is anticipated however that the emission factor growth for Tasmanian electricity consumption will soon subside due to an increase in hydro generation capacity over recent years. If the carbon emission factor for Tasmanian electricity consumption was constant from the baseline period (i.e. 33.33) then the emissions from electricity consumption in 2011 would be 5,313 tC02-e and overall emissions 8,042 tC02-e (as opposed to our reported NGER amount of 16,386 tC02-e). Subsequently the emissions per EFTSL and GFA would be 0.54 and 0.03 (as opposed to 1.10 and 0.06) resulting in an 8.5% decrease in emissions against EFTSL and no change in emissions against GFA from the baseline period.

Item	Strategies	Actions Taken	Status

Item	Strategies	Actions Taken	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.	➢ 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.	• Strategy: 100% • SP: Carry forward with an alternative base line year if needed.
1.2	Identify possibility to extend the management of the electricity demand to other than SB & NH campuses.	➢ 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.	• Strategy: 25% • SP: Carry forward
1.3	Review energy consumption patterns and identify areas for improvement and options to reduce energy use.	➢ 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 for use in future assessments. ➢ Green IT Group formed. ➢ Energy auditing of 10 representative UTAS buildings undertaken.	• Strategy: 100% • SP: Carry forward
1.4	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.	➢ 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.	• Strategy: 100% • SP: Carry concept forward for EPC review generally.
1.5	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.	➢ 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.	• Strategy: 100% • SP: Carry forward
1.6	Establish specific showcase Environmentally Sustainable Design and other sustainability initiative projects.	➢ 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.	• Strategy: 100% • SP: Carry forward

Item	Strategies	Actions Taken	Status
1.7	Develop and implement energy reduction/ conservation awareness campaign programs for staff and students.	➢ 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.	• Strategy: 100% • SP: Carry forward

2A. Water Usage and Disposal

Objective: To achieve continual improvement in water conservation.

Target:

- Reduce potable water consumption levels by 10% by 2011 compared to the base year (2009).

Environmental Performance Indicator:

- Kilolitres total (potable and rainwater) consumption as well as per sq.m. gross floor area & per oval.

Achievement Statement: Due to lack of complete meter coverage and aggregation and incompleteness of data sets, it is not possible to report against the target holistically for all of UTAS due to lack of an accurate baseline. Some facilities with metering provide a range of results, including: Newnham total (-1.9%), Inveresk (-10.8%), Ann O'Byrne Centre (-48%), Sandy Bay total (+10.8%), Sandy Bay irrigation (-10%), 'combined southern non-Sandy Bay-campus' total (+53.3%). There have been efforts to identify areas for improvement, such as fixing leaks, rainwater harvesting and water efficient fittings in new developments and refurbishments as required under the Sustainable Built Environment Design Policy.

Item	Strategies	Actions Taken	Status
2.1	Establish baseline water consumption for each university campus.	➢ 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.	• Strategy: 25% • SP: Carry forward
2.2	Install water meters in each building and oval, where feasible and monitor water consumption levels to establish baseline for each area.	➢ Quotes for metering all buildings across UTAS = $3,300 per building x 60 Buildings without meters = $198,000 not including BMS connection.	• Strategy: 20% • SP: Carry forward
2.3	Review water consumption patterns, identify areas for improvements and options for water conservation.	➢ Partnership with NRM North for two Fellowships to complete an eco-efficiency pilot project at the AMC Swanson building.	• Strategy: 10% • SP: Carry forward

Item	Strategies	Actions Taken	Status
2.4	Implement water conservation technologies and make water efficient fittings and appliances a procurement criterion in maintenance and capital works projects.	➢ UTAS Design Guidelines/ Sustainable Built Environment Design Policy ➢ Water efficient irrigation and toilets	• Strategy: 100% • SP: Carry forward
2.5	Develop a landscape water conservation plan in conjunction with the University's Landscape Plan.	➢ UTAS Design Guidelines requirement for water efficient irrigation.	• Strategy: 0% • SP: Carry forward
2.6	Continually identify opportunities in major project works to harvest rainwater for reuse.	➢ All refurbished built and major capital works are now adhering to provision of the UTAS ESD Policy.	• Strategy: 100% • SP: Carry forward
2.7	Develop and implement water conservation awareness campaign for staff and students.	➢ Accommodation Services ran a campaign on World Water Day 2011. ➢ 84 Sustainability Representatives Recruited.	• Strategy: 10% • SP: Carry forward

2B. Storm Water Management

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

Target:

- Avoid all actions that could attract water pollution infringements.

Environmental Performance Indicator:

- No breaches relating to stormwater identified during campus environmental risk assessments and other inspections.

Achievement Statement: During this reporting period, no infringements have been issued against UTAS. Due to limited mitigation strategies, however, pollution will have been generated and discharged to receiving waters with stormwater pollution evident at several outfall points.

Item	Strategies	Actions Taken	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.	• Strategy: 10% • SP: Carry forward
2.9	Identify existing infrastructure and practices that generate a residual risk of stormwater pollution and develop and install mitigation strategies such as stormwater pollution traps, swales, etc.	➢ Limited commencement, identification of vehicle wash down practices was initiated.	• Strategy: 10% • SP: Carry forward
2.10	Continually identify opportunities in	➢ Sandy Bay Central Mall Upgrade.	• Strategy: 100%

Item	Strategies	Actions Taken	Status
	maintenance and capital project works to use water sensitive urban design to minimise negative impacts on urban water cycle though water minimisation, water recycling and environmental protection.	➢ 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.	• SP: Carry forward
2.11	Develop and raise awareness to prevent or minimise stormwater pollution and identify initiatives to demonstrate how stormwater as a resource.	➢ 84 Sustainability Representatives Recruited.	• Strategy: 0% • SP: Carry forward

3. *Indoor Environment Quality*

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

Targets:

- Improved indoor environment quality in buildings.
- Improved workplace satisfaction.

Environmental Performance Indicator:

- Design briefs for proposed building projects will incorporate IEQ.
- Improved workplace satisfaction identified through post occupancy evaluation.

Achievement Statement: With commitment of UTAS to new buildings over $5m achieving a 5 Star Green Star rating and inclusion of environmentally sustainable design principles in all other projects, the objective is partially met. There has been, however, no action on targeting existing buildings for assessment and remediation outside of capital works activities.

Item	Strategies	Actions Taken	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.	➢ Estimate of cost to undertake a comprehensive assessment ($4,000 - $5,000 per building).	• Strategy: 0% • SP: Recognise as an OH&S issue, note is embedded in ESD for buildings
3.2	For new & refurbishment building works, incorporate indoor environment quality strategies, which address interior air quality, daylighting, glare control, artificial lighting, external views, thermal comfort, material toxicity and internal noise levels.	➢ Reviewed UTAS Design Guidelines and amended/reinforced as required. ➢ Included in scoping process for projects.	• Strategy: Done • SP: Carry forward, note is embedded in ESD for buildings
3.3	Embedding material toxicity as one of the selection criteria for products and materials procurement (e.g. furnishings, fittings, finishes, cleaning products).	➢ Reviewed UTAS Design Guidelines - amended/reinforced areas required. No specific standards set.	• Strategy: 0% • SP: Carry forward, in ESD for buildings

4. Transport

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

Targets:

- University Fleet:
  - Increase the efficiency of the vehicle fleet (10% reduction of litres fuel consumed) with reference to the base level year (2008) by 2011.
- Reduce the environmental impact of the university community's commuting by:
  - Minimising single occupant car commuting.
  - Maximising the accessibility and suitability of alternative modes of transport.

Environmental Performance Indicators:

- University Fleet:
  - TCO2e per annum.
  - Fuel consumption against baseline year.
- University Commuting:
  - Number of staff and students using inter-campus public bus scheme, carpooling program and alternative forms of transport (walking & cycling).

Achievement Statement: A number of achievements were realised in the transport category, including: a new vehicle policy that allows for inclusion of highly efficient vehicles to be used by UTAS staff; development of a Sustainable Transport Strategy (STS), based on extensive internal and external consultations and data collection efforts that involved student learning opportunities, which has been submitted to the University Council for ratification; and production of student-designed and built bike lockers for the Sandy Bay campus to serve as a model for a more holistic roll-out.

As no targeted program was in place to focus on the efficiency of the vehicle fleet while an overall transport strategy was being developed, overall we did see a 20% reduction in petrol use, but an 80% increase in diesel fuel use. On a total transport fuel litre basis, there was a <1% decrease. Thus, the target of a 10% reduction was not achieved. Given that diesel provides a higher average fuel efficiency, however, there was a net decrease in our greenhouse gas emissions from transport fuels (as included in category one above).

Again, as no targeted program was in place to focus on increasing the number of carpoolers or users of the inter-campus bus service while an overall transport strategy was being developed, there was no net change in participants in official carpool schemes or in the use of the bus service.

Item	Strategies	Actions Taken	Status
4.1	Determine fuel consumption by University fleet to provide a baseline for measuring improvement.	➢ Completed as part of NGERS obligation investigation. ➢ 2008 UTAS Vehicle Fleet statistics determined.	• Strategy: 100% • SP: Carry forward with wording change comparing against baseline
4.2	Develop, in conjunction with University fleet management, a sustainable fleet management strategy.	➢ 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.	• Strategy: 20% • SP: Carry forward
4.3	In consultation with relevant University planning groups, review campus-planning issues to determine the impact on inter and intra-campus transport requirements.	➢ Development of a Sustainable Transport Strategy.	• Strategy: 100% • SP: Carry forward
4.4	Review, develop and promote the current car-pooling scheme under the Australian Greenhouse Organisation TravelSmart initiative.	➢ Bulk email sent to staff and Sustainability Reps.	• Strategy: 25% • SP: Carry forward
4.5	Undertake a sustainable transport community awareness campaign, promoting diversity in transport choice.	➢ Sustainability Reps provided with information on sustainable transport opportunities at UTAS.	• Strategy: 50% • SP: Carry forward
4.6	Undertake research into what influences transport choices. (nb. Potential research project)	➢ Development of a Sustainable Transport Strategy. ➢ Undertake transport-focused AOSIP projects with students.	• Strategy: 100% • SP: Carry forward
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)	➢ Development of a Sustainable Transport Strategy. ➢ Undertake online survey of the University bicycle community. ➢ Undertake 'movement' and 'parked bike' counts.	• Strategy: 100% • SP: Carry forward
4.8	Liaise with local councils to improve pedestrian and cycle routes to university campuses. Monitor usage and increase bicycle parking as required.	➢ UTAS comments on Sandy Bay Walking and Cycling Project. ➢ Continuing to make contacts within Hobart and Launceston City Council	• Strategy: 100% • SP: Carry forward and add State Government to list

5. Waste & Recycling

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

Targets:

- Establish a baseline for weight/volume of waste going to landfill.
- Reduce volume of waste generated.
- Implement university-wide recycling programme.

Environmental Performance Indicator:

- Weight/volume of waste produced, waste to landfill, recycling and composting per year.

Achievement Statement: Major progress has been made in implementing best practice waste and recycling systems across the University. All campuses have access to external recycling hubs for co-mingled and cardboard recycling, Public Place Recycling bins have been placed outside food venues on all campuses, and each campus has a number of buildings with internal co-mingled and paper recycling available for staff and students. Facilities are available for non-standard items to be recycled as well (such as mobile phones, batteries and toner cartridges). Work will continue to ensure recycling services are standardised and available across all areas. Further work needs to be undertaken in relation to data collection for waste and recycling; this is, however, a state-wide problem larger than just the University due to the paucity of weighbridges at key waste management locations. Small, specific baseline audits have been undertaken under the EMP (such as litter and public place bins), and a larger waste and recycling audit has commenced to feed into the future plan. Although the volume of waste generated is unlikely to have reduced, the volume to landfill will definitely have dropped due to the tonnages now being diverted through recycling streams.

Item	Strategies	Actions Taken	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.	➢ 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.	• Strategy: 25% • SP: Carry forward
5.2	Introduce & maintain a university-wide recycling program, which includes the use of standard recycling bins and promotional media and training in the use of the system.	➢ Public Place Recycling bins installed across all three main campuses externally near food venues (14 bins), and internally in 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. ➢ An e-waste amnesty in September 2011 diverted a total of 6.06 tonnes of e-waste from landfill (3.5t in south, 2.56t in north). ➢ A food waste recovery trial for composting (at southern food outlets in 2011) diverted 5 tonnes of organics over 6 months.	• Strategy: 25% • SP: Carry forward
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.	• Strategy: 50% • SP: Carry forward
5.4	Implement a purchasing policy that promotes: the use of products manufactured from recycled material, waste minimisation, material reuse and recycling.	➢ 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.	• Strategy: 80% • SP: Carry forward
5.5	Establish a strategy for managing e-waste such as toner cartridges, mobile phones and old computers & monitors.	➢ Batteries/mobile phone collection tubes in libraries. ➢ Toner cartridge recycling boxes. ➢ E-Waste Amnesty. ➢ GreenIT working group formed.	• Strategy: 50% • SP: Carry forward
5.6	Establish a community awareness program to promote the reuse of materials, recycling and waste minimisation.	➢ Sustainability Reps ➢ Webpages ➢ Unitas articles ➢ Staff news (emails) ➢ NRM North-funded Fellowship project at AMC	• Strategy: 25% • SP: Carry forward

6. Biodiversity

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

Target:

- Develop and implement a biodiversity management plan.

Environmental Performance Indicators:

- Increased university community awareness of biodiversity issues.
- Demonstrated improvement in biodiversity within a location.

Achievement Statement: This objective is partially met through inclusion of biodiversity and natural environment in the Sustainable Built Environment Designs Policy, which includes environmental sustainable design (ESD) principles. Addressing biodiversity in the University's natural environments, such as landscaping, bushland and farms, is being explored through development of a pilot project in the Sandy Bay campus University Reserve.

Item	Strategies	Actions Taken	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).	➢ 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.	• Strategy: 50% • SP: Carry forward.
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.	➢ 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.	• Strategy: 50% • SP: Carry forward.
6.3	Assess and report effectiveness of the biodiversity improvements in the pilot projects.	➢ Not yet actionable.	• Strategy: 0% • SP: Carry forward.
6.4	Include protection of biodiversity and minimisation of ecological impact (on topography, hydrology, vegetation, fauna etc) as goals for all maintenance and capital works projects.	➢ Included in the Sustainable Built Environment Designs Policy.	• Strategy: 100% • SP: Carry forward.
6.5	Raise awareness among university community of potential significant specific factors that impact on site diversity in at least one locality.	➢ Not yet actionable until the pilot project is complete.	• Strategy: 0% • SP: Carry forward.