ACU Benchmarking Report
Management of Sustainability

2.2.7.1 Strategic Context and Policy

A strategic priority within the Edith Cowan University (ECU) Strategic Plan is building organisational sustainability.

ECU was one of the earliest Universities to appoint an environment committee to inform and advise the Vice-Chancellor on environmental related issues. The Environment Committee dealt with a number of environmental issues including:

- The establishment of the University’s Green Office Program;
- Provision of environment education programs;
- Improved waste management practices and recycling; and
- Improvements in the use of energy and waste.

In 2008 the Environment Committee provided a recommendation to the Vice-Chancellor (V-C) that the Environment Committee be broadened to include sustainability and deal with issues such as incorporation into the University’s curriculum. The V-C endorsed the recommendation and appointed the Pro-Vice Chancellor Teaching and Learning to chair a Sustainable Communities Committee. The V-C requested that the Committee produce a Sustainable Communities Functional Plan, in accordance with the University’s planning framework, and to broaden the agenda to include all aspects of sustainability, including health and wellness.

The Sustainable Communities Committee selected the Global Reporting Initiative (GRI) as the framework for managing sustainability and selected five social programs being:

1. Product responsibility of services offerings (curriculum).
2. Occupational health and safety (OHS) and wellness practices.
3. Training and education programs (for University staff).
4. Diversity and equal opportunity policies and initiatives.
5. Interaction with the wider community.

In addition, a further two environmental programs were selected, on top of the five operating with the Facilities and Services Centre see below, being:

6. Recycled and non-recycled materials used (procurement).
7. Environmental impact of service delivery (how education is delivered).

In 2008 the University’s Facilities and Services Centre adopted an integrated management system to further drive improvement. The Management System is based on the following international and national recognised standards:

The Environmental Management System for Facilities and Services is based on driving improvement for the University in the areas of:

8. Energy, direct and indirect energy use and green house gas emissions.
10. Water, recycled and non-recycled water used.

The Facilities and Services Centre is seeking external certification to its integrated management system in 2009. Two fulltime environmental staff are employed within the Facilities and Services Centre to provide advice and assistance across the University. The roles are the Environment Systems Coordinator and an Environmental Projects Officer.

The University’s functional plan for Sustainable Communities will commence implementation in June 2009 and will incorporate goals and objectives for the 12 sustainability programs. Depending on the maturity of each program some will have benchmarks, such as the Tertiary Education Facilities Management Association (TEFMA) benchmarking report.

22.7.2 Education and Research

Issues of sustainability are included in the academic program at ECU mainly in areas where there is strong synergy between sustainability and the discipline. Environmental sustainability is an important component of the curriculum in environmental science and physical sciences courses. It also forms part of the studies undertaken by students in tourism and marketing courses. Social sustainability forms part of the curricula in several social science programs. Environmental issues are often treated in case studies in courses across all Faculties and studied in ways appropriate to the discipline. The University includes sustainability practices as part of new student orientations.

ECU conducts a high level of research in the physical and environmental sciences and research into environmental sustainability is as an area of research strength within the University. In this area ECU’s research encompasses biological and environmental areas and the interaction between ecology and human health. Specific areas of expertise include coastal marine and estuarine ecology, freshwater ecosystems, macroalgae and seagrass ecology, forest, woodland and wetland ecology, semi-arid environments, plant and animal ecological genetics, microbiology and biotechnology. Applied research addresses problems of mine site rehabilitation, habitat degradation, pollution, forest management and threatened species. A growing cross-disciplinary area is natural resources modelling and simulation. As well the University conducts research in eco-tourism in its Faculty of Business and Law.

Social sustainability forms part of the research undertaken in the social and community research area. ECU’s social and community research includes Indigenous studies, applied social research and political science. Indigenous studies include Indigenous health, education, mission and colonial history, Aboriginal linguistics and policy issues. Applied social research and evaluation among special populations (children and young people, women, people with disabilities, rural and regional), with a social justice focus, is also a significant research strength within the University. Research in psychology includes clinical, forensic, developmental, community and social psychology. In 2009 the
School of Communications and Arts and the Environmental Services team will join together in a sustainable photography competition with the aim of encouraging students to express their understanding of sustainability and have their works displayed in a public studio.

The University is moving to embed environmental and social sustainability in a strategic fashion across all its activities through the development of the Sustainable Communities Functional Plan. Activities are underway that will result in social and environmental sustainability becoming an integrated and targeted outcome within all curricula and academic activities. The University is seeking to establish ambitious goals and targets associated with demonstrating sustainable practices and values in all areas of university life.

227.3 Operational Considerations

In 2008, the Facilities and Services Centre within the University developed an Environmental Management Systems based on the requirements of AS/NZS ISO 14001. Incorporated into this system were the following programs:

- Water – The University established a Water Efficiency Management Plan for Mount Lawley and Joondalup campuses and lodged the plans with the Water Corporation. In addition an initiative associated with a Commonwealth Water Grant to utilise waste water from Joondalup campus air conditioning cooling towers for watering of grounds was completed. The project is now in a monitoring phase. Staff involved in this project was awarded the V-C’s Award in their contribution towards environmental sustainability.
- Waste – An assessment was completed by a consultant to drive an action plan to improve the University’s waste management practices.
- Energy - The establishment of objectives and targets in Asset Management for integrating sustainable design into the University’s existing and future built environment.
- Biodiversity - An internal assurance review was undertaken at the Bunbury Campuses and a number of actions were identified and actioned by the University.
- Travel – A travel survey was undertaken and a travel plan developed. Regular forums are held to promote and improve the use of public transport.

Each of the above five programs, has an environmental improvement plan which sets the framework for carrying out day-to-day operations within each program. These plans are an important framework in how the University operationalises key environmental programs. The environmental improvement plans include a program aim, objectives, targets, risks, key performance indicators, reference to legal obligations and guidelines for working committees. These plans are reviewed and updated by the Coordinator of Environmental Systems and implemented by the Coordinator and Environmental Projects Officer. Working committees for each program meet on a regular basis.

The following provides an update on the University’s environmental programs.

Water

The University has completed a Water Efficiency Management Plan for the Water Corporation covering its Mount Lawley and Joondalup campuses. Actions within the plan include:

- A rapid leak response policy implemented by the Maintenance Call Centre which encourages staff and students to quickly report leaks from dripping taps and toilets.
- A water recycling project funded by the Federal Government operated throughout the year. Initial results indicate that approximately 2 million litres per year from the Joondalup Campus
Cooling Tower is being reused in campus reticulation, saving a proportionate amount of groundwater.

- Water saving showers was installed in all the student housing and sports centres and the program to install waterless urinals is continuing.

While ECU’s water management practices are comparable with best practice, there are opportunities for further savings and to promote water conservation with ECU staff and students.

Table 1 shows that ECU’s water use has declined from 2004 to 2006. While water use rose slightly in 2007 and again in 2008, 2008 use is still less than that consumed in 2005. Ground water use is down significantly which is as a result of reduced maintainable areas at the now closed Churchlands campus.

Table 1: ECU Water Use, 2004-2008

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potable kL/yr</td>
<td>150,776</td>
<td>119,033</td>
<td>103,944</td>
<td>109,583</td>
<td>116,231</td>
</tr>
<tr>
<td>Potable kL/ EFTSL + FTE</td>
<td>8.61</td>
<td>6.96</td>
<td>6.59</td>
<td>7.29</td>
<td>8.71</td>
</tr>
<tr>
<td>Potable kL/m²</td>
<td>0.839</td>
<td>0.634</td>
<td>0.493</td>
<td>0.504</td>
<td>0.609</td>
</tr>
<tr>
<td>Bore kL/yr</td>
<td>187,978</td>
<td>Data unavailable</td>
<td>152,259</td>
<td>158,576</td>
<td>132,362</td>
</tr>
</tbody>
</table>

Note: Water consumption figures are exclusive of the South West Campus and Student Housing. Area is measured as gross useable floor area. FTE is staff “full-time equivalent”. EFTSL is student full-time equivalent load.

Waste

In 2008 the University engaged a consultant to develop a Waste Management Strategy. The review concluded that the University currently has a number of waste minimisation initiatives at its three campuses including paper, cardboard and co-mingled recycling. Whilst a number of waste services have been provided to staff and students, there is potential for improvement and coordination of these waste services activities and increased education to staff and students. During 2009, the Waste Management Strategy will be deployed across the University.

Table 2 illustrates that the overall waste to landfill from the Joondalup campus has increased over the 2005 – 2008 period, with a substantial increase in the 2008 year, this may be attributed to the shorter sampling period experienced in 2008. The portion of paper to landfill however shows a decreasing trend from 2005 – 2007, down to six per cent in 2007. While there was a rise in 2008, this is still relatively low compared to 2005 and 2006. The weight of paper recycled in 2007 is not yet available, but in 2006 more than 50 per cent of paper was recycled.

The proportion of co-mingled waste is relatively constant with that found in 2007 at 23.95%, however the total weight to landfill in 2008 increased by 83% over 2007. Once again this may partly be due to the shortened sampling period. The waste to landfill per student and staff full-time equivalent has increased from 2005 with a considerable jump between 2007 and 2008 from 0.0154t to 0.0248t. This increase may be attributed to the lack of resources allocated to this area, however the newly funded position of Environmental Project Officer will provide a focus on waste related issues and to rollout the Waste Management Strategy.
Table 2: ECU Waste to Landfill, Joondalup Campus, 2005-2008

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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</thead>
<tbody>
<tr>
<td>Waste to landfill (t)</td>
<td>86.85</td>
<td>87.11</td>
<td>95.40</td>
<td>170.32</td>
</tr>
<tr>
<td>Paper to landfill (t)</td>
<td>43.3</td>
<td>23.7</td>
<td>5.9</td>
<td>18.8</td>
</tr>
<tr>
<td>Proportion paper to landfill</td>
<td>42.9%</td>
<td>27.2%</td>
<td>6.2%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Commingled to landfill (t)</td>
<td>12.9</td>
<td>14.0</td>
<td>22.3</td>
<td>40.8</td>
</tr>
<tr>
<td>Proportion commingled to landfill</td>
<td>14.9%</td>
<td>16.1%</td>
<td>23.2%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Paper recycled (t)</td>
<td>12.4</td>
<td>25.4</td>
<td>Data unavailable</td>
<td>81.44</td>
</tr>
<tr>
<td>Proportion paper recycled</td>
<td>22%</td>
<td>52%</td>
<td>Data unavailable</td>
<td>81.24%</td>
</tr>
<tr>
<td>Waste to landfill (t/ EFTSL + FTE)</td>
<td>0.0132</td>
<td>0.0138</td>
<td>0.0154</td>
<td>0.0248</td>
</tr>
</tbody>
</table>

Note: Waste data is based on annual waste audit over one week for 2005 – 2007 and over two days for 2008 and results are extrapolated across a 50 week for the Joondalup Campus only. Does not include construction, gardening, electronic or furniture waste. Figures for 2008 paper recycled where provided by Western Recycling and taken from a 6 month period and extrapolated over one year. FTE is Joondalup staff “full-time equivalent”. EFTSL is Joondalup student full-time equivalent load.

Table 3 shows that for 2008 Mt Lawley campus had less waste to landfill than the Joondalup campus. This is most likely due to the fact that there are less staff and students at this campus. Overall the Mt Lawley campus shows similar trends in paper to landfill, but has a slightly higher paper proportion to landfill at 18.5% compared to the Joondalup campus at 11%. While co-mingled waste to landfill was found to be less than that from Joondalup, the proportion to landfill was similar at 20.7%, with Joondalup at 23.9%. The waste to landfill per student and staff full-time equivalent is also very similar to that at Joondalup.

Table 3: ECU Waste to Landfill, Mt Lawley Campus, 2008

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste to landfill (t)</td>
<td>119.93</td>
</tr>
<tr>
<td>Paper to landfill (t)</td>
<td>22.3</td>
</tr>
<tr>
<td>Proportion paper to landfill</td>
<td>18.5%</td>
</tr>
<tr>
<td>Commingled to landfill (t)</td>
<td>24.88</td>
</tr>
<tr>
<td>Proportion commingled to landfill</td>
<td>20.7%</td>
</tr>
<tr>
<td>Paper recycled (t)</td>
<td>Data unavailable</td>
</tr>
<tr>
<td>Proportion paper recycled</td>
<td>Data unavailable</td>
</tr>
<tr>
<td>Waste to landfill (t/ EFTSL + FTE)</td>
<td>0.0202</td>
</tr>
</tbody>
</table>
**Note:** Waste data is based on annual waste audit (one week) results extrapolated across a 50 week for the Mt Lawley Campus only. Does not include construction, gardening, electronic or furniture waste. FTE is Mt Lawley staff “full-time equivalent”. EFTSL is Mt Lawley student full-time equivalent load.

Table 4 shows that ECU’s paper purchases in 2007 and 2008 were below 2005 levels, but higher than in 2006 and 2007. Paper purchases per student and staff full-time equivalent for 2008 have decreased to 2.03 reams, this is lower than both 2005 and 2007. This decrease in paper use per student and staff full-time equivalent could be attributed to behaviour change strategies. In both 2007 and 2008 the portion of recycled paper purchased was 98.5% and 95.7% retrospectively showing that almost all paper purchased was recycled.

**Table 4: ECU Paper Purchases, 2005-2008**

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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<tbody>
<tr>
<td>Total paper purchased (reams)</td>
<td>38,815</td>
<td>31,110</td>
<td>35,133</td>
<td>35,776</td>
</tr>
<tr>
<td>Recycled paper purchased (reams)</td>
<td>4,803</td>
<td>8,771</td>
<td>34,603</td>
<td>34,237</td>
</tr>
<tr>
<td>Proportion of recycled paper purchased</td>
<td>12.4%</td>
<td>28.2%</td>
<td>98.5%</td>
<td>95.7%</td>
</tr>
<tr>
<td>Paper/EFTSL + FTE</td>
<td>2.27</td>
<td>1.97</td>
<td>2.34</td>
<td>2.03</td>
</tr>
</tbody>
</table>

**Note:** All figures are in reams (500 sheets/ream). FTE is staff “full-time equivalent”. EFTSL is student full-time equivalent load. FTE and EFTSL includes Joondalup, Mt Lawley and Bunbury.

**Energy**

ECU current carbon emissions are approximately 25,000 tonnes of CO₂ across its three campuses. This places the University below the targets required for reporting under the National Greenhouse and Energy Reporting Act 2007.

The 2007 Benchmarking Report from the Tertiary Education Facilities Management Association places ECU in the top 10 of Australian Universities for energy efficiency.

The University commenced a review of the Asset Management Plan objectives and targets for integrating sustainable design into the University’s existing and future built environment. This will result in a re-write of the University’s building design and planning guidelines with a focus on delivering sustainable outcomes from ECU’s built environment.

Table 5 shows that energy use, and by extrapolation, CO₂ emissions, were up 3% on 2007 emissions and 10.7% on 2006. This can be attributed to new buildings coming on line due to the impact of campus consolidation. It would be reasonable to expect that a reduction in emissions will result in 2009 with the closure of the Churchlands campus. A slow incremental increase in the energy and CO₂ emissions per student and staff full-time equivalent has occurs over the 5 year period.

**Table 5: ECU Energy Use, 2004-2008**

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<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy GI/yr</td>
<td>93,121.22</td>
<td>97,877.87</td>
<td>94,596.55</td>
<td>101,247.14</td>
<td>104,744.42</td>
</tr>
<tr>
<td>TCO₂/yr</td>
<td>22,851</td>
<td>23,709</td>
<td>23,215</td>
<td>25,178</td>
<td>25,886</td>
</tr>
<tr>
<td></td>
<td>0.518</td>
<td>0.522</td>
<td>0.449</td>
<td>0.466</td>
<td>0.548</td>
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<tr>
<td>GI/m³</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GI/ EFTSL + FTE</td>
<td>5.320</td>
<td>5.719</td>
<td>5.996</td>
<td>6.734</td>
<td>7.85</td>
</tr>
<tr>
<td>TCO₂/m³</td>
<td>0.127</td>
<td>0.126</td>
<td>0.110</td>
<td>0.116</td>
<td>0.135</td>
</tr>
<tr>
<td>TCO₂ / EFTSL + FTE</td>
<td>1.306</td>
<td>1.385</td>
<td>1.471</td>
<td>1.675</td>
<td>1.94</td>
</tr>
</tbody>
</table>

**Note:** TCO₂ was calculated using the coefficients 1.052 kg CO₂ per kWh electricity and 68 kg CO₂ per GJ gas consumed. Energy use figures are exclusive of South West Campus and Student Housing. Area is measured as gross useable floor area. FTE is staff “full-time equivalent”. EFTSL is student full-time equivalent load.

**Biodiversity**

The University has established a biodiversity program for its South-West Campus. The objective of the program is:

‘While Edith Cowan University occupies this tenancy Facilities and Services will identify and manage the biodiversity values of the south-west campus and ensure compliance with relevant environmental legislation’.

The targets of the program are 100% legal compliance with relevant state and commonwealth legislation and no net loss of biodiversity on the south west campus as a result of development.

During 2008 an internal assurance review was completed and a number of improvements actions undertaken to protect flora and fauna on the site. This included the establishment of Geographic Information System to store all previously identified information.

**Travel**

Good transport access is fundamental to the attraction and retention of both staff and students. ECU provides, and is serviced by, a range of facilities to accommodate varying travel modes including reasonably priced car and motor cycle parking, public transport (including CAT buses at Joondalup), cycling end of trip facilities and good walk paths.

Each year the University collects information on student travel behaviour on Mount Lawley and Joondalup Campuses. Results from 2008 indicate that approximately 40% of students take public transport with ‘not having a car’ cited as the reason. The results suggest that the University must consider planning the provision of the further public transport services to the metropolitan campuses to reduce the travel time taken to reach the University, which may be three times longer than car transport from many northern corridor suburbs.

A Green Transport Plan 2008 – 2010 was developed in partnership with the Department for Planning and Infrastructure and the Department for Environment and Conservation through the TravelSmart Workplace Program. The University have received recognition from both Departments for the development of this plan. The Plan is a tool to reduce car use and to facilitate more sustainable travel options. The Plan recommends actions to:

- Improve campus facilities and access to further support walking, cycling and public transport.
- Develop policy and processes that actively encourages and promotes walking, cycling, carpooling and the use of public transport, and
- Communicate the alternatives to single occupant car use to both university employees and students.
The University continues to partly fund the Joondalup Cat Services which has seen increasing capacity to the stage where maximum bus loads have forced a review of the service. Consideration will also be given to reviewing public transport options at the Bunbury Campus.

The University has a well developed program for the purchase of fleet vehicles and uses the Green Vehicle Guide to help make decisions when purchasing fleet vehicles. Since 2006 ECU has been part of a carbon neutral program and in that period has offset 980 tonnes of CO2 emitted from its vehicle fleet.

**Green Office Program**

The ECU Eco Office Program is another program aimed at ‘greening’ our daily work and study practices by encouraging environmentally-friendly and sustainable behaviour. The Program covers energy, water, transport initiatives, recycling and the reduction of paper use and purchasing and focuses upon raising staff and student awareness of the environmental impacts that result from daily office activities. The ECU Eco Office Program seeks to improve the environmental performance of the University through simple changes to staff and students’ daily work and study practices.

At the heart of the program are the Eco Office Representatives - volunteer staff and postgraduate students from various departments around the university. The Program is based upon our Eco Office Checklist that provides ten simple and easy alternatives to wasteful and environmentally damaging office practices.

**Other**

ECU procurement policy requires that environment sustainability is assessed as part all procurements. All dining and food services are outsourced and successful tenderers need to demonstrate their commitment to the environment.

Building Projects at ECU are undertaken in accordance with the University’s Planning and Design Guidelines which include Sustainable Design Guidelines. These guidelines, whilst currently under review, reference national ‘green standards’ including the Green Building Council Greenstar Tool for Education Buildings. These standards, however, typically do not address whole of campus initiatives, building occupation initiatives and facility management requirements. For this reason the University does not solely rely on ‘National or International Standards’ to drive its sustainability agenda for building projects.

**227.4 Administration and Finance**

Edith Cowan University is committed to instilling within its staff, students and the wider community a sense of place and value for the environment and each other. ECU aims to create a sustainable university community and a culture of *healthy you, healthy environment* by:

- Facilitating and encouraging staff and students to embrace the principles of sustainable living;
- Embedding sustainability values throughout the University and instilling these values in staff, students and the broader community;
- Contributing, within and beyond the University, to the advancement of knowledge and research related to social and environmental sustainability and wellbeing; and
• Positioning the University as a leader and community role-model in corporate social and environmental responsibility by pursuing environmental best practice and continuous improvement in all activities.

The Sustainable Communities Steering Committee provides advice to the Vice-Chancellor on activities and strategies that will seek to achieve these aims. It oversees the development and implementation of Sustainable Communities Functional Plan, which will incorporate indicators of sustainability and the realisation of ECU’s sustainability goals.

The purpose of the Sustainable Communities Steering Committee is to advise and make recommendations to the Vice-Chancellor on:

• Compliance with the University’s Environmental Declaration and the University’s Environment Policy, which incorporates ECU’s commitment to environmental responsibility and sustainable development principles;
• The management and protection of environmental values on Edith Cowan University campuses, with respect to their local, regional, national and international significance;
• Edith Cowan University obligations and responsibilities (legal, moral, educational and administrative) with respect to environmental management issues;
• The implementation of the Sustainable Communities Plan; and
• Develop activities which promote and coordinate environmental awareness throughout the University via its academic and public programs.

Responsible investing is included in the University’s Investment Policy and recognises that by applying the principles of responsible investing may better align investment activities with the broader interests of society. Where consistent with the University’s fiduciary responsibility to act in the best long-term interests of its beneficiaries, the University will:

• Ensure environmental, social and labour force factors are taken into account for any direct investments made by the University; and

• Assess the capabilities of external investment managers to incorporate these issues.

The University has Master Plans for all of its Campuses and sustainability is incorporated into these plans. For example, certain areas are set aside for preservation of natural bush and revegetation uses only local naturally occurring plant species.

The University is also undertaking a land development of a previous campus. The development has had a strong focus on the community and environment and the University has achieved the Housing Industry Accreditation as a Greensmart Partner.

As part of its recognition and reward processes the University have annual V-C’s awards to staff, which include an award for contribution towards environmental sustainability.

227.5 Communication, Review and Feedback

Progress on the University Annual Plans is provided to the University’s Council. Reports on the progress of Facilities and Services environmental programs are reported quarterly to the Sustainable Communities Committee and the Vice–President Resources and Chief Financial Officer.

The Sustainable Communities Committee comprises representation from all campuses and all faculties. In addition, the University has been proactive in establishing a forum for other WA
Universities to discuss environmental sustainability and is a member of the Australian Campuses towards Sustainability. The University also maintains a website on environmental sustainability. [http://www.ecu.edu.au/fas/EcoECU/](http://www.ecu.edu.au/fas/EcoECU/)

The University has a strong marketing program and has been linking this with sustainability initiatives, such as providing cloth bags and setting-up Christmas card e-mail templates.