AUSTRALIAN CAMPUSES
SUSTAINABILITY ASSESSMENT
Sustainable Campus Group National Reporting Project 2010

APRIL 2011 (Updated & amended)
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1. Introduction

In March 2010, the Sustainable Campus Group (SCG) and Monash Sustainability Institute (MSI) launched the first nation-wide assessment of sustainability in the higher/tertiary education sector in Australia.

This inaugural national sustainability assessment and reporting project has grown from a state level program that SCG has conducted in Victoria since 2006. This report summarises the methodology and findings of the assessment.

Findings are divided into the categories of institutional commitment, energy, greenhouse gas (GHG) emissions, transport, water, waste and recycling, green procurement, information technology and education for sustainability.

A more detailed report is available on request.

2. Sustainable Campus Group: history and purpose

The (SCG) was established in 2006 as a university-government-private partnership between Monash Sustainability Institute, Monash University, Department of Sustainability and Environment (DSE), Sustainability Victoria and Maunsell Consulting (now AECOM).

Prior to this, data on performance in the areas of energy use, GHG emissions, water consumption, and waste and recycling were largely not collected at an institutional level nor collated for sectoral analysis (Universities and TAFEs).

Neither did a professional network exist for the growing number of environment and sustainability staff (Environment Officers, Sustainability Managers, etc.) in universities and TAFEs. SCG was established as a membership organisation with the purpose of capacity-building for sustainability through professional networking, knowledge transfer, exchange opportunities and sector benchmarking.

Since 2006, SCG has published two sustainability sector reports (Sustainable Campus Group 2006, 2008). These sector reports make the environmental sustainability performance of participating member institutions publicly available and accessible. SCG membership was offered nationally in early 2010.

All universities and TAFEs in Australia were invited to join SCG and to participate in the first nationwide assessment of environmental sustainability performance of the sector.

Participating institutions:

Australian Catholic University
Brisbane North Institute
Charles Darwin University
Chisholm Institute
Deakin University
Edith Cowan University
Gordon Institute
Goulburn Ovens Institute
Hunter Institute
Illawarra Institute
Kangan Institute
La Trobe University
Monash University
New England Institute
North Coast Institute
Northern Sydney Institute
RMIT University
South-West Sydney Institute
Sunshine Coast Institute
Sunraysia Institute
Swinburne University of Technology
Sydney Institute
University of Adelaide
University of Ballarat
University of Melbourne
Victoria University
Western Sydney Institute
3. The Tertiary and Vocational Education Sector

The tertiary and vocational education sector is an important part of the Australian community and economy. The sector provides training and educational opportunities to students and is a major export due to the large number of international students who choose to study here. The institutions that make up the sector are large landholders and resource users.

The sector represents an opportunity for significant sustainability outcomes through:

- An emerging emphasis on environmental sustainability and environmental performance within sector operations
- Research and innovation
- Education and training
- Influencing culture, behaviour and attitudes across the whole of society.

The national assessment comprised seven universities, 15 TAFEs and five dual sector institutions, with a total of 198 campuses and 554,288 people (staff and students).

This is approximately 30% of total tertiary education institutions in Australia. The institutions that participated and the statistics they provided are listed in Table 1.

<table>
<thead>
<tr>
<th>INSTITUTION</th>
<th>TOTAL STUDENTS (EFTSL)</th>
<th>TOTAL STAFF (FTE)</th>
<th>GROSS FLOOR AREA (m²)</th>
</tr>
</thead>
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<tr>
<td>Australian Catholic University</td>
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<td>1,383</td>
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<td>Hunter Institute</td>
<td>15,885</td>
<td>1,772</td>
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<td>Illawarra Institute</td>
<td>10,791</td>
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<td>57,352</td>
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<td>121,822</td>
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<td>27,048</td>
<td>960</td>
<td>188,724</td>
</tr>
<tr>
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<td>1,637</td>
<td>231,679</td>
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<td>Charles Darwin University</td>
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<td>1,744</td>
<td>120,300</td>
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<td>Brisbane North Institute</td>
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<td>90,127</td>
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<td>Sunshine Coast Institute</td>
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<td>548</td>
<td>29,873</td>
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<td>University of Adelaide</td>
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<td>2,261</td>
<td>304,695</td>
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<tr>
<td>Chisholm Institute</td>
<td>15,713</td>
<td>1,075</td>
<td>98,820</td>
</tr>
<tr>
<td>Deakin University</td>
<td>18,734</td>
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<td>230,009</td>
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<td>Gordon Institute</td>
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<td>577</td>
<td>48,328</td>
</tr>
<tr>
<td>Goulburn Ovens Institute</td>
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<td>Kangan Institute</td>
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<td>Monash University</td>
<td>36,801</td>
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<td>RMIT University</td>
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<td>Sunraysia Institute</td>
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<td>Swinburne University of Technology</td>
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<td>2,599</td>
<td>195,507</td>
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<tr>
<td>University of Ballarat</td>
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<tr>
<td>University of Melbourne</td>
<td>36,001</td>
<td>7,371</td>
<td>746,809</td>
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<tr>
<td>Victoria University</td>
<td>47,489</td>
<td>2,211</td>
<td>311,279</td>
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<tr>
<td>Edith Cowan University</td>
<td>13,648</td>
<td>1,534</td>
<td>193,599</td>
</tr>
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</table>
4. This Report

This report summarises institutional commitment to environmental sustainability and the environmental performance of SCG members for 2009. Member institutes have been categorised as universities, TAFEs or dual sectors (universities that also have a TAFE division).

As each institution has differing numbers of students, staff, geographic location and research, training and teaching facilities, data has been standardised for comparative purposes using gross floor area (GFA) (metres squared) or total student and staff numbers (full-time equivalent). TAFE student contact hours have been converted to equivalent full time student load.

Note: Institutions that did not provide data have been excluded from the average calculations and omitted from the charts where applicable.

5. Key Findings

The following overall findings indicate good sector performance:

- 89% of institutions have an environmental policy, strategy or plan
- 70% of institutions have at least one full-time staff member employed in an environmental/sustainability improvement capacity
- More than half of institutions have at least one environmental committee
- 60% of institutions have a target to reduce GHG emissions or to become carbon-neutral
- Two institutions reported to have successfully made agreements with local council to improve transport services
- 47% of all A4 copy paper purchased comprised at least 50% recycled content
- 55% of all institutions had a green IT committee and 74% reported to have successful policies for default computer monitor energy saving and double sided printing

Improvement is particularly needed in:

- Sustainability measurement (data collection)
- Implementation of policy, strategy and plans
- Holistic systems perspective of environmental management and reporting
- Waste measurement
- Water metering and water recycling systems
- Green purchasing committees (only 2 of 27 member institutions reported to have a committee)
- Formal and informal education for sustainability

Key Sectoral Comparisons

- Universities reported the highest average facilities energy use per capita and per gross floor area
- Duals reported the highest average consumption of green energy as a percentage of total energy use
- On average universities reported consuming 2.4 times more water per capita than TAFEs and 3 times more than duals
- Per m² of Gross Floor Area (GFA) universities reported on average using 24% more water than TAFEs and 35% more than dual sector institutions
- The TAFE sector reported the highest waste to landfill figures (approximately 1.2 times that of universities per capita)
6. Institutional Commitment

Some very positive signs of institutional commitment were shown, for instance:

- 89% of institutions have an environmental policy, strategy or plan
- 70% of institutions have at least one full-time staff member employed in an environmental/sustainability improvement capacity
- More than half of institutions have at least one environmental committee
- 60% of institutions have a target to reduce GHG emissions or to become carbon-neutral

Figures 1 and 2 show the average figures for each grouping for staff employed in environmental improvement roles and the average number of committees held. The sector reported having many policies, strategies and plans in various environmental areas though the implementation of these were generally shown to be lacking at this stage.

This was evidenced by poor data quality, lack of contractual obligation to achieve environmental targets, low staffing and low performance in areas such as green energy, recycling and purchasing.
7. Energy and Emissions

The sector reported consuming a total of 3,744,796 GJ of energy in 2009. Combining all GHG emission sources across all three groupings, it was calculated that the sector emitted a total 891,188 tonnes of GHG.

Emissions were dominated by energy use (88%) and energy use was dominated by electricity use (60%). Universities reported the highest average facilities energy use and emissions per capita and per gross floor area. TAFEs reported the highest average consumption of green energy consumption as a percentage of total energy use.

Figures 3 and 4 show the average facilities energy use per capita and per m² gross floor area for the sub sectors. Figure 5 shows the total emissions sources for the sector while 6 and 7 show individual emissions.

Energy includes all electricity, gas and diesel oil consumed for facilities and excludes transport energy in the following three figures.

![Figure 3: Institution facilities energy use per capita](image1)

![Figure 4: Institution facilities energy use per m² GFA](image2)

![Figure 5: Total sector emissions sources](image3)
Figure 6: GHG emissions from facilities per capita

<table>
<thead>
<tr>
<th>University/Institution</th>
<th>TONNES OF GHG PER CAPITA</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUS WIDE</td>
<td>1.06</td>
</tr>
<tr>
<td>NSW</td>
<td>0.77</td>
</tr>
<tr>
<td>NT</td>
<td>0.81</td>
</tr>
<tr>
<td>QLD</td>
<td>0.46</td>
</tr>
<tr>
<td>SA</td>
<td>0.64</td>
</tr>
<tr>
<td>VIC</td>
<td>0.71</td>
</tr>
<tr>
<td>WA</td>
<td>0.66</td>
</tr>
<tr>
<td>SECTOR</td>
<td>0.97</td>
</tr>
</tbody>
</table>

The chart above compares the GHG emissions from facilities per capita for various universities and institutions across different states and sectors.
Figure 7: GHG emissions per m² GFA
8. Transport

No clear trends emerged in regard to sustainable transport between the three groups of institutions. Across the sector a low to medium level of engagement with methods for monitoring and improving sustainable transport options to campus was reported. This is evidenced by the figures on travel mode surveys, travel mode targets, committees, awareness campaigns, staff employment and bike support systems offered.

Seven institutions (3 universities, 2 TAFEs and 2 duals) conducted travel mode share surveys, and of those, 3 provided travel mode share targets (2 universities and one dual). Eight out of 27 institutions reported to have a sustainable transport committee (3 universities, 4 TAFEs, one dual) and 10 of 27 (5 universities, 3 TAFEs and 2 duals) ran an alternative transport awareness campaign in 2009.

The average total number of staff employed in sustainable transport was 0.8 EFT for universities, 0.2 for TAFEs, 0.3 for dual institutions and 0.4 for the sector in total. Seven member institutions (3 universities, 2 TAFEs and 2 duals) explored options with local government to expand public transport services. Of those 2 reported that changes had been made successfully while another is still in discussion.

Thirteen institutions (6 universities, 4 TAFEs and 3 duals) offered bike support systems (bike lockers, showers, bike repair services etc). Eight institutions had a strategy to reduce staff air travel though only 2 reported holding a target.

9. Water

The sector reported consuming 3,114,612 kL of water across all sources, 87% of which came from potable mains supply and only 6% from recycled sources. A lack of water metering for non-mains water sources and a lack of recycled water systems was also reported.

On average, universities reported consuming 2.4 times more water per capita than TAFEs and 3 times more than duals. Per m² GFA universities reported on average using 24% more than TAFEs and 35% more than dual sector institutions.

Figure 8 shows the total breakdown of water use by the sector while figures 9 and 10 show water use by institution per capita and by GFA.
Figure 9: Total mains water purchased per capita

![Graph showing total mains water purchased per capita for various institutions and regions.](image-url)
Figure 10: Total mains water purchased per m² of GFA
10. Waste and Recycling

Overall the sector reported sending 28,672 tonnes of waste to landfill. Of all waste and recycling produced 16% was reported to be recycled. The TAFE sector reported the highest waste to landfill figures (approximately three times that of universities per capita and per GFA).

These figures appear to align with the lower reported figures by TAFEs on waste audits and contractual agreements with waste service providers.

Only 3 TAFEs held contracts requiring their waste service providers to provide data on waste compared to 6 universities and 2 duals. Only one TAFE reported to have conducted a waste audit in 2009 compared to 7 universities and 1 dual.

Figure 11 shows the total waste to landfill versus recycling. Figures 12 and 13 show the total waste to landfill for individual institutions per capita and per GFA.
Figure 12: Waste to landfill per capita
Figure 13: Waste to landfill per m² of gross floor area (GFA)
11. Buildings

The qualitative questions answered suggested that the sector was at a minimal level of engagement with building sustainability.

The highest sector performance was for ‘personnel appointed with environmental management responsibilities’ where the sector reported ‘often’ having personnel.

The sector performed lowest on choosing materials based on Ecologically Sustainable Development principles and whether facilities management used performance-based rating systems for existing buildings.

12. Green Purchasing

Only 2 of 27 member institutions reported to have green purchasing committees, an apparent indication that this is an evolving area for the sector. A4 copy paper purchasing has been the focus of some attention with 11 institutions reporting to have targets to increase purchases of 100% recycled content variety.

This is supported by the figure that 47% of all A4 copy paper purchased were of at least 50% recycled content. Figures were much lower and less well reported for toilet paper, paper towel, tea & coffee, and toner cartridge purchasing.

Figures 14 and 15 show the purchasing breakdown for the sector for A4 copy paper and toilet paper.
13. Information Technology

Sustainability in IT services was one of the better performance areas for the sector. The performance of operations roughly matched or was even better than policy and strategy levels reported.

Fifteen institutions reported having a green IT committee and 20 of 27 reported to have a policy to set energy-saving modes as default on computer equipment. 18 of 27 institutions also had a policy of setting computers/printers to print double-sided as a default setting. Levels of videoconferencing use were also very high.

14. Education for Sustainability

In 2009 much of the sector was in its infancy with respect to engaging with education for sustainability. Encouragingly, there were five institutions that lead the way by requiring all students to pass a sustainability-related subject in order to graduate.

The sector performed best in providing sustainability-related opportunities for staff development and immersive activities for students. The area of providing sustainability in student and staff orientation was the most neglected.

15. Conclusion

The 2010 national reporting project has provided insights into the state of sustainability on Australian university and TAFE campuses. Operational sustainability, in particular with respect to facilities and energy management, continues to lead education for sustainability commitment.

While interpreting the national data is challenging as neither comparisons to previous years nor to other societal sectors are possible, the data does suggest that the Australian tertiary education sector has untapped opportunities, in particular in the important areas of green energy, GHG emissions and reductions, offsets and water management.

Future assessments will provide comparisons to this 2010 benchmarking project and will thus improve tracking of progress in the sector. Whether such future tracking, assessment and reporting leads to a rating or ranking for Australian tertiary education institutions similar to the UK green league table, and/or whether the SCG reporting instrument will be aligned with existing international instruments, are issues of further discussion.

16. Acknowledgements

Thank you to all participating institutions and to all those who worked hard to collect data and provided valuable feedback on draft copies of the report. Thank you also to Almut Beringer, Cameron Cope, Stephen Derrick and Janet Stanley who assisted with this report.