

# Review of operations

## *Environmental sustainability*

*“AUQA commends USC for its commitment to embedding environmental sustainability within its capital development programs.”*

*Australian Universities Quality Agency report*



*Wildlife safe-haven... the University's proximity to Mooloolah River National Park, combined with the open spaces on campus, has seen an increasing population of eastern grey kangaroos (Macropus giganteus) finding sanctuary on site.*

**Goal: to continue to lead, by example, in the areas of campus planning and development, sub-tropical architecture and all operations that have environmental impact.**

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*Enhance the University's already excellent reputation as a regional exemplar and a national leader in campus development and in the conservation of natural resources*

### Leading by example

Nationally, USC was one of only five Australian universities (among 49 survey participants) awarded a best practice rating in the Australasian Tertiary Education Facilities Management Association's (TEFMA) annual *Benchmark Report on Environmentally Sustainable Development* (ESD). This was the second consecutive best practice rating awarded to USC.

USC achieved an ESD result of 85/100 in the survey, conducted in 2006 and published in 2007. ESD relates to master planning for enhancing ecological values, construction and rehabilitation projects incorporating principles of "green buildings", space usage, energy use, water, waste and natural environmental components.

Internationally, USC and the University of Southern Queensland, Hervey Bay Campus, were the only Australian representatives among 15 universities from 13 countries included in a study commissioned by the

Organisation for Economic Cooperation and Development (OECD). The study (due for publication in 2008) will determine the effectiveness of higher education in promoting sustainable development and in producing graduates likely to achieve change in their communities.

The USC site has undergone considerable economical, social and environmental improvements since its genesis as a sugar cane farm, according to a visiting OECD representative; and its environmentally-friendly architecture and campus development provide a clear lesson for students. The visit included OECD workshops to identify: visions, barriers and opportunities; examples of good practice; and policy recommendations for government.

### Campus development

Major building projects for 2007 included expansion of the Dilli Village educational facility on Fraser Island plus on-campus projects as follows:

- completion of Building C and the Sports Stadium (page 16);
- completion of 2007 Campus Master Plan configuration for Web access;
- completion of the Innovation Centre Business Accelerator redevelopment (page 16), to accommodate businesses spawned by the Innovation Centre Incubator and other organisations which have developed significantly; and
- a start on the Health and Sport Centre (page 16) north of the Sports Stadium, to provide offices and laboratory space for USC and Queensland Sport and Recreation staff.

Minor works included fit-out of Café C in Building C (page 16); lighting to enhance safety on the bikeway linking Chancellor State College with the Sports Stadium and Carpark 11; and athletics track repairs and maintenance.

## Environmental sustainability

### Bus interchange

A bus interchange, funded by Queensland Transport and inclusive of the Greenlink to Scholars Way, is due for completion in 2008. The project results from a scoping and planning process that began in 2006. This involved proposals by State Government-appointed traffic consultants, a briefing to the University Council and consultation with University-appointed master planners, who support the proposed two-platform interchange.

*Continue to refine approaches to sub-tropical architecture, in particular for heating and cooling of work environments*

### Building C: Chancellery and other facilities

Completed this year at a cost of \$13 million, this building was nominated for the Master Builders Sustainable Development Award. Its design fits the University's Jeffersonian-based Master Plan and continues a commitment to developing an authentic, subtropical architecture for civic and education buildings.

Building C caters for 800 students, academics and researchers. Facilities include the Chancellery, 14 tutorial rooms, 40 academic offices, 600m<sup>2</sup> of space dedicated to student services, a 251-seat lecture theatre and Café C. Large covered outdoor spaces link the various uses. The Chancellery accommodates the Vice-Chancellor, Deputy and Pro Vice-Chancellors, and Council meeting rooms. Instead, of circulation corridors, an indoor verandah links the Chancellery offices and provides a sky-lit multifunctional space for meetings or functions.

The design incorporates the University's ESD principles (page 61). Offices and tutorial rooms are mixed-mode. Windows and high-level vents, controlled from within each room, provide natural cross-ventilation for most of the year; and individual air conditioners maintain comfort and efficiency during temperature extremes. Separate switching for each space minimises energy use. All corridors are external and non-air-conditioned, and a displacement air system cools the lecture theatre.

Natural day-lighting is optimised via window placement and a series of skylights, repeated across the roof plane to allow natural light deep into the floor plate.

*Take cost-effective measures to maintain the security and environmental integrity of the Sippy Downs campus as the surrounding urban fabric becomes more dense*

### Campus security

The University's Closed Circuit Television (CCTV) network continued to expand:

- within buildings, including main concourses, computer laboratories and high-risk areas; and
- in open-space areas on campus.

Improvements included fitting Emergency Call Points and CCTV to two carparks opened in 2006 and installing boom gates in Carparks Two and Three.

### Traffic and parking

Work began on a Traffic and Parking Management Plan for completion in 2008.

A carpark utilisation survey and traffic count, conducted by Australasian Traffic Survey, was completed in July 2007 and provided quantitative data for inclusion in the Plan. The survey provided length-of-stay, parking demand and vehicle movement data across a typical teaching day.

An online traffic and parking survey conducted between 29 August and 3 October drew 314 responses from staff (30 percent response rate) and 800 from students (16 percent). Data will be used to validate information collected in the carpark utilisation survey, and to provide staff and student travel and parking profiles for inclusion in the Traffic and Parking Management Plan.

*Enhance the effectiveness of the green campus corridor linking with Mooloolah National Park*

The Park is intended to manage and protect the extremely high conservation values of the area's plant communities and associated fauna, including some threatened species. Hence, recreational use of the Park is limited to low-key activities such as bushwalking and bird-watching, predominantly along fire management trails.

### Compensatory Habitat

In November, the University joined forces with development company Stockland to begin work on the Compensatory Habitat. One of the largest environmental projects of its kind in Australia, the project will compensate the environment for loss of land due to urban development.

The initiative results from a 20-month flora and fauna study conducted as part of the master-planned Lensworth Buddina urban site development. The study identified two conservation zones for retention as part of the Bundilla site, and informed a decision to translocate a further 12.2 hectares of rare and threatened native vegetation to a 15-hectare site on the University campus.

The move fits the University's commitment to sustainability and regional partnerships. By preserving a slab of original habitat on campus, the Compensatory Habitat will provide a living laboratory for students and staff as well as a natural bushland leisure site for common use.

Stockland will spend a total of \$5 million on the translocation, which is supervised by three tiers of independent ecologists—one employed by the contractor, the second by Stockland and the third by the University. Works valued at about \$500,000 finished in 2007 and the project is scheduled for completion by November 2008.

*Encourage a respect for the campus as an environmental sanctuary and safe haven for all native wildlife*

New signage highlighted locations of wildlife reserves. University staff continued to help visitors understand why kangaroos and other fauna should be viewed from a distance, and why domestic animals cannot be brought on campus.

Particular moves to protect kangaroos on campus included:

- enforcing a maximum 20km/h vehicle speed;
- prohibition of domestic animals; and
- construction of 1.8m-high floppy fencing along Sippy Downs Drive, to discourage kangaroos from entering the motorway.

# Environmental sustainability

## Key performance indicators

### Awards for campus development

- Science Building (Building H)—Master Builders Project of the Year and RAIA Commendation
- Sustainable Development Award Nomination—Chancellery (Building C—page 62)

### Environmentally-savvy buildings feature...

- sunshaded windows
- roof overhangs
- reverse masonry veneer to protect thermal mass
- breezeways for air movement and comfort in hot, humid weather

### Environmental projects by staff and students in the green campus corridor

- Compensatory Habitat (page 62)
- campus enhancement
- wildlife surveys (Environmental Advisory Committee members)

### The year 2008

- The University will launch a Traffic and Parking Management Plan.
- Construction of the Health and Sport Centre will be complete.
- Developments on campus will include completion of a bus interchange funded by Queensland Transport and inclusive of the Greenlink to Scholars Way.
- Work on the Compensatory Habitat will continue with the aim of completion by year's end.

### Improved energy, water consumption and waste management data

The following data from the annual TEFMA *Benchmark Report* highlight the University's success in minimising energy/water consumption and waste management costs while catering for (1) rapidly-increasing staff and student numbers, plus (2) campus and development and construction projects during the same period.

In the period 2005–2006 the University expended a record amount on building construction. However, the dollar value of cleaning has been contained by reducing service in office areas from nightly to weekly. Wheelie bins for general and recyclable rubbish have been placed on every level of every building to help occupants maintain cleanliness in their workspaces. This, along with expanded student intakes, has reduced the dollar per EFTSL for cleaning and waste control.

Energy consumption/expenditure							
	2000	2001	2002	2003	2004	2005	2006
Annual consumption in gigajoules (GJ)	8,956	10,597	12,048	13,027	14,596	19,867	22,200
Energy consumption per EFTSL (GJ/EFTSL)	4.3	4.4	4.6	4.8	4.9	6.1	5.9

Water consumption							
	2000	2001	2002	2003	2004	2005	2006
Total water consumption (kL)	9,995	8,731	10,375	13,605	15,960	17,154	20,652
Water consumption per EFTSL (kL/EFTSL)	4.8	3.7	3.9	5.0	5.4	5.3	5.5

Cleaning and waste management services							
	2000	2001	2002	2003	2004	2005	2006
Total cost of cleaning (\$/EFTSL)	109	118	132	132	127	110	99

Security							
	2000	2001	2002	2003	2004	2005	2006
Total cost of security (\$/EFTSL)	NA <sup>1</sup>	NA <sup>1</sup>	152	193	182	158	151

<sup>1</sup> Information not reported in these years.

Please note: above data is drawn from the latest annual Tertiary Education Facilities Management Association (TEFMA) Benchmarking Survey, published in June 2007 (for reporting year 2006).

### During 2007, Security dealt with:

- nil substantial security and safety incidents on campus;
- one critical incident involving a missing child of a middle-aged student (Queensland Police Service established a Critical Incident Command Centre on campus, shifted to Maroochydore CBD following receipt of relevant information);
- one incident involving use of a motor vehicle on campus by a member of the public (Queensland Police Service laid charges for offences under the USC Act and Lands, Traffic and Parking rules); and
- receipt of fiscal compensation from the Department of Justice for a 2006 break-in and theft committed in a campus building.