

Creating a more sustainable future: the University embarked on a wide range of sustainability projects in 2009, in the fields of learning and teaching, research and regional engagement.

- A Sustainability Research Centre opened in the Innovation Centre in March. Key aspects of the centre's research include coastal management, climate change, water management, natural and cultural heritage, innovation, adaptive growth and community well-being. *See also page 7.*
- A minor in sustainability was introduced as an elective option for undergraduate students in all faculties.
- Assessment of the compensatory habitat on campus continued throughout 2009. Ongoing PhD research focused primarily on the settlement of the habitat, weed control, and managing the snake population within the habitat. Further work on the habitat will be on better integrating the 15 hectare site into its location adjacent to the University's sports precinct.
- Sustainable water use for air-conditioning was introduced, with independent testing confirming that water in the University's lakes was suitable for use in air-conditioning cooling towers on campus.
- A Wildlife Endowment Fund was established to support the study and monitoring of native wildlife on campus—particularly kangaroos. *See also page 7.* Studies of the University's kangaroo population conducted during the year found no major change in numbers on campus or in the surrounding areas.
- The Environmental Protection Agency (EPA) granted the University permission to discharge treated sewerage via irrigation on the Dilli Village site. A similar filtration system will be investigated for use on campus, with the recycled water to be used to irrigate sports fields and garden areas, potentially reducing annual water consumption by an estimated 730,000 litres.
- Also on Fraser Island, planning is well advanced for the installation of a significant solar power system to power cabins, the caretaker's house and sewerage system at Dilli Village.
- The University participated in Earth Hour on Saturday 28 March, joining people and organisations around the world in turning off non-essential lights and electrical appliances for an hour to demonstrate a commitment to action on climate change.
- The public had the opportunity to participate in sustainable development debate and learn how to help reduce carbon emissions at World Environment Day, held on campus in June. *See also page 18.*
- The University was involved with a number of forums discussing sustainable development for the Sunshine Coast. Topics included: urban development, population and infrastructure demands, affordability and climate change, and climate change adaptation skills for professionals.
- University staff travelled to the UN Climate Change Conference in Copenhagen, representing the interests of Kirribati and Indonesia. *See also page 18.*

## USC collaborates on climate change

The University joined a collaborative study between the Queensland and Australian Governments, the CSIRO Climate Change Adaptation National Research Flagship, Griffith University, and the University of Queensland, to investigate the ability of towns, cities, industry and governments to adapt to climate change conditions. The 'South East Queensland Climate Adaptation Research Initiative' project will involve researchers working to assess the climate change vulnerability of the region, from Noosa to Coolangatta and west to Toowoomba, and determining how ready the region is for climate change and what cost-effective strategies are required. USC received more than \$861,000 in CSIRO collaboration funding for the project.



**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

## USC encourages public transport

The opening of the \$5.5 million bus interchange on campus created greater public transport options for Sunshine Coast residents in 2009. It generated additional bus services, catering for an estimated 8,400 extra passengers per week across the region. The 'green link' attached to the interchange reduced travel times (by up to 10 minutes in peak hour) for buses exiting the campus, and encouraged greater pedestrian and cyclist access onto the campus from Chancellor Park.

A number of other strategies were undertaken throughout the year to encourage greater use of public transport and reduce the effects of traffic and parking on campus. Printed and electronic information for new and current students included messages encouraging carpooling or using public transport. The second annual survey on traffic, transport and parking was undertaken, with more than 730 students and staff responding. The survey results indicated an increased uptake in public transport among students compared to 2007 (rising from 9.3 percent to 16.5 percent). Discussions continued with Queensland Transport and the Sunshine Coast Regional Council regarding the introduction of a subsidised GO Card for students to use on Sunshine Coast public transport, for probable introduction in 2010.

## Sustainability plans for the future

Although unsuccessful in round one of the EIF (*see also page 6*), the University aims to pursue its plans for eventual development of its ambitious Glasshouse Complex. Comprising Australia's tallest sealed-system glasshouse, aquaculture tanks, a Sustainability Research Centre and an Interpretive Centre, the cutting-edge complex is intended to enable Australia to unlock the potential of its tropical and subtropical trees for carbon sequestration, and ensure communities adapt to meet the challenges of climate change. The estimated cost of the project is \$30.3 million.



Artist's impression of the Glasshouse Complex.

# Environmental Sustainability

## PERFORMANCE AGAINST TARGETS

### Water consumption

Target	Performance
Maintain water usage of 5 kilolitres per EFTSL per annum	Achieved 4.4 kilolitres in 2009

Total water consumption was 4.4kL per EFTSL for the 12 month period to December 2009. This was below the annual target of 5kL per EFTSL per year, and a decrease of 0.2kL on 2008.

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total water consumption (kL)	8731	10,375	13,605	15,960	17,154	20,652	20,483	20,939	<b>23,069</b>
Water consumption per EFTSL (kL/EFTSL)	3.7	3.9	5.0	5.4	5.3	5.5	5.0	4.6	<b>4.4</b>

### Cleaning and Waste Management Services

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total cleaning cost (\$/EFTSL)	118	132	132	127	110	99	136	137	<b>132</b>

### Security

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total cost of security (\$/EFTSL)	N/A	152	193	182	158	151	148	154	<b>129</b>

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## FORWARD PLANNING FOR 2010

### Proportion of expenditure allocated to environmental sustainability

Target	Performance
Increase proportion of capital expenditure allocated to sustainability initiatives	<p>38.5% of capital expenditure allocated to sustainability initiatives</p> <p>Note: 2009 is the first year a whole-of-University figure has been available, hence there is no comparison to 2008 to demonstrate an increase or decrease.</p>

The proportion of capital expenditure allocated to sustainable expenditure was 38.5%. This was an unusually high expenditure, and included final works to connect the cooling towers to the lake system water supply, staged replacement of the refrigerated air conditioning with chilled water systems in Building B, heat exchange technology for treatment of incoming fresh air to Building J, and installation of energy efficient bulbs in 75% of lighting across campus.

### Energy consumption

Target	Performance
Maintain power usage per gross floor area of 0.55 GJ/m <sup>2</sup> per annum	Maintained 0.55 GJ/m <sup>2</sup> in 2009
Maintain carbon emissions per gross floor area of 135kg of CO <sub>2</sub> /m <sup>2</sup> per annum	Achieved 134kg of CO <sub>2</sub> /m <sup>2</sup> in 2009

Carbon emissions per GFA were 134kg of CO<sub>2</sub>/m<sup>2</sup> – below the annual target of 135kg of CO<sub>2</sub>/m<sup>2</sup>. The University maintained an annual power usage target of 0.55 GJ/m<sup>2</sup>. The target for power usage appears to have been met, but this outcome has been calculated on data provided by the network operator, Energex, due to the inability of the retailer, AGL, to provide detailed data.

- Implement a carbon offset arrangement in relation to air travel by international students and USC International staff.
- Deliver enhanced systems to manage food wastage and the usage of food products, to maintain an annual wastage register below 5%.
- Deliver an annual departmental reduction in motor vehicle travel expenses, through the promotion and adoption of flexible working practices, teleconferencing and vehicle sharing.