



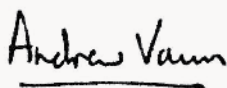
TABLE OF CONTENTS

01.	Message from the Vice-Chancellor and President	4
02.	CSU Green Manager's message	5
03.	Overview	6
04.	Research and Innovation	8
05.	Learning and Teaching	11
06.	Student Experience and Staff + Community Engagement	14
	Staff Engagement	15
	Student Engagement	18
	Community Engagement	20
07.	Campus Management	28
	Carbon neutrality	28
	Energy reduction	30
	Water reduction	33
	Waste reduction	35
	Biodiversity improvement	38
	Fleet management	40
	Sustainable procurement	43
	Sustainable building design	44
	Compliance with environmental regulations	47
08.	Glossary	48
09.	References	49

Our commitment to sustainability



ANDREW VANN

A handwritten signature in black ink that reads "Andrew Vann". The signature is written in a cursive style and is underlined.

Vice-Chancellor and President

“Sustainability is one of the key themes in the University’s 2013-2015 Strategy document”

I am pleased to be writing the foreword to the CSU 2012 Environmental Scorecard. Sustainability is one of the key themes in the University’s 2013-2015 Strategy document. This is appropriate given the challenges we as a species face from ourselves. The new Strategy emphasises the University’s traditional motto of ‘For The Public Good’ and expands it through the use of the Wiradjuri phrase ‘*yindyamarra winhanga-nha*’, meaning ‘the wisdom of respectfully knowing how to live well in a world worth living in’. Our use of the planet and its resources is seriously challenging our ability to maintain ‘a world worth living in’. It is therefore important that as an institution we model serious engagement with sustainable resource usage. In the 2013-2015 Strategy the University has recommitted to achieving carbon neutrality by 2015. This is a significant challenge and is in fact the most ambitious target that has been set in this space in the Australian university sector.

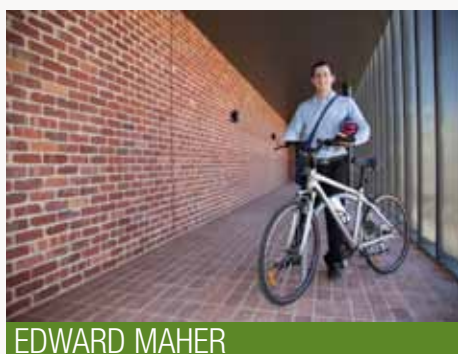
Given growth on our campuses and improved facilities, we are expanding our building footprint and hence our energy usage. For example, the commissioning of the fabulous NaLSH (National Life Sciences) building on the Wagga Wagga campus has delivered an increase of 8% in energy consumption there. Also, we missed our target of 10% normalised energy reduction to 2011, achieving a (still very good) 8%.

As noted, in aiming to be carbon neutral by 2015, we have set an ambitious but appropriate target and it is likely that we will have to struggle to achieve it. However, in my view, this is much better than shutting our eyes to the problem and we will learn and innovate through this process. In turn this will allow us to share research and disseminate good practice to our communities.

I urge all members of the University community to engage with the sustainability agenda, and there are many ways you can do this. Awareness of sustainability issues is being built into all CSU degrees through the curriculum renewal process. Staff members can apply for a CSU Sustainability Grant relevant to their area of expertise. Students and staff can get involved in the Green Steps@CSU internship program, and of course you can participate in Ride to Work Day or National Tree Planting Day. We also encourage staff to get involved in the Campus Environmental Committees and the Staff Sustainability Network. Details of all these activities can be found at the CSU Green website (www.csu.edu.au/csugreen) or the CSU Green Facebook page (www.facebook.com/csugreen).

I hope you will take the time to digest the University’s Environmental Scorecard for 2012, and be mindful of your impact through 2013.

Introduction



EDWARD MAHER



CSU Green Manager

Welcome to CSU's new look Environmental Scorecard. Readers who are familiar with previous editions of this document will be well aware of the significant changes that have been made this year. The Scorecard now captures the progress that the University has made against all elements of the CSU Sustainability Enabling Plan, namely: Teaching and Learning, Research and Innovation, Student Experience and Staff and Student Engagement, and Campus Management.

The year 2012 was a progressive period for sustainability at CSU. Major developments and achievements included: the inclusion of sustainability as one of just eight key priorities outlined in the University Strategy 2013-15, the formal recognition and establishment of a reporting framework

for the University Sustainability Advisory Group, awarding of Regional Centre of Expertise (RCE) status by the United Nations University for the RCE Murray-Darling submission (led by CSU and involving several partnering organisations), and the greatest number of applications that have ever been received for CSU's annual Sustainability Grant program. Further details regarding these achievements, and many more, are provided throughout this Scorecard.

At an operational level, waste management, biodiversity improvement and sustainable building design were areas of focus in 2012. Many successful outcomes were achieved in these areas. In waste management, new contracts were established and will facilitate better services and improved reporting of data relating to the diversion of recyclable waste from landfill. Permanent, dedicated co-mingled recyclable collection services were also introduced for Bathurst Campus – a process that was long overdue. In relation to biodiversity, detailed consultation has been led by CSU Green with stakeholders such as the CSU farm management group and Campus Environmental Committees to define specific parcels of University land that will contribute to the biodiversity target, as well as the development of an appropriate management program that will ensure that the biodiversity value of this land is improved with time. Highlights for CSU in the context of sustainable building

design include the accreditation of the National Life Sciences Hub facility at Wagga Wagga Campus as five Star Green Star under the Green Building Council of Australia's Education Design v1 rating tool, representing Australian Excellence in sustainable building design.

While good progress in improving CSU's sustainability credentials continues to be made, there are still many opportunities for further improvement that remain. These include the more comprehensive integration of sustainability into the curriculum of all subject disciplines, and a greater focus on research output that aligns with CSU's strategic research areas while also providing positive outcomes for sustainability.

Effort has been made to make this edition of the Environmental Scorecard a compendium of stories that share CSU's experiences, both positive and difficult, as its people strive to implement its sustainability targets. We hope that you can enjoy and relate to these stories and challenge you to share your own with us during 2013!

“The year 2012 was a progressive period for sustainability at CSU.”

Overview

This report provides an overview to University students, staff and the wider community as to how CSU is progressing with its sustainability targets outlined in CSU's Sustainability Enabling Plan. A full listing of these targets is listed in the table at right.

The report format reflects how the targets are broken up into the four keys areas of the Sustainability Enabling Plan and against each of these, CSU Green has:

- reported on progress towards achieving the targets
- outlined some of the works or projects occurring 'on the ground' that have made a major contribution towards achieving targets

If you have any comments or feedback regarding this document, or any CSU Green projects, please do not hesitate to get in contact with CSU Green via:
csugreen@csu.edu.au.

OVERVIEW

	REF NO	OBJECTIVE / TARGET
Research	R1.1	Increase the profile of the University's sustainability-related research output
	R1.2	Within existing research structures, provide opportunities to undertake research on sustainability, including the formation of cross-disciplinary teams involving academic and general staff
Learning and Teaching	L1.1	Establish literacy and awareness of environmental sustainability among all CSU graduates
Student Experience and Staff + Community Engagement	S1.1	Form alliances to encourage and assist organisations in CSU's regional communities to achieve their sustainability goals
	S2.1	Engage all staff regarding environmental sustainability priorities
	S2.2	Engage all students and staff regarding environmental sustainability priorities
	S2.3	Establish awareness of CSU's sustainability credentials to stakeholders and the wider community
Campus Management	C1.1	Be greenhouse gas neutral by 2015
	C2.1	Energy reduction – compared with 2006, achieve a 10% reduction in normalised energy consumption (MJ/m ² GFA) by 2011 and a 25% reduction by 2015
	C2.2	Energy reduction – achieve a 2% annual reduction in normalised energy consumption (MJ/m ² GFA) each year after 2015
	C3.1	Water reduction – compared with 2006, reduce absolute water consumption by 25% by 2011 and 40% by 2015
	C3.2	Water reduction – achieve a 2% annual reduction in normalised water consumption (kL/m ² GFA) each year after 2015
	C4.1	Waste reduction – achieve a 70% reduction in solid waste to landfill by 2014
	C4.2	Waste reduction – reduce solid waste by 2% each year by 2014
	C4.3	Responsible stewardship of potentially hazardous material
	C5.1	Biodiversity – by 2011 at least 10% of University core campus land used to increase biodiversity and 20% by 2015
	C5.2	Biodiversity – ecological value of allocated land to improve year-on-year
	C6.1	Transport – achieve a 4.5 star, or better, Green Vehicle Guide rating for 50% of the University fleet by 2015
	C6.2	Transport – improve the fuel efficiency of the CSU fleet by 5% year-on-year
	C6.3	Transport – promote car-pooling for inter-campus travel by CSU staff and students
	C7.1	Procurement – establish sustainable procurement processes
	C8.1	Sustainable design – considered as part of all new building and existing building refurbishments
C9.1	Relevant environmental legislation – compliance against all relevant environmental protection legislation	

ESTABLISHMENT OF ENVIRONMENTAL JUSTICE AND GOVERNANCE FOR SOCIAL CHANGE STRATEGIC RESEARCH AREA



A new strategic research area (SRA) has been established as part of the Institute for Land, Water and Society (ILWS) at CSU, focusing on environmental justice and governance in Australia. The new group is known as the Environmental Justice and Governance for Social Change Strategic Research Area and is co-led by Dr Helen Masterman-Smith, an environmental sociologist, and Associate Professor Vaughan Higgins, a rural sociologist.

The aim of this SRA is to advance policy, community and scholarly understandings about the social dimensions of environmental sustainability and specifically engage with the debate on how best to build ecologically sustainable and socially just societies.

Despite recognition of continuing environmental degradation and its associated social and financial impacts, significant social barriers were identified that inhibit action being taken. These social barriers include political, economic, cultural and institutional obstacles. They influence the type of action, or in many cases inaction, from the individual to local communities, to nations and global communities. The ILWS Environmental Justice and Governance for Social Change SRA was developed to address these issues and strategise over the best methods of overcoming these barriers.

Research and Innovation

Targets:

Increase the profile of the University's sustainability-related research output (R1.1)

Within existing research structures, provide opportunities to undertake research on sustainability, including the formation of cross-disciplinary teams involving academic and general staff (R1.2)

The functional area of Research and Innovation is a new addition to the Institution's Sustainability Enabling Plan 2011-2015. CSU has committed to strive towards increasing the profile of sustainability-related research within and external to the University. Promoting and supporting cross-disciplinary research is another key objective within this functional area. Pertinent to these objectives are the fundamental requirements of supporting new and existing networks for academics and postgraduate research students, and funding-related support.

In 2012, the CSU Sustainability Grants received a number of applications to assist academic research. Noting this, a review is underway of the Sustainability Grant structure and the possibility of the grant program acting to

supplement larger academic grants. This review is currently being undertaken by the Sustainability Advisory Group (SAG), which is comprised of a number of staff members from various Faculties and Divisions of the University.

Professor Andrea Bishop, Director of Research, was invited to join the SAG in 2012. Professor Bishop leads the efforts of the Research Office in facilitating research and research education activities at CSU. She works closely with the Office of the Deputy Vice-Chancellor (Research) to increase the University's research profile and assist in research partnerships and opportunities. Professor Bishop brings to the SAG experience in research and knowledge of current research capabilities at CSU.

A successful applicant of the 2012 Sustainability Grant program was Dr Shelby Gull-Laird. Dr Gull-Laird was awarded a grant to fund a research project on Albury-Wodonga Campus to report on the transportation decisions and behaviours of staff and students. This project was supported under the existing Grant program given its applied nature and direct application for campus management. Phase one has been completed through conducting three focus groups.

One group was undergraduate students, another was postgraduate students, and the third was staff on the Albury-Wodonga Campus. Information collected from the focus groups enabled the researchers to develop targeted categories and questions to create a survey to be used for the next phase. The survey will be distributed online for piloting at the end of April 2013. The results and recommendations that come from this project will inform and assist CSU Green and the Division of Facilities Management in making transport-related University operation decisions at Albury-Wodonga.

Looking forward to 2013

During 2013 CSU Green will further develop the support for sustainability-related research and networks at CSU within the academic staff and postgraduate student cohorts with the aim of increasing sustainability-related research within the University. A network will be developed to support this framework for increasing sustainability-related themes in research and research output.

SUSTAINABILITY IN THE PRIMARY EDUCATION CURRICULUM: A STUDY OF TEACHER DISCOURSES



Rhys Longfield is a student in CSU's School of Education at Wagga Wagga Campus and recently submitted his Honours thesis. His research reported on an interview study of eight primary teachers that examined how they identified themselves in relation to sustainability. Rhys found that the way teachers identified with sustainability within their lifestyle was an indication of how issues of sustainability were taught in the classroom. The purpose of the study was to examine how sustainability is taught, how it aligns with the curriculum, and how it can best be translated into the new national curriculum.

Rhys' findings revealed that teachers' feelings about sustainability varied from a strong personal solidarity with sustainability to disassociation with the concept of environmental, economic and social issues of sustainability. Teachers also differed in their opinions on responsibilities with respect to sustainability issues. The data revealed how these differences were borne out of teachers' diverse personal, professional and institutional experiences.

These differences directly influenced the way in which language was used in the classroom to either advocate for or dissociate from sustainability.

The study also looked at the influence on teachers of whether or not their school had a diverse range of institutional practices, such as rainwater tanks, vegetable gardens, solar panels or food scrap programs. Teachers from schools with a range of such practices were found to portray sustainability responsibilities amongst groups, rather than individuals. Further, unlike those from schools without these institutional practices, these teachers were more likely to view education as a critical component in addressing and changing issues in sustainability.

Rhys' study indicates that if effective practices of sustainability are to be established once the national curriculum has been implemented, professional development will need to ensure teachers develop diverse critical perspectives of sustainability issues, and ways in which these perspectives can be translated into the curriculum program.

INCREASING ENVIRONMENTALLY FRIENDLY FARMING ON SUBSISTENCE FARMS IN CAN THO, VIETNAM



David Gale, a Doctor of Philosophy (PhD) student with the School of Agriculture and Wine Science, has both a personal and professional passion for sustainability. Whilst completing his undergraduate degree with Honours at CSU he led the introduction of an organics recycling scheme throughout the kitchens of self-catered residential facilities housing 280 students at the Wagga Wagga Campus. The captured organics were composted at the campus recycling facility, decreasing waste to landfill and increasing the production of a great natural resource, compost. His passion for organics recycling has now extended into his professional life with an interest in synthetic fertiliser use efficiency, which he wishes to particularly apply through agricultural research projects in developing countries.

David's interest in international research began through a third-year field trip to Vietnam where he later conducted his Honours research. His Honours research was focused on increasing crop yields of baby corn on small farms in Vietnam through partial substitution of synthetic

fertiliser with compost. This method of compost application increased yield and reduced chemical use during baby corn production while also allowing the produce to meet the requirements of the European export market.

David's PhD project follows on from his Honours research and has a similar international scope. His project aims to introduce environmentally sustainable farming practices to subsistence farmers of baby corn and rice crops in communities around the city of Can Tho in Vietnam. He aims to achieve this through the application of compost to reduce the fixation of phosphorus from synthetic fertilisers in the soil. This will enhance the efficiency of the fertiliser, thus reducing the need for further fertiliser applications. The project is focused on a very specific aspect of soil dynamics, identifying the soil chemistry mechanism by which compost reduces phosphorus fixation.

In Vietnam, David will be working with subsistence farmers on small farms between 0.1 and 1 hectare in size. Subsistence farms are family run with the primary motivation to feed the family and

sell the produce locally. Unlike large businesses, they cannot afford high volumes of synthetic fertiliser. This aspect, coupled with poor crop and land management education, ultimately results in over-fertilising, over-spraying and subsequently environmental degradation.

There are environmental, social and economic sustainability issues being improved through the results and recommendations of David's research. Through composting and compost use on these farms, families are reducing the economic costs of purchasing synthetic fertiliser and potentially increasing yields. Composting organics on farms will reduce freshwater pollution and eutrophication of local water supplies. The same water is used to wash and cook in, therefore risks to health will also be lessened. Through more efficient and environmentally conscious farming techniques, environmental degradation will effectively be abated, particularly through reducing the process of phosphorus extraction and fertiliser manufacture and transport.

David's PhD research will involve laboratory and glasshouse work conducted in Australia, followed by 12 months of field trials in Vietnam. Dependent on the results of this project and the identification of the soil chemistry mechanism, there is scope to see the process trialled, particularly for rice crops, elsewhere globally.

Learning and Teaching

Target:

Establish literacy and awareness of environmental sustainability in all CSU graduates (L1.1)

The University is committed to providing excellence in education to all its students, on campus and distance education. As part of this, the University is committed to increasing the knowledge and understanding of graduates on issues external to their core professions, making them good global citizens. The University intends to impart this knowledge to students through Graduate Attributes and Course Commitments, covering aspects such as ethics and sustainability and through developing and maintaining a work placement and professional exchange program for students.

Developing and maintaining a work placement and professional exchange program for students

CSU Green is compiling a working list of internal Schools and Divisions and external organisations that are enthusiastic about accepting a CSU student into a work placement program. External organisations that expressed interest in 2012 and that will continue working with CSU in hosting students in 2013 included Origin Energy at Uranquinty and the

U.S. Embassy in the ACT. Schools and Divisions of the University that showed interest in hosting a CSU student in a sustainability-themed on campus internship included Division of Facilities Management (DFM), Food and Beverage, Murray Children's Centre, Riverina Children's Centre, CSU Training, School of Education (SoE), CSU Winery, CSU Farm and Fleet and Services. Green Steps @ CSU students took advantage of the on campus internships offered through the Schools and Divisions with internships through the SoE, DFM, CSU Training, CSU Farm and Fleet and Services.

During 2011, CSU Green hosted a student on a Green Steps @ CSU internship focussed on waste management. This student, Frank Tibbitts, was so successful that CSU Green continued his employment in the role of Waste Management Officer. Frank has been the project leader in the new Office Waste Management program on all CSU campuses (see break-out box on page 13). The continuing role within CSU Green has offered Frank the opportunity to lead a project and become a change agent leading significant improvements in CSU's environmental footprint. The project that Frank is implementing will assist CSU in reaching its target of a

reduction in waste to landfill by 70% by 2014.

During the latter part of 2012, the School of Communication and Creative Industries approached CSU Green about the possibility of hosting interns at CSU Green for Graphic Design students. CSU Green undertakes a wealth of promotion for new and continuing initiatives on campus and see great value in hosting a third-year student with the appropriate skills to undertake some of the promotional design and campaign work. This partnership with Graphic Design will further develop the link between sustainability at CSU and the students' learning and development.

Looking forward to 2013

A solid strategy for embedding teachings of sustainability within Faculties at CSU will continue to progress through 2013 through Graduate Attributes and Course Commitments. Courses within Graphic Design and Social Work are already implementing aspects of environmental sustainability providing students with increased knowledge and skills associated with good global citizenship and eco-justice. CSU Green looks forward to continued support of the Graduate Attributes and Course Commitments.

SUSTAINABLE SOCIAL AND ENVIRONMENTAL DEVELOPMENT: INDIA STUDY TOUR FOR INTERNATIONAL SOCIAL WORK 2012 (STUDENT VOLUNTEER PROGRAM)



Students at CSU had the opportunity in 2012 to learn about sustainable social and environmental development through a study tour volunteer program to India. The tour was organised by Heather Barton and Dr Bill Anscombe for the University's School of Humanities and Social Science, and had a particular emphasis on sustainability. The program was supported by a CSU Sustainability Grant, which included the development of six short education modules on sustainability.

The program organisers were mindful of making the course environmentally sustainable. The organisers were of the view that it seemed of little point to make a significant contribution to India at the cost of using carbon and contributing to global warming that may also impact adversely on others of the world's poor such as in the Pacific Islands. As a result, the organisers committed to offsetting the carbon footprint of the course, calculated through the use of the Greenfleet Calculator.

The Greenfleet Calculator estimated 2.72 tonnes of carbon dioxide per person or 43.5 tonnes

of carbon dioxide for the whole trip. Greenfleet indicated that 11 trees planted per person would offset the carbon use.

To offset the carbon emissions generated through travel in 2012, 242 trees will be planted in the Yindyamarra Reserve on the Wagga Wagga Campus. The trees will be planted at this site during May 2013 by the same staff and student volunteers who travelled overseas.

The sustainability education modules were voluntary and offered to the whole student body. The week-long modules were promoted as 'Green Social Work' and covered the following topics:

- what is global warming?
- what do we mean by global citizenship?
- how do gender, social justice and human rights relate to global warming?
- carbon footprinting
- 'glocalisation' (think globally, act locally)
- environmental social work

An additional goal of the program was to undertake a sustainability project in India, to increase the holistic vision of social and environmental responsible action. A private donation provided funds to allow the purchase and planting of fruit trees at the KESBO site, an orphanage for boys. These trees will be cared for by the orphan boys, who received instruction from a CSU agricultural trainee teacher. The teacher supervised the planting and provided education addressing soil and water conservation, tree care, tree knowledge and the use of the fruit trees.



EXPERIMENTAL DESIGN (SECOND YEAR GRAPHIC DESIGN COURSE)



The Australian Graphic Design Association identifies 'promoting environmentally sustainable design practices' as one of its six core goals for the period 2010-2020.

The passion for sustainability of Chris Orchard, Lecturer in Photography and Design, in line with industry expectations, has led him to include environmental sustainability in the curriculum of the second-year graphic design subject he taught in 2012. Environmental sustainability was embedded into the assessment criteria for a design piece constructed by students in the course. Specific areas of focus included:

- utilising print technologies that minimise waste, using inks that do not contain heavy metals, and utilising ethically sourced materials and paper stocks
- taking a whole-of-lifecycle approach to design, considering the end product as more than waste
- seeing sustainability as 'bigger' than environmental sustainability but also including cultural and social sustainability
- addressing national policy on sustainable design from a student perspective.

Popular, political and business forces are all coming to grips with the challenges of working in a world of limited resources. Designers, as those who use creativity to defeat habit in the solutions they propose, must assume a leadership role in proposing responsible uses of resources. This involves both the traditional concept of sustainability and also an understanding of appropriate technology and resources for the uses proposed.

Responsible outcomes embody ethical issues, social need, global imperatives and the unique contribution of design thinking. Chris' personal connection with sustainability is an inherent knowledge that there is a limit to resources, that progress should not be measured in increased consumption, and that students need to be innovative thinkers if they are to succeed in their design careers. To this end, he mixes industry standard practices with conceptual frameworks to force students to think differently and to problem solve in unique and interesting ways.

Content in this subject discussed whole of life cycle design to understand who, what, when, where and why of sustainable design. The class looked at where the inks they used originated, what went in to the whole printing process and learnt to think differently about the design process. Student projects included:



- Grown moss typographic artwork by Allie Baird (see image above)
- posters printed with ethically sourced vegetable based inks, on recycled paper stock by Luke Wilson (see image below)



- bean-bags made from recycled materials and filled with foam off-cuts destined for landfill, which the student is now selling at markets
- backpacks made from recycled dinner and sports jackets, which are being sold at markets
- online sustainability scorecard for independent jewellery manufacturers, which is a potential postgraduate study.

Sustainability will become permanently embedded in the content of the Graphic Design degree and some aspects of sustainable practice will be introduced where relevant to the Photography degree. According to Chris, "Sustainability is not a buzzword, it is core business to the ongoing success of CSU students".

Student Experience and Staff + Community Engagement

Targets:

Form alliances to encourage and assist organisations in CSU's regional communities to achieve their sustainability goals (S1.1)

Engagement of all staff regarding environmental sustainability priorities (S2.1)

Engagement of all staff and students regarding environmental sustainability priorities (S2.2)

Establish awareness of CSU's sustainability credentials to stakeholders and the wider community (S2.3)

The engagement of all key stakeholder groups on environmental, social and economic sustainability is crucial to achieving CSU's targets and objectives in the University's Sustainability Enabling Plan 2011-2015, and assisting stakeholders in CSU's regional communities to achieve their sustainability goals.

CSU's sustainability vision, values and mission are promoted through information and education, events, initiatives and programs targeted to a variety of internal and external stakeholders. Efficient methods of communication are essential to coherently engage stakeholder groups within and outside the CSU community.

In 2012 a Communication Strategy was developed to outline the specific methods of communication for different stakeholder groups. Through the range of campaigns run in 2012, using alternative media for communication and multiple avenues identified in the Communication Strategy, CSU Green was able to assess, through response and feedback, the methods of communication that worked well and those that were not as successful.

CSU Green experienced widely varying rates of success from different avenues of communication as a means of promoting events. While Facebook was found to be a simple and efficient means of advertising an event to a large number of people, this does not necessarily translate to attendance. This was found in the case of the Wagga Swap Party, where the significant interest generated for the event via Facebook did not result in high attendance numbers at the event.

In contrast, personally promoting an activity through face-to-face talking with the target audience was found to be extremely effective in resulting in attendance, albeit requiring far more time and resources. This was the case with the Green Steps @ CSU program, which CSU Green successfully promoted through personal presentations to students at the start of lectures.

CSU Green worked tirelessly through 2012 to promote new and existing programs and activities, as well as develop new events and initiatives to further inspire positive change for sustainable living on campus and within the wider community.

THE UNITED NATIONS UNIVERSITY REGIONAL CENTRE OF EXPERTISE



The Regional Centre of Expertise (RCE) of the southern Murray-Darling Basin, designated by the United Nations University, is a network of key regional stakeholders including educational institutions, organisations and community groups, collaborating to deliver education for sustainable development to local and regional communities. RCEs aspire to achieve the global goals outlined by the United Nations Decade of Education for Sustainable Development (2005-2014) by integrating research, education and community engagement through relevant initiatives. The core elements of an RCE are: Governance; Collaboration; Research and Development; and Transformative Education.

CSU will work with the other key stakeholders in the RCE Murray-Darling (RCE – MD) to:

- establish regional forums to build new and innovative platforms to share information and experiences in the face of changing climatic and social contexts
- evaluate the spatial and temporal reach of Education for Sustainable Development (ESD)

- utilise built and natural environments as a stimulus for ESD
- establish the Murray-Darling Biodiversity Education Centre
- develop ESD programs for kindergarten to Year 12.

The CSU designation of the RCE – MD complements CSU's commitment to sustainability and provides a framework to support the vision, values and mission of the organisation. It supports the strategy included within the Sustainability Enabling Plan 2011-2015 for sustainability, and will be a direct link to institutional support as an internal framework for this is developed. The designation also promotes the internal and external stakeholders by way of education, alliances and working partnerships.

Further information is located at: www.rcemurraydarling.com.au



S2.1: Staff Engagement

Across CSU campuses there are 1,975 staff members, all of whom CSU Green is trying to engage on environmentally sustainable workplace practices and encourage to reduce their environmental footprint. Some of the more notable initiatives that CSU Green focussed on to promote staff engagement in 2012 included:

- responsible disposal of electronic waste
- sustainable office waste management practices
- establishing an introduction to CSU Green for new staff through the online Staff Induction process
- expanding the Staff Sustainability Network

A well subscribed key initiative for staff in 2012 was the annual CSU Sustainability Grant program. Staff and students were invited to submit an application to fund a sustainability initiative on their campus to a maximum budget of \$15,000. Twenty-eight applications were submitted by staff members for the CSU Sustainability Grants program in 2012, the largest subscription to the program to date. Eleven of the grant submissions were successful, with

a selection described in the table on page 24. The annual grant scheme in 2012 was successful in engaging staff and connecting them to the sustainability tasks and objectives outlined in the University's Sustainability Enabling Plan 2011-2015. Further information on the annual CSU Sustainability Grants program is located at www.csu.edu.au/csugreen/grants

A valuable staff engagement initiative that was awarded funding through a 2012 CSU Sustainability Grant, submitted by CSU Training, was the 'Introduction to Sustainability in the Workplace' training project. This training program, an accredited Vocational Education and Training course, has been fully subsidised by the grant and made available free of charge to 100 staff members. Expressions of interest were taken in the latter half of 2012 for the course, facilitated by Judy Doulman (CSU Training) and Nicola Smith (CSU Green).

Forty staff members have already completed the training at Albury-Wodonga, Orange and Wagga Wagga campuses. The training comprises one six-hour training course followed by a workplace sustainability project to be completed over three months. Some great projects have been

developed by staff, with each project aiming to meet at least one task or objective within the University's Sustainability Enabling Plan 2011-2015 and to engage colleagues on sustainability in their workplace. Feedback on the course from the staff who have attended the training so far has been very positive.

In a bid to make CSU's sustainability goals more prominent in CSU business and operations, and to promote awareness of CSU's sustainability office, CSU Green liaised with Human Resources to secure a page specifically for CSU Green in the online Staff Induction. New and continuing staff members are now able to access the CSU Green website via links to pages of relevant information for staff. In 2013 CSU Green will build on the page in the online induction, to further introduce new staff to the sustainability goals and expectations at CSU, and promote initiatives staff can be involved in.

Another initiative that has received a high subscription is the 'sustainability champion' initiative that was reinvigorated in 2012 and rebranded as the Staff Sustainability Network (SSN). Greater promotion of this network has resulted in a growth of over 100% in active staff

members, enthusiastic to be the sustainability liaison member in their workplace. The function of the SSN is to increase the awareness of CSU Green and the University's sustainability objectives and targets through the ongoing dissemination of CSU Green information. SSN staff members disseminate news and information from the CSU Green office to their colleagues. Through the role, they are able to communicate feedback to CSU Green about existing initiatives, and provide CSU Green with ideas of initiatives they would like to see in their workplace.

A scheme that has taken off through the SSN is the deployment of powerboards for workspaces, enabling staff to shut down their computer overnight and easily eliminate standby power at the power point by using a conveniently located powerboard with switches. SSN staff are engaging and educating their colleagues about the energy saving benefits of turning the computer off at the power point.

Through 2013 CSU Green will strive to work with senior management to endorse the SSN role for staff members, to help overcome the challenge of staff who feel uneasy about dedicating work time to the role in their workplace.

CSU Green also plans to introduce social networking events for SSN members throughout 2013. Further information on the SSN is located at www.csu.edu.au/csugreen/sustainability/staff-sustainability-network

More formal engagement of staff in sustainability initiatives is provided through the Campus Environmental Committees (CECs). Each of the five main campuses has a Committee comprised of both academic and general staff, working together with CSU Green to plan and achieve sustainability initiatives on their campus. Key initiatives that the CECs have been working on throughout 2012 are listed in the table on page 24. Further information about the CECs, including information on how staff and students can join their campus' Committee, is located at www.csu.edu.au/csugreen/sustainability/csu/csu-environmental-committees

STAFF SUSTAINABILITY NETWORK



The Staff Sustainability Network (SSN) is a group for staff members interested in participating in sustainable living. The network is offered support from CSU Green for sustainability initiatives in the workplace. The responsibilities for staff involved with participating in the SSN include liaising with colleagues on CSU sustainability initiatives, liaising with CSU Green, and disseminating information on sustainability initiatives, events and programs for staff from the CSU Green office.

The most recent staff member to join the SSN is Randa Khattar (pictured above) from the CSU campus in Ontario, Canada. Randa is a Lecturer in Early Childhood Education and Teacher Education, and has been working for CSU for two years. Randa has taken on the role of Sustainability Agent for the 22 staff members at the Ontario campus, complementing her personal and professional interest in sustainability.

Randa has previously taught environmental sustainability, and has a strong interest in social justice and eco-justice. Her concern with eco-justice is centred around her belief in the need to

approach the issues facing our earth as affecting more than just the humans in the world. Randa's doctoral research was based on ethical responsibility in a more than human world. Her dissertation focussed on listening and attentiveness, not just to people, but to everything in a complex ecological world.

Through her desire to work towards the initiatives offered through CSU Green, Randa took on the role of Sustainability Agent for the Ontario Campus. Previously too busy to reach out in this capacity, the offer of a role in the SSN provided Randa with a great opportunity to be involved.

Randa's interest in CSU Green's initiatives is primarily centred on better incorporating aspects of environmental sustainability and sustainability awareness in coursework and research at the University. Randa is looking forward to aligning initiatives between the Australian and Canadian campuses. One current campaign which Randa is keen to promote in Ontario, in conjunction with CSU Green, is the Free Water @ CSU promotion. This campaign promotes the health, financial and environmental benefits of tap water over bottled water. CSU Green is looking forward to working with Randa and all the other enthusiastic members of the SSN to help spread the sustainability message across our campuses.

S2.2: Student and Staff Engagement

Core business of the University is to offer CSU's students the best possible student experience. In 2012 CSU Green focussed on offering sustainability engagement activities that enriched student's university experience, and developed their involvement in sustainability issues. CSU Green aims to enrich the student's experiences through both tangible and non-tangible means. Students can make a tangible improvement to sustainable living on campus through various operation-based and behavioural changes, such as the public place recycling bins which have been introduced across CSU's campuses.

Non-tangible changes require ongoing education to instil an understanding in students that an improvement or change that is not felt or seen can still be of benefit to them and the wider community through cleaner water, cleaner air, healthy and thriving ecosystems, improvements to scenery and leisure spaces, and other services the ecosystem we live in provides us. An initiative of 2012 that attempted to achieve an appreciation for the non-tangible benefits of sustainability was the Eco Literacy Film (ELF) festival.

The ELF festival was funded through a CSU Sustainability Grant in 2011. The festival was open to staff and students, and had a high value of prize money available for the winners of each division and the overall winner. Unfortunately, the prize money was not enough motivation for many staff or students to enter, and only three entries were received. CSU Green is currently seeking interest to run the competition through other avenues, such as through the Australasian Campuses Towards Sustainability (ACTS) Annual conference. This would open the festival to a much wider community of entrants, and would also potentially allow for greater coverage of the winning entries.

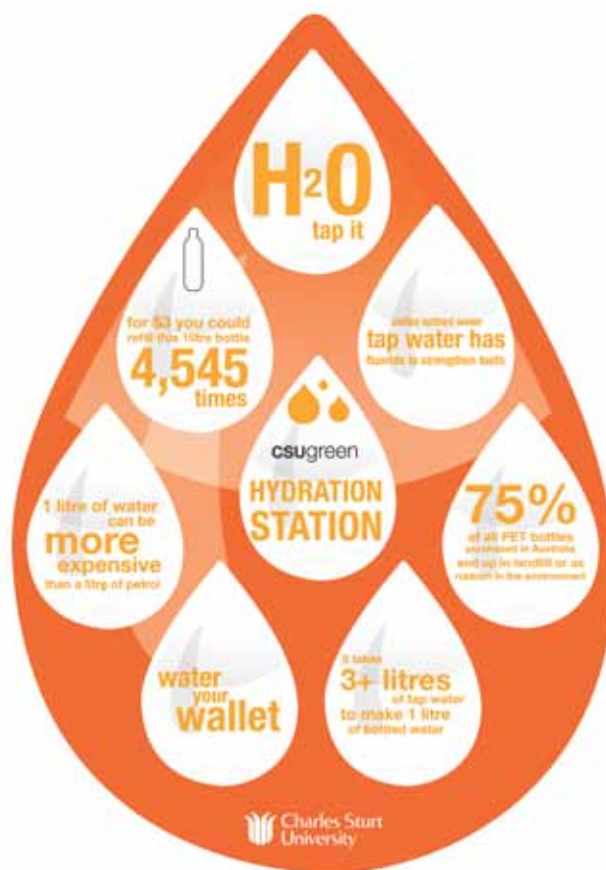
Green Steps @ CSU, a free training and internship program for CSU students run in partnership with Monash Sustainability Institute (MSI), was supported into its second year in 2012. Interest in the program increased significantly since the first year of the program in 2011. Green Steps @ CSU accepts 12-16 students per year through a rigorous application process. Successful students receive six days of training covering sustainability in the workplace, and an on campus internship.

The program is primarily designed for students to gain improved understanding and skills to achieve sustainable environmental change in their future workplaces. Staff were urged to get involved in offering Green Steps @ CSU students a 15-day on campus internship. A great example of a successful on campus internship is the project that was hosted by CSU Training. Rachel Smith, a distance education student from Queensland studying a Bachelor of Environmental Science, performed an environmental audit of CSU Training at the Wagga Wagga Campus and provided the office with a list of recommendations to achieve a more sustainable workplace. Her recommendations included:

- adopting Total Record and Information Management (TRIM), to reduce paper use
- introducing a 'Green Ambassador' program
- providing facilities to allow organics recycling from office buildings
- developing an online format of staff inductions, to reduce paper and resource use
- changing to sustainable forms of packaging for catering.

CSU Green received feedback throughout 2012 from staff and students who are enthusiastic about celebrating and supporting sustainability initiatives together and are eager to see a removal of the staff / student divide. Whilst some activities are tailored towards only staff or only students, there are also events and initiatives throughout the year that can be cross promoted. During 2013 CSU Green will be working to coordinate more events and projects that incorporate the needs and interests of both staff and students.

Events that were promoted to both staff and students in 2012 included the Eco Literacy Film (ELF) Festival, the Wagga Wagga Swap Party trial, NSW Bike Week, Ride2Work Day and the monthly Ride to Campus day at Wagga Wagga. The cycling events were very successful amongst staff, with a catered breakfast provided by CSU Green at the campus after the rides. The monthly Ride to Campus days, organised through the CSU Wagga Wagga Bicycle Group, are also growing in support by staff members. However student involvement in these active transport events were minimal in 2012, and will be an area of focus in 2013 for more effective promotion and engagement of students.



The latter half of 2012 saw the inception of two key campaigns for CSU in the quest to achieve a cultural shift towards sustainable living on and off campus.

One of these campaigns is focused around tap water as a great natural resource, with financial, health and environmental benefits. The campaign has supported the installation of water refill stations at key areas around the five major campuses, to actively target reducing bottled water sales on campus.

The second key campaign was focussed on active transport at CSU. There are many barriers that need to be addressed in the move towards widespread use

of active modes of transport to/ from and around campus. These barriers include the distance between many of our campuses and the CBD; the lack of suitable regional public transport, cycleways and paths; the need for more end of journey facilities at CSU's campuses (including showers, lockers and bike storage facilities); and the large size of many of our campuses, making walking to many destinations quite time-consuming. Much of this feedback was received from staff and students through surveys from NSW Bike Week 2012. CSU Green has welcomed this input, and will be working towards addressing many of these challenges in the coming years.

S1.1 and S2.3: Community Engagement

CSU has a strong focus on developing and maintaining partnerships and alliances with local organisations, businesses and community groups. Notable partnerships have been formed with local community, business and government organisations working towards common goals, with these partnerships helping to develop sustainability in the workplace through organisational strategies. A key alliance with a NSW State Government stakeholder is through the Sustainability Advantage program, run through the Office of Environment and Heritage. The Wagga Wagga cluster of this program is very active and brings organisations together to help each reach similar sustainability goals. In 2012, CSU initiated interest through the Port Macquarie business community to reinvigorate the Port Macquarie Sustainability Advantage cluster.

Australasian Campuses Towards Sustainability (ACTS) is the premier forum for sustainability in the Australian and New Zealand tertiary education sectors. ACTS promotes the integration of the principles of sustainability within the curricula and operations of

this sector. In addition to being a current Institutional Member of ACTS, CSU also has two active members on the ACTS board: John Rafferty (Lecturer in the School of Education) is the Vice-President Campus Learning, and Edward Maher (Manager CSU Green) is the Regional Director Non-Metro NSW/ACT.

In 2012, CSU representatives took advantage of many of the services and membership benefits that are available through ACTS, including:

- adopting the Learning in Future Environments (LiFE) Sustainability Index as CSU's primary mechanism for monitoring the University's sustainability performance, and providing a framework for driving institutional-wide involvement (LiFE will be launched at CSU in 2013)
- attending the 2012 ACTS annual conference where the core theme was 'Mobilise and Motivate: Building Momentum for a Holistic Sustainability Approach'
- winning the inaugural ACTS Sustainability Photography Competition – Staff Category (won by Shelby Gull-Laird, Lecturer in the School of Environmental Sciences)

- participating in several ACTS webinars, covering topics such as 'Student engagement – Reward and recognise quality, not quantity'.

There are many ACTS resources available online, which all CSU staff and students can access free of charge at the website:

www.acts.sn.au

In late 2012, CSU was awarded a designation with a United Nations University Regional Centre of Expertise (RCE) through the tireless work of Dr John Rafferty and his colleagues. CSU was awarded the designation through the collaboration and alliances built with local educational institutions, organisations and community groups to educate the wider community on environmentally sustainable development in the Murray-Darling Basin. The RCE provides a working framework for the alliances with external stakeholders to increase sustainability in the region and work with the community to assist them in achieving their sustainability goals. Further information about the RCE is available in the break out box on page 15.

STAKEHOLDER ENGAGEMENT

In 2012, interest in the student-run Green Bike Farm on the Wagga Wagga Campus grew within the broader local community, following on from the inception of the garden in 2011 through a CSU Sustainability Grant. The hard work and networking of Gemma Hawkins and her small team managed to get a well resourced garden up and running, with additional help from community stakeholders. A partnership with two local electrical companies, D&M Electrical Communications and Greater Southern Electrical, enabled the installation of a small wind turbine and solar array to provide renewable energy to power the Farm's electrical needs. The Green Bike Farm has also partnered with the Wagga Demonstration Gardens to build a pizza oven on campus, increasing the services and social space of the Green Bike Farm. Further information and photographs are located at: greenbikefarm.blogspot.com.au

Another CSU campus student-run garden that is prospering with the assistance of the wider community is the Kerr Sustainability Centre (KSC) at the Albury-Wodonga Campus. The KSC has been operating since February 2011. The students at KSC were successful in obtaining a CSU Sustainability Grant in 2012, which allowed them to increase their soil, mulch and tool supplies. These items have been used to develop new gardens and maintain existing gardens. There are over 20 community members that volunteer at the KSC, including members of the Albury Men's Shed.

Further information and photographs are located at: kerrsustainabilitycentre.weebly.com/index.html



The Albury-Wodonga Campus was host to another local community event in 2012, the Thurgoona BioBlitz. The BioBlitz was run by Slopes to Summit (part of the Great Eastern Ranges initiative, Australia's largest conservation corridor project), in partnership with CSU and several other government and educational organisations. During the BioBlitz, ecologists provided their specialist skills to survey birds, small mammals, frogs, reptiles, bats, squirrel gliders and invertebrates over two days. Volunteer organisations included CSU, Australian National University, Murray Catchment Management Authority, GHD, Latrobe University, Nature Conservation Trust and the National Environment Centre. All the information collected through the BioBlitz was added to the Atlas of Living Australia, a database to record location-specific biodiversity information. See the table on page 24 for more information.



Looking forward to 2013

Engagement activities will continue in 2013 with plans to again run many of the well-attended events and initiatives, including Ride2Work Day, NSW Bike Week, National Tree Planting Day, CSU Sustainability Grants and Green Steps @ CSU.

In 2013 there will be further development of end-of-trip facilities for cyclists at CSU's campuses. A trial will also begin at the Wagga Wagga Campus where the Division of Facilities Management will provide bikes to a number of Schools and Divisions, for staff to use when travelling around the campus. If successful, this initiative may be expanded to further areas of the University.

Continuing the focus on sustainable transport, CSU Green will undertake active transport promotion at each campus with the assistance of Graphic Design students. Elizabeth Robinson, lecturer in the third-year subject Campaigns, Publishing and Identity, will be setting an assessment for the class with CSU Green as the client. Students will be asked to design a marketing campaign for bike parking facilities at each campus. Their task will include research, marketing and design of the overall campaign.



STAKEHOLDER ENGAGEMENT

This marks the development of a great partnership between CSU Green and the School of Communication and Creative Industries, with a fantastic opportunity to engage and involve the students in the work of CSU Green. CSU Green is looking forward to providing great engagement initiatives and events in 2013.



ENVIRONMENTAL SUSTAINABILITY INITIATIVES THAT ENGAGE CSU STAFF & STUDENTS IN 2012

ENGAGEMENT INITIATIVE	OUTCOMES
<p>Slopes2Summit Thurgoona BioBlitz</p>	<p>Over a Friday/Saturday in May, Slopes2Summit hosted the Thurgoona BioBlitz on CSU's Albury-Wodonga Campus. School students (Friday) and community volunteers (Saturday) were taken on ecological surveys of the Thurgoona area to document the biodiversity. The surveys particularly aimed to identify a list of the 20 most wanted species from the Thurgoona area. The 20 most wanted species list was compiled by the survey leader group, including ecologists from CSU. The species on the list are either listed as threatened or in decline. It was an exciting and successful two days organised by the S2S partnership and the Woolshed Thurgoona Landcare Group, and funded by the Australian Government's Caring For Our Country program, the NSW Environmental Trust, and the Albury Conservation Company. Over 300 participants were involved in the completion of 36 surveys.</p>
<p>Australian College of Educators Biennial Conference 2012 - Education for Cultural and Environmental Sustainability</p>	<p>In May, CSU Dubbo Campus supported a professional and community initiative on educating for sustainability through the Australian College of Educators Biennial Conference 2012. The conference theme was 'Education for Cultural and Environmental Sustainability'. Throughout the conference there were a variety of presentations from organisations such as NSW National Parks and Wildlife, Wambarang Environmental Centre and the CSU Pre-service Teachers, on topics ranging from engaging students in the environment, to teaching children how to recycle, the development of the Botanic Gardens in Dubbo and what the Dubbo community can offer in terms of local and global sustainability education.</p>
<p>RES-Cycle (CSU Sustainability Grant 2012)</p>	<p>RES-Cycle is a pilot program to develop a strategy to increase good waste management practices within the residences at the Albury-Wodonga Campus. The overall aim of the project is to achieve behavioural change amongst residential students by implementing good education, good waste management facilities and useful visual guides. The goal is to reduce the volume of waste to landfill and the level of contamination in recycling.</p>
<p>The Human Powered Bicycle Initiative (CSU Sustainability Grant 2012)</p>	<p>The Human Powered Bicycle Initiative aims to achieve a cultural change amongst staff and students on the Bathurst Campus through the interactive use of a stationary bicycle in the library to power personal electronic items. The initiative also promotes a healthy workplace and campus for staff and students. It is a fun way to bring energy efficiency education to CSU.</p>
<p>Reconciliation and Cultural Diversity Garden (CSU Sustainability Grant 2012)</p>	<p>The Reconciliation and Cultural Diversity Garden aims to develop a space that engages the local multicultural and Indigenous groups within the Dubbo community with CSU. It will provide an outdoor teaching space on campus that can be used for sustainability, Indigenous and cultural diversity learning and teaching.</p>
<p>Cultural Change through Carbon Offsets (CSU Sustainability Grant 2012)</p>	<p>The 'Cultural Change through Carbon Offsets' project aims to model environmentally responsible global citizenship through offsetting the carbon footprint of a two-week CSU Social Work study abroad program. The program aims to offset the carbon footprint by tree-planting. The project will also increase the environmental understanding of staff and students involved in the program through an educational course, and demonstrate a commitment to environmentally responsible citizenship at the local and global levels.</p>

ENGAGEMENT INITIATIVE	OUTCOMES
<p>Sustainability in the Workplace (CSU Sustainability Grant 2012)</p>	<p>The ‘Sustainability in the Workplace’ training program will develop and deliver an accredited introductory sustainability program to all CSU staff, which covers the requirements of the Unit of Competency BSBUS301A - Implement and monitor environmentally sustainable work practices, from the Business Services Training Package. The program, developed by CSU Training, will include a two-hour introductory workshop to establish the framework of sustainable practices both individually and in the workplace.</p>
<p>Staff Sustainability Network</p>	<p>This program invites staff to nominate to be the sustainability liaison member for their workplace. CSU Green is able to regularly communicate with members of the network, who then help disseminate information to their colleagues about sustainability-related events and initiatives which are occurring across CSU. Growth of the network through 2012 has excelled, with the number of staff members more than doubling over the year.</p>
<p>Staff Induction</p>	<p>The CSU Staff Induction, for new and continuing staff, now has a page dedicated to CSU Green, to provide staff with relevant sustainability information and links to CSU Green’s web pages with more detailed information.</p>
<p>Green Steps @ CSU</p>	<p>Green Steps @ CSU is a sustainability program for students, run by CSU in conjunction with the Monash Sustainability Institute. The program comprises six days of training focussed on achieving sustainable change within the workplace, followed by an on campus internship. The training occurred through September 2012, with the majority of internships being completed between October 2012 and February 2013. Eight students have so far completed their internships, covering projects such as: Preparation of curriculum material and an instructional guide for the Wagga Wagga School of Education’s ‘Indigenous food garden’; Measurement of the embedded carbon within CSU buildings; An environmental audit of the CSU Training offices at Wagga Wagga; An assessment of the opportunities for compost and reuse at Albury-Wodonga Campus; Development of a plan to improve the sustainability of the CSU vehicle fleet; Preparation of a strategy to consolidate the key areas of biodiversity on the CSU Farm Wagga; and Engagement with stakeholders of the United Nations University Regional Centre of Expertise Murray-Darling Basin.</p>
<p>Albury-Wodonga Campus Environmental Committee</p>	<p>The Albury-Wodonga Campus Environmental Committee members championed the successful NSW Bike Week and Ride2Work Day events on the Albury-Wodonga Campus.</p>
<p>Bathurst Campus Environmental Committee</p>	<p>The Bathurst Campus Environmental Committee (CEC) members monitored litter on the campus throughout 2012, particularly after the implementation of the new waste management system in early 2012. The CEC also led the successful National Tree Planting Day activities on campus, with a large number of students coming along and planting approximately 300 trees. CEC members were also instrumental in preparing the design for the rehabilitation works on the upper reach of Village Creek. This work will be completed in 2013 using funding obtained through a CSU Sustainability Grant.</p>
<p>Dubbo Campus Environmental Committee</p>	<p>Dubbo Campus Environmental Committee members successfully conducted the campus’s first National Tree Planting Day event. Fifty trees were planted near the new sports complex.</p>

ENGAGEMENT INITIATIVE	OUTCOMES
<p>Orange Campus Environmental Committee</p>	<p>Orange Campus Environmental Committee (CEC) members completed a project to install a camera and recording software in the peregrine falcon nesting box located at the top of a water reservoir on CSU's Orange Campus. The nesting box interior is now able to be streamed live from anywhere in the world, providing rare access to the lives of these endangered native animals. The CEC also worked with the CSU Farm Manager at Orange to identify suitable areas to allocate to CSU's biodiversity targets. These sites will be used for tree planting and other biodiversity enhancement activities. It is hoped that final agreement on the nominated biodiversity sites will be reached by the end of April 2013.</p>
<p>Wagga Wagga Campus Environmental Committee</p>	<p>Some of the actions to come from the Wagga Wagga Campus Environmental Committee include changes to the CSU bus route, to encourage greater use of this mode of public transport; the installation of rubbish bins at campus bus stops; and consultation on the location of water refill stations, to encourage the use of reusable bottles rather than the purchase of bottled water. The Wagga Wagga CEC has also developed a list of actions for 2013.</p>
<p>NSW Bike Week</p>	<p>Increasing in size from previous years, NSW Bike Week was well received by staff and students across the University. Staff and students at the Albury-Wodonga, Bathurst, Orange and Wagga Wagga campuses participated in NSW Bike Week by running bike maintenance workshops, and holding 'Ride to Campus' events with a free breakfast provided for riders at the campus. External stakeholders were also involved in CSU's Bike Week activities, including local council staff and community members.</p>
<p>Free Water @ CSU Campaign</p>	<p>In 2012, promotional floor decals were installed in front of water refill stations around each of the main campuses, as part of the Free Water @ CSU campaign. The decals educate users on the environmental, health and financial benefits of tap water over bottled water.</p>
<p>National Ride2Work Day</p>	<p>National Ride2Work Day has been well received at CSU for several years, and 2012 was no different. CSU's Bicycle Network and Campus Environmental Committees joined together with CSU Green to promote and organise the event, which had a good turn up at each campus. Andrew Vann, CSU's Vice-Chancellor, even took part in the event, riding to the Bathurst Campus.</p>
<p>National Tree Planting Day</p>	<p>All of CSU's major campuses participated in this event in 2012, contributing to increasing biodiversity, reducing soil erosion, enhancing water runoff quality and improving soil structure on our campuses. While the weather was a barrier for many campuses on the day, many volunteers still participated, and were rewarded with a free barbecue or pizza to celebrate the event.</p>
<p>Earth Hour</p>	<p>Energy efficiency, in particular, 'Lights Out' is the message for Earth Hour, which took place in March 2012. Residential students supported Earth Hour in different ways on each campus. At Wagga Wagga, the event was run in conjunction with 'Unearthed Hour', an acoustic music concert by candlelight; at Orange, the night was celebrated with lights out and a movie on the big screen through Flicks in the Sticks; at Dubbo, it was celebrated with 'Easter Eggstravaganza'; and in Bathurst, students celebrated with pizza by candlelight, a glow in the dark party, live music and painting by moonlight.</p>

ENGAGEMENT INITIATIVE	OUTCOMES
<p>Swap Party</p>	<p>This event, run as a trial within the residences at the Wagga Wagga Campus, aimed to promote the message of 'Reduce, Reuse, Recycle' in relation to clothing and accessories. The event was designed to highlight the environmental and social issues of consumerism, and the origin and manufacturing of materials and other items. The trial was not found to be very popular, and will be trialled in a different format in 2013.</p>
<p>Eco Literacy Film Festival</p>	<p>The inaugural Eco Literacy Film (ELF) competition and festival was run in 2012, funded by a 2011 CSU Sustainability Grant. The competition was open to CSU staff and students with big prize money available. While only three entries were received, the standard was very high, and there was much interest from other universities in relation to the event. CSU is investigating the possibility of running the festival as a national event, in conjunction with a number of other universities, through the ACTS (Australasian Campuses Towards Sustainability) network.</p>
<p>Residential Advisor training</p>	<p>Residential Advisors (RAs) are the student leaders within the residences. Each year, the RAs complete compulsory training in many aspects of University life. In 2012, CSU Green presented a session on sustainability initiatives at CSU, and conducted a trivia quiz around the theme of campus sustainability.</p>
<p>CSU Admin Focus Conference 2012</p>	<p>CSU Green was invited to present to approximately 150 CSU administration staff at this conference. CSU Green presented on the range of sustainability initiatives in place, across the University, with the aim of educating and engaging these staff members in sustainability on campus.</p>
<p>NSW Government 'Sustainability Advantage' program</p>	<p>This program, run through the NSW Office of Environment and Heritage, offers organisations the opportunity to manage environmental risk, use resources more efficiently and integrate environmental strategies with business planning. The Wagga Wagga Cluster of the program is very active, regularly meeting throughout the year to understand the environmental issues of the different organisations in the cluster, and share details on the success of their initiatives. CSU has also reinvigorated the Port Macquarie Sustainability Advantage Cluster.</p>
<p>Australasian Campuses Towards Sustainability 2012 Conference</p>	<p>The CSU Green team attended this conference in Brisbane in September 2012. The staff benefited from the many presentations and networking opportunities, which provided useful insights as to how other Australasian tertiary institutions are tackling sustainability initiatives on campus.</p>

Campus Management

C1.1: Carbon neutrality

Target:

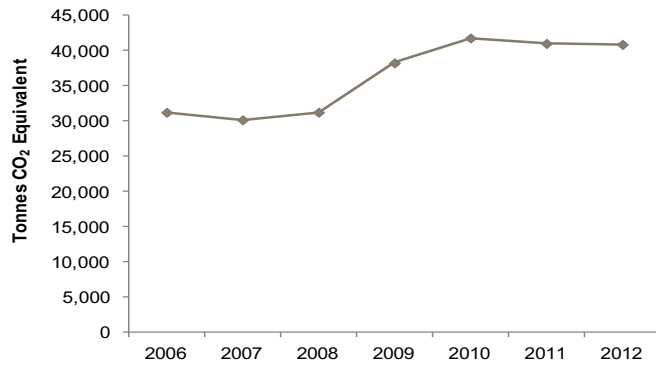
Be greenhouse gas neutral by 2015 (C1.1)

In 2011 and 2012, CSU achieved a very modest decrease in greenhouse gas emissions. CSU Green hopes that this marks a turning point on CSU's journey towards achieving carbon neutrality. The major reason for this reduction was a reduction in emissions due to air travel. The total flight kilometres travelled by CSU staff were significantly less in 2012 compared to 2011, the majority of this due to CSU staff and students taking less international flights than in 2011. CSU Green confirmed with CSU Travel that there were no changes to travel policies made in 2012 which may have accounted for this, however, staff may have been encouraged to reduce this travel as a budget saving measure.

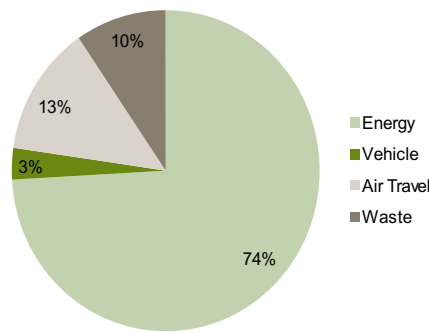
Some of the key points to note about CSU's 2012 carbon footprint are listed in the points below:

- the breakdown of CSU's carbon footprint by activity remained similar to previous years, with approximately 75% of this associated with energy consumption and the remaining 25% associated with flights, vehicle travel and the disposal of waste to landfill

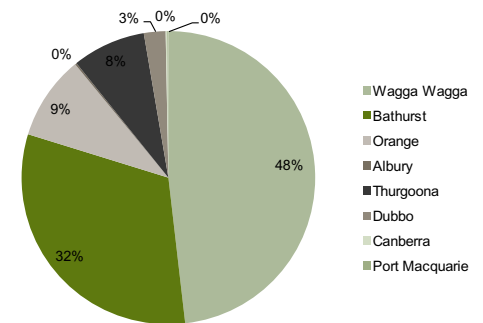
CSU'S GHG EMISSIONS



CSU'S GHG BREAKDOWN (CO₂-EQ)



GHG EMISSIONS DUE TO ENERGY CONSUMPTION BY CAMPUS (CO₂-EQ)



- the Bathurst and Wagga Wagga campuses were accountable for 80% of CSU's carbon footprint
- the first year of operation at CSU's new leased facilities in Port Macquarie were responsible for the generation of 37 tonnes CO₂-eq. While this is less than 1% of CSU's carbon footprint in 2012, this is expected to increase significantly in the coming years.

Looking forward to 2013

To become an accredited 'carbon neutral' organisation, CSU will need to apply for this status under the National Carbon Offset Standard (NCOS). In 2013, CSU will be working to confirm the 'boundaries' of the organisation's carbon footprint. For example, under the standard, CSU may need to quantify and account for greenhouse gas emissions associated with staff and student commuting to and from campus. This is something that CSU does not currently account for.

VICE-CHANCELLOR ANDREW VANN'S POSITION ON CARBON NEUTRALITY



One of the most serious sustainability issues we face is restraining our greenhouse gas emissions. Whilst the exact impact is not clear, there is overwhelming scientific evidence that humans have affected the global climate and that the planet is warming. Climate is the long-term trend and weather is a short-term trend so there is not necessarily a direct link between climate change and this summer's record heatwave. However, climate scientists predict that we can expect such weather to be much more common as the planet warms. There is also the risk of positive feedback mechanisms, for example if methane, which is a very powerful greenhouse gas, is released from melting permafrost in the Arctic Circle.

On top of the temperature impacts, and usually receiving less attention, rising carbon dioxide (CO₂) levels are increasing the acidity of the oceans with uncertain but quite possibly significant impacts on marine life.

All of this threatens the stability of the ecosystem, our systems of agriculture and hence our ability to maintain our species. Sometimes it is said that this is about 'saving the planet' and one of the objections raised is that, over geological time, carbon dioxide levels have been very much higher. Whilst this is true, it is many millions of years since they were at the levels now being predicted. The balance of life on the planet was very different at that time. It is not clear that we could destroy the ecosystem entirely, but we could prematurely destroy the ability of the Earth to support our species.

The longer we take to reduce greenhouse gas emissions, the worse the problem becomes and the greater the difficulty of taking effective action. The decade to 2020 has been described as 'the critical decade'. Both major political parties are committed to action on greenhouse gas emissions, although endorsing different solutions.

One of the problems is that the impacts are global and it may seem that action at the individual or organisation level is futile. This is not my view. I believe that leadership is critical and that it is vitally important that organisations and countries rise to the challenge and seek to make a difference. We are all going to have to become used to a reduced carbon future, or to no future at all. I prefer the first of these. Acting early is the right thing to do, and will also allow us to learn more quickly than other institutions.

Our strategy to achieve carbon neutrality focuses on energy efficiency, behavioural change, encouraging renewable energy and buying carbon offsets. We have the most ambitious carbon reduction target in the Australian University sector and, whilst we will have challenges in achieving it, I am proud that we are taking a leadership role in this space.

“We are all going to have to become used to a reduced carbon future, or to no future at all.”

C2.1 and C2.2: Energy reduction

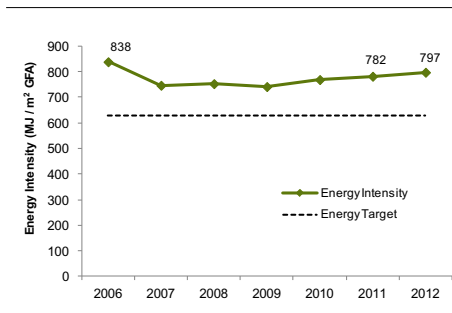
Targets:

Compared with 2006, achieve a 25% reduction in normalised energy consumption (MJ/m² Gross Floor Area) by 2015 (C2.1)

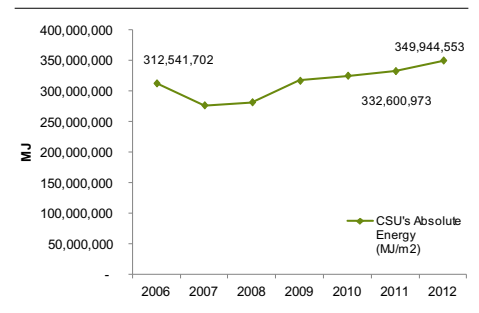
Achieve a 2% annual reduction in normalised energy consumption (MJ/m²) each year after 2015 (C2.2)

In 2011, CSU revised its target for energy reduction to achieve a normalised energy reduction target, rather than an absolute energy reduction target. In 2012, the organisation achieved a 7% reduction in normalised energy consumption compared with 2006. While this did not meet the target of a 10% reduction by 2011, CSU Green plans to implement further energy efficiency and renewable energy projects in the coming years, in order to achieve the 25% reduction in normalised energy reduction by 2015. This will also aid significantly in achieving the Carbon Neutrality Target (C1.1, see page 28).

CSU'S NORMALISED ENERGY CONSUMPTION



ENERGY REDUCTION



- due to the substantial increase in building area, CSU significantly increased its absolute energy consumption in 2012. Electricity consumption increased across the organisation by 18% and natural gas consumption increased by a total of 11% during this calendar year
- the biggest increases in normalised energy consumption occurred on the Wagga Wagga Campus, with an increase of 31MJ/m² calculated. This was a direct result of the construction and operation of the new NaLSH (National Life Sciences) and NWGIC (National Wine and Grape Industry Centres) buildings
- the Albury-Wodonga City Campus accounted for only 0.2% of CSU's normalised energy consumption. As the campus was sold last year, this will be the final reporting year for the facility
- the leased facilities at the Port Macquarie Campus accounted for only 0.2% of the organisation's normalised energy consumption. This is expected to increase significantly in future years with growth proposed for the new campus
- the Albury-Wodonga, Bathurst, Canberra and Dubbo campuses all recorded similar normalised energy consumptions compared to previous years.

Looking forward to 2013

CSU recognises that the Energy Reduction Target will be difficult to achieve in light of the planned expansion across all of its campuses. To address this challenge, new design guidelines have been developed by the Division of Facilities Management Operations team to help ensure that opportunities for energy efficiency are identified as part of any new campus development.

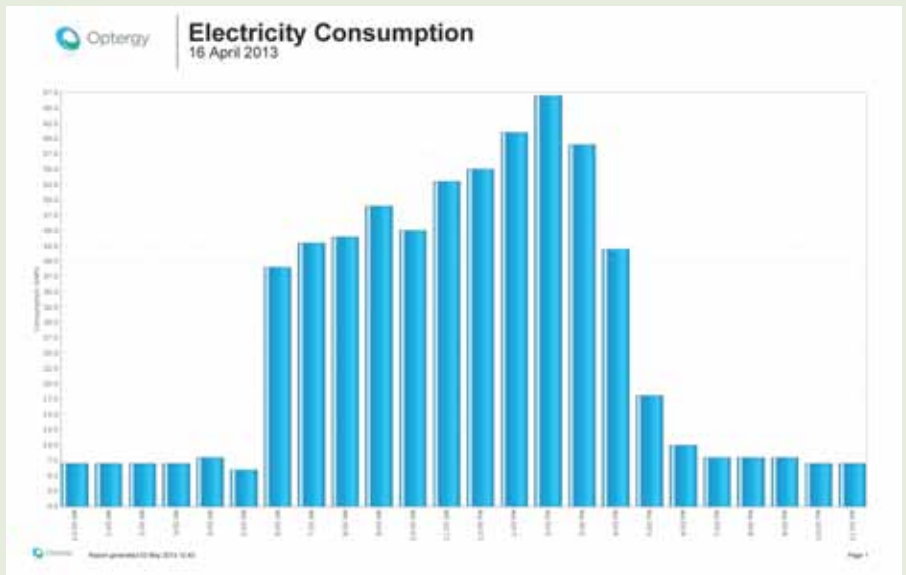
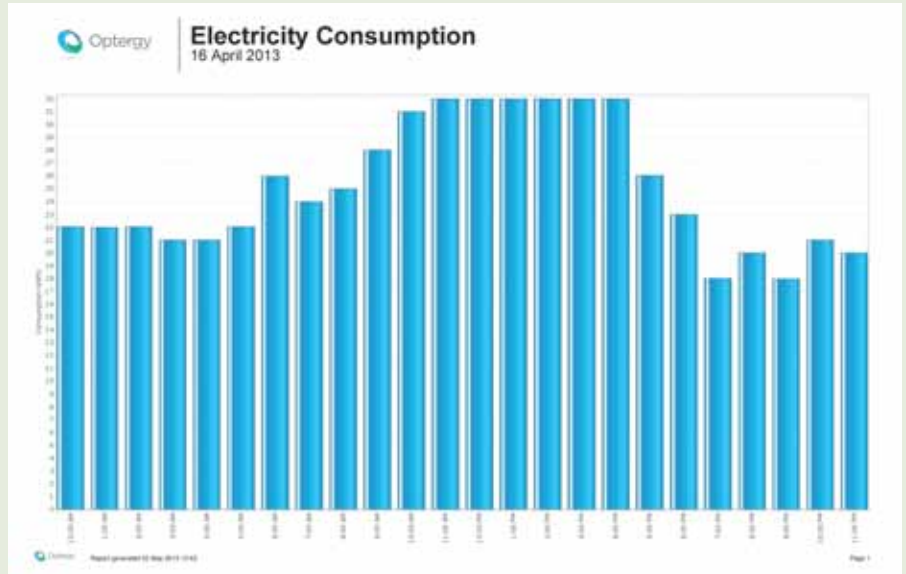
BUILDING MANAGEMENT SYSTEM (BMS)

In 2009, the Division of Facilities Management (DFM) procured a sophisticated, organisation-spanning Building Management System (BMS). The BMS is a sophisticated piece of software that is designed to interface with, and provide direct control over a number of building systems. These include:

- Air conditioning
- Heating
- Lighting
- Metering

Through better control over these systems, CSU Green, working in consultation with DFM Operations staff, are able to ensure the systems are operating optimally, providing greater amenity and efficiency. For example, through periodic review of our smart electrical meters, DFM Operations is able to identify buildings that have high overnight power consumption. While there are some buildings that will always have high overnight power consumption (e.g. buildings with server rooms, science labs with fridges/freezers) for the majority of CSU’s buildings this should not occur.

The two graphs at right demonstrate the stark difference in energy consumption between two office buildings on the Bathurst Campus.



TRIAL RENEWABLE ENERGY PROJECT: STUDENT RESIDENCES AT WAGGA WAGGA



In 2012, CSU Green undertook investigations with the Wagga Wagga Campus' electrical contractor, D&M Electrical, into how to bring an electrical supply from a nearby student residence to a garden shed located adjacent to Wagga Wagga student gardens. The purpose of this new connection was to provide the garden shed with both external and internal lighting and to provide a power source for running a pump fitted to the garden's rainwater harvesting system.

While D&M Electrical did propose a conventional solution to supply an underground electrical supply to this garden shed from Building 572, the contractor also put forward a proposal to install a small-scale renewable energy system for the same cost as the conventional solution. D&M Electrical was aware of CSU's interest in renewable energy and saw the project as a partnership opportunity with an agreement established that the installation could be used by D&M to promote their capacity in renewable energy systems to other clients in the region. The small-scale renewable energy system consists of a round-mounted 2kW solar array and a 3kW wind turbine.

The system began construction in March 2012, and was commissioned and operational by April 2012.

Since April 2012, the solar PV system has generated approximately 550kWh of electricity – equivalent, approximately, to the electricity consumed by an average household in nine months.



C3.1 and C3.2: Water reduction

Targets:

Compared with 2006, reduce absolute water consumption by 40% by 2015 (C3.1)

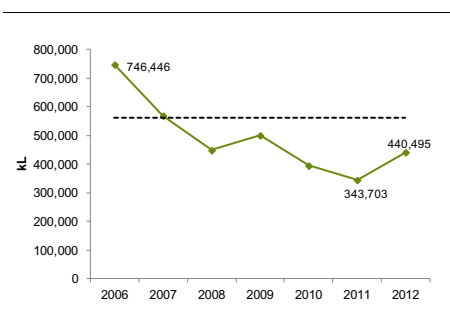
Achieve a 2% annual reduction in normalised water consumption (kL/m² Gross Floor Area) each year after 2015 (C3.2)

Water is a significant issue for Australia as the country faces significant challenges in terms of ‘ensuring a sustainable water supply in the face of a drying climate and rise in demand for water’ (Department of Sustainability, Environment, Water, Population and Communities, 2013). This issue is particularly relevant as the majority of CSU’s major campuses are located in the Murray-Darling basin, an area suffering from widely acknowledged water issues.

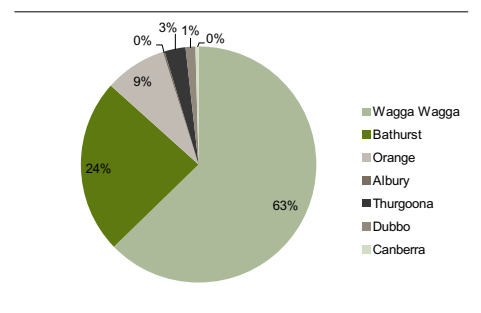
CSU recognises the value of a sustainable water supply and has established some ambitious water reduction targets which aim to:

- reduce potable water consumption
- reduce costs associated with potable water consumption

CSU’S ABSOLUTE WATER CONSUMPTION



CSU’S WATER CONSUMPTION BY CAMPUS



- demonstrate, using the campuses themselves, a number of novel ways in which water can be more efficiently utilised.

In 2012, CSU recorded a 41% reduction in absolute water consumption compared to the baseline year of 2006. However, water consumption was 28% higher than that measured in 2011.

- the biggest increase in water consumption in the past year occurred on the Wagga Wagga Campus, which recorded a 42% increase compared to 2011. The major reasons for this increase in water consumption were increased irrigation of playing fields and recreational spaces in 2012 due to lower rainfall, and the commissioning and operation of the National Life Sciences Hub (NaLSH) building
- the Wagga Wagga and Bathurst campuses together accounted for 87% of CSU’s potable water consumption. These campuses represent 75% of CSU’s Gross Floor Area.

- water consumption figures for the Port Macquarie Campus are not currently available, as water at the facility is not sub-metered and the cost of water is currently included within the lease. The expansion of this campus in the coming years will inevitably increase CSU’s absolute water consumption.

Looking forward to 2013

As CSU continues to expand, particularly with more research-intensive buildings being constructed, it will be a challenge to maintain an absolute water reduction of 40% compared to 2006. However CSU Green plans to implement further water efficiency projects in the coming years. These plans include the harvest and reuse of stormwater for irrigation, the introduction of more water-efficient fixtures and fittings, and an ongoing education campaign to encourage water-smart behaviour.

WATER REDUCTION AT ORANGE CAMPUS



CSU's Orange Campus includes 633 hectares of productive farmland. This land typically supports approximately 1,000 head of sheep and 230 head of cattle. Dam water is not available at all areas of the property, making stock water troughs a necessary requirement. Until recently, stock water troughs were fed from potable town water supplies.

In March 2012, a project was completed that involved converting stock water troughs across the Farm from potable town water to non-potable water sourced from the existing network of dams. The system has been designed to minimise energy use and costs associated with pumping by using a gravity-fed header arrangement and undertaking pumping during off-peak energy tariff periods wherever possible. A back-up connection to potable water exists for emergency situations. The investment is expected to pay for itself in approximately seven years. The system has now been running for less than 12 months and during that time it has offset just over 2 million litres

of potable water consumed by stock with dam water. Significant additional water savings have also been achieved by replacing reticulation that was prone to failure to reduce system leakage. Some improvements to pumping and storage arrangements have been identified during the first year of operation, and once implemented, these are expected to further increase the savings achieved by minimising the need to switch back to potable water at any time during the year.

While the water storage situation in the Orange region has eased following above average rainfall during 2011 and 2012, the region's water storages had previously dropped below 30%, prompting Orange City Council to announce stringent Level 5b water restrictions. This project will reduce CSU Orange Campus' reliance on town water for farm purposes and aid in reducing demand on the region's water supply which is under stress due to population growth and ongoing development.

Two million litres of potable water consumed by stock was offset with dam water in 2012.

C4.1 and C4.2: Waste reduction

Targets:

Achieve 70% recovery of solid waste from landfill by 2014 (C4.1)

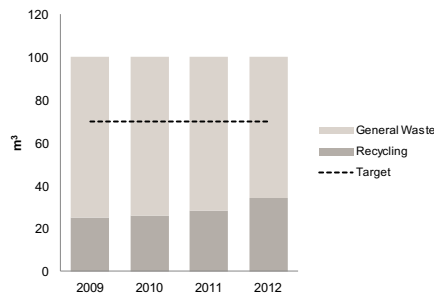
Reduce total solid waste generation by 2% each year after 2014 (C4.2)

Demonstrate responsible stewardship of potentially harmful waste materials (C4.3)

Waste is a significant environmental challenge for Australia and the world. The generation of unwanted material that needs to be disposed of, often as landfill, creates a number of environmental challenges. In addition, the generation of waste represents a loss of valuable resources which could be reprocessed into other usable products.

CSU has committed to achieving a 70% reduction in the amount of waste to landfill by 2014 through the recovery and redirection of recyclable and valued materials. In 2012, CSU achieved its biggest reduction since setting this target, with 35% of waste material generated being sent to a Materials Recycling Facility (MRF). This means that an additional 35% of material must find its way into the recycling stream for CSU to achieve its targets.

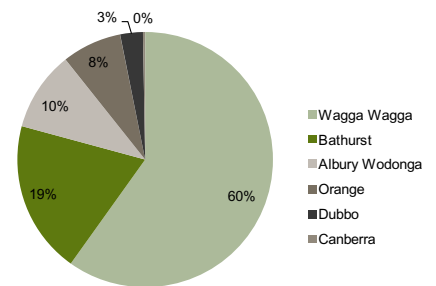
CSU'S WASTE OUTPUT



Key developments for waste reduction in 2012 include:

- The Bathurst and Wagga Wagga campuses accounted for approximately 80% of all waste generated by CSU. This is primarily due to their size, with these two campuses representing 79% of the total CSU staff and student population
- the amount of material diverted from 'general waste' to 'recycling' on the Bathurst Campus jumped from 20 m³ in 2011 to 890 m³ in 2012. This is the result of significant changes in the way that waste was collected on the campus in early 2012 (see break out box on page 36)
- due to improvements in the collection of recyclable materials on the Albury-Wodonga Campus, the campus achieved a recycling rate of 47%, the best result across all of CSU's major campuses

CSU'S WASTE OUTPUT BY CAMPUS (M³)



- the Canberra, Dubbo, Orange and Wagga Wagga campuses recorded percentage breakdown of general waste to co-mingled recycling in 2012 when compared to the previous year 2011. That is, the Canberra, Dubbo and Wagga Wagga campuses recorded recycling rates of (respectively) 37%, 31% and 37%.

Looking forward to 2013

A number of projects are planned in 2013 to help increase CSU's recycling rate from 35% in 2012 to the target of 70% by 2014. These include:

- a significant change to the way that waste is collected in office areas across the organisation (see break out box on page 38)
- a review into the possibility of the construction of a large-scale organics waste-processing facility on the Wagga Wagga Campus.

CHANGES TO WASTE COLLECTION - BATHURST CAMPUS



Contributed by: Peter Scott (Campus Services Manager), and Alistair Robinson (Client Services Coordinator, DFM Operations Bathurst)

Introduction

The procedures now in use are a significant change from previous processes. These changes have resulted in a number of benefits to the campus, most prominently the reduction in waste being sent to landfill and enhanced grounds and environ presentation.

Waste

Traditionally waste on the Bathurst Campus was placed in plastic bags outside buildings and residences by the Charles Sturt Campus Services (CSCS) cleaning staff for collection by the DFM janitorial team. In turn, the janitorial team would physically handle the bags into a tip truck and transport the waste to the local waste depot. This system was very labour-intensive, presented the campus in an unsightly manner and exposed staff to unnecessary manual handling dangers (including double-handling).

Waste management processes and practices changed significantly at the commencement of 2012. These changes were driven by targets within CSU's Environmental Sustainability Enabling Plan.

The key factor to the successful transition in the manner waste would be managed was the engagement of stakeholders at all levels in residences and core campus areas to separate waste at the source. For this to occur the separation process would need to be simple and convenient.

In consultation with CSCS staff and janitors, estimates were made of the volumes of the various waste streams being generated. 400 appropriately coloured and branded 'wheelie' bins were then purchased and located strategically around the core campus and residences. In addition three public place recycling solution stations were installed throughout the core campus area.

To promote stream separation for the kitchens and common rooms in the residences 150 70-litre bins with themed signage were purchased. The decision

to purchase these particular bins was made following research and dialogue with a number of the bin manufacturers. DFM successfully negotiated the supply of appropriate receptacles without lids, which resulted in savings in excess of \$10,000 on the recommended retail purchase price, as the lid represented over 60% of the recommended retail price. This saving was further increased when Bathurst negotiated the same price on behalf of the Orange Campus.



CHANGES TO WASTE COLLECTION - BATHURST CAMPUS

Work flow and equipment

The new streamlined waste management process meant that janitorial staff could reallocate their resources to enhance campus presentation. To fully capitalise on the human resource available, new equipment was purchased and new workflow processes developed. A blower and vacuum unit were purchased to assist in cleaning the core campus areas, in particular the traditional heart of the campus i.e. the area surrounded by Buildings C1, C2, C3 and C4.

A Kubota buggy and purpose-built 240-litre wheelie bin carrier were sourced and put in service by CSCS to collect bins from around the campus and deliver them to the designated pick up locations. In addition, the Kubota buggy is used by the O&M Department for various activities including air-conditioner filter changes and easy transport of materials and equipment across turf areas without causing lawn damage.

The janitorial staff work processes have also been redesigned to include a daily early morning run collecting all visible rubbish on the main circuit and core campus areas. The non-core grounds, residences and gardens (in conjunction with the grounds team) are cleaned through a planned schedule process. This new work process has resulted in both a more efficient use of staff time, and a much cleaner and more appealing campus environment.

Engagement

The Bathurst O&M Management team contacted and worked closely with Bathurst Regional Council (BRC), their Environmental Programs Officer Alison Reilly, and consultant EnviroCom, to provide training and education materials throughout Orientation Week. This included the roll out of a Recycling Service Communications program in conjunction with CSU Green.

The program was run to raise awareness among stakeholders with the intention of reducing the incidence of contamination of the co-mingled recycling stream. The program included a competition for students to find ‘Wheely’, a recycling wheelie bin specially painted to look like ‘Where’s Wally’ and hidden around the campus. Two students won hampers (donated by BRC) to the value of \$100 each.



Testimonials

“Took a drive around the campus on arrival this morning. Have to say that in terms of general tidiness and control of litter, it is the best I have seen it.”

Col Sharpe, Head of Campus

“Nothing short of astonishing, significant difference in the look of the place.”

Wayne Millar, Director of Operational Services

“Sandra has been doing a great job both here and on level 1 in keeping the place spick and span. I’m sure I speak on behalf of everyone on my team that it’s a pleasure to come to work and find everything clean and tidy in our work environment.”

Trish Delaney, Team Leader, Student Central

“The state of the Bathurst Campus is the best that I have seen in my (many) years on campus. The work of the janitors in picking up around the campus along with the diligence of the gardening crew has made a massive difference this year. I also think that the introduction of the recycling and the level of consultation across the campus to get the best solution for all has taken the campus into the 21st Century.”

James Kelly, Manager, Residence Life (Bathurst, Dubbo and Orange Campuses)

NEW OFFICE WASTE RECYCLING SYSTEM



One of the goals of the University Sustainability Enabling Plan is to reduce the amount of solid waste sent to landfill by 70% by 2014. In 2011, all campuses combined generated 48,000 'wheelie' bins of landfill waste. A reduction in that figure would carry benefits such as reduced carbon emissions from degrading rubbish, less land taken up by landfill and a saving in waste disposal costs. CSU Green has been involved in several initiatives aimed at reducing our landfill waste volume both by reducing waste generated and improving recycling rates.

In late 2012, a new waste management system was trialled in several office buildings. This new system uses separate colour-coded bins to allow staff members to sort their waste as it is generated. The trial resulted in greatly improved recycling rates for paper, which dropped landfill waste volume by about 30%. Feedback gathered from staff showed that the new bins increased awareness of recycling and encouraged changes in behaviour such as increased use of recyclable packaging in home-made lunches. The new bins are now in the process of being installed in every office space across CSU.



C5.1 and C5.2: Biodiversity Improvement

Targets:

Allocate at least 20% of University core campus land to increase biodiversity by 2015 (C5.1)

Improve ecological value of allocated land year-on-year (C5.2)

Biodiversity is defined as the 'variety of all life on earth – the different plants, animals and micro-organisms; and the ecosystems of which they are a part' (Department of Sustainability, Environment, Water, Population and Communities, 2013). CSU holds significant land holdings across multiple locations in regional NSW and by embracing a biodiversity target, can demonstrate to local communities the benefits that come from connecting, rehabilitating and maintaining healthy ecosystems.

In 2010, CSU Green conducted a review into the viability of this target. It was identified and agreed that to achieve the 2015 Biodiversity Target an allocation of 87 hectares of CSU land would need to be allocated to biodiversity space. It was also agreed that CSU Green would attempt to locate viable biodiversity land across all five of CSU's major campuses.

Throughout 2012, CSU Green worked with the CSU farm management group and the Campus Environmental Committee network to identify a number of biodiversity areas on each of CSU's major campuses. These maps identify CSU's nominated biodiversity areas on the Albury-Wodonga, Bathurst, Dubbo, Orange and Wagga Wagga campuses, and provide a brief discussion of the biodiversity features of these areas. CSU Green is working to finalise these maps in the coming months, and will release these online as a supplementary document to the main Scorecard document.

Looking forward to 2013

In the 2013 edition of the Environmental Scorecard, CSU Green will report on the development of its cross-campus Biodiversity Management Plan. This Plan will identify and cost activities for managing, enhancing and reporting on the health of all nominated biodiversity areas. In developing this plan, CSU Green will be able to monitor and report annually, via the Environmental Scorecard, on how CSU's investment in biodiversity activities is improving the health of these biodiversity areas.

PROPERTY VEGETATION PLAN FOR WAGGA WAGGA CAMPUS



In 2011, CSU submitted an application for funding to the Murrumbidgee Catchment Management Authority as part of its Climate Change Corridors program. The successful funding application was for a project to establish 'climate change corridors', that is, the creation of vegetated corridors that will help to facilitate the safe movement of fauna across the fragmented landscape within and around the Wagga Wagga Campus.

Two corridor sites were identified on the CSU Farm which would provide beneficial links between existing areas of native vegetation. The grant money was used to:

- fence the nominated sites from stock
- slash the sites, to remove existing ground cover (comprised of a mix of weed and fodder species)
- prepare the sites for planting, including ripping planting lines to help runoff penetrate into the water profile
- plant tube stock of a range of locally Indigenous species of trees, shrubs and grasses.

The two sites cover a combined area of 9.3 hectares, and approximately 4,000 plants were planted. Ongoing reviews of these sites undertaken throughout 2012 have shown that approximately 90% of planted trees have survived, a very high success rate for a mass-planting of this type.

These two sites will be included in the 87 hectares of land allocated to CSU's biodiversity target.

**C6.1, C6.2 and C6.3:
Fleet Management**

Targets:

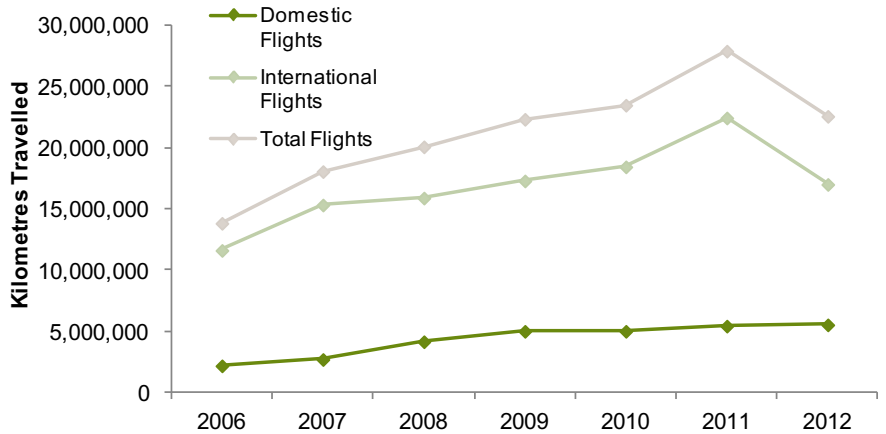
Achieve a 4.5 star or better Green Vehicle Guide rating among 50% of the University vehicle fleet by 2015 (C6.1)

Improve the fuel efficiency of the CSU vehicle fleet by 5% year-on-year (C6.2)

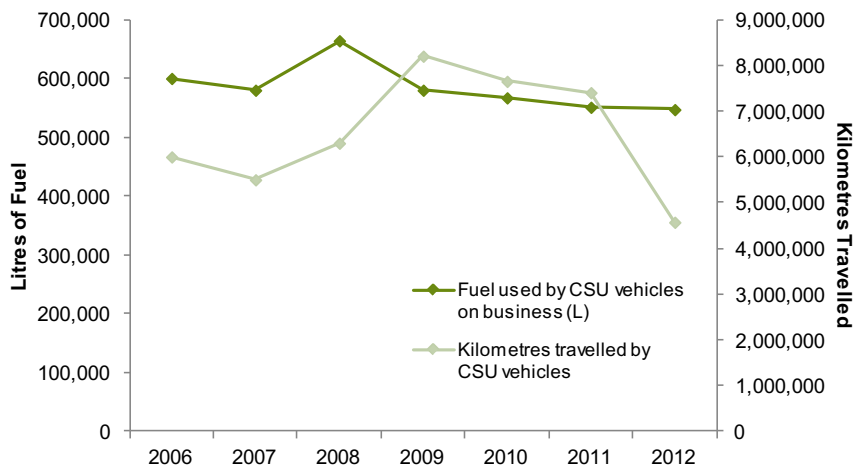
Promote car-pooling for inter-campus travel by CSU staff and students (C6.3)

In Australia, the transport sector (including road, rail and aviation) is responsible for approximately 16% of the nation's total greenhouse gas emissions (Australian National Greenhouse Accounts, September 2012). In 2012, greenhouse gas emissions associated with the CSU Fleet as well as flights taken by both staff and students accounted for this exact same percentage of CSU's total greenhouse gas emissions.

FLIGHTS BY CSU STAFF AND STUDENTS ON UNIVERSITY BUSINESS (FIGURE 1)



UNIVERSITY FLEET USE BY CSU STAFF AND STUDENTS ON UNIVERSITY BUSINESS (FIGURE 2)



Summary figures for transport management in 2012:

- CSU's vehicle fleet was responsible for the release of 1,306 tonnes of CO₂-eq, which is very similar to that recorded in 2011. This represents approximately 3% of CSU's total greenhouse gas emissions (refer to figure on page 28)
- CSU's greenhouse gas emissions associated with staff and student air travel was calculated at 5,395 tonnes CO₂-eq, which was 13% of CSU's greenhouse gas emissions
- while the fleet consumed a similar amount of fuel compared to 2011, the number of overall vehicle kilometres travelled in 2012 were significantly reduced (Figure 2). It is recognised that there is a high margin for error in this data resulting from an obsolete fleet management database and exacerbated by a change in management personnel. It is CSU Green's opinion that distance travelled by CSU vehicles has been overestimated in previous years or underestimated in 2012

- a detailed breakdown of the Green Vehicle Guide rating of the CSU fleet is not currently available, however the Fleet Management group and CSU Green will be working to establish this metric in 2013
- the number of flight kilometres travelled by CSU staff and students decreased in 2012 (Figure 1).

It should be noted that it is expected that this will increase over the next three years, with the organisation advocating 18% of all CSU graduates to undertake international experience by 2015 (the level in 2012 being 12.5% of graduates).

Greenhouse gas emissions resulting from staff and student flights represent a source of emissions that will need to be handled via offsets as part of CSU's strategy for achieving Carbon Neutrality by 2015.

Looking forward to 2013

CSU's targets for sustainable transport currently relate only to CSU's fleet. CSU Green intends to update the targets in this section of the Sustainability Plan over the next 12 months to cover additional aspects of sustainable transport, including:

- air travel
- encouraging bike utilisation and improvement of bike infrastructure
- encouraging staff and students to walk, and improving pedestrian infrastructure.

This will enable the organisation to fully capture these aspects of sustainable transport and to develop metrics to report progress against these targets.

STUDENT INTERNSHIP PROJECT FOCUSING ON CSU FLEET



Final-year CSU Education student, Ned Burgess, recently completed a project assessing the sustainability of CSU's vehicle fleet, and recommending opportunities for improvement. Ned undertook this project through an internship within the CSU Fleet management group as part of the Green Steps @ CSU Program. Green Steps is a student internship program that offers a great opportunity for students with an interest in sustainability to get experience and training that increases their job prospects by working on a real sustainability challenge that CSU is trying to address.

"The program appealed to me because I've always been environmentally minded and wanted to have a positive impact on my community as an individual and future teacher," says Ned. "I have always loved cars and recently bought my first one so was familiar with parts of the market".

Ned focussed on several key priorities during his project, including: assessing the real-world performance of the vehicles, providing recommendations for future vehicle selection, reviewing car usage practices by CSU staff, identifying opportunities for driver engagement and behaviour change programs, and considering opportunities for better utilisation of vehicles for intercampus travel via car-pooling.

One of the major challenges associated with the project was the limited automated reporting systems available to the CSU Fleet management team, requiring manual compilation and trending of data such as distances travelled by vehicles and fuel consumed. As a result of many hours of data-crunching, Ned was able to paint a picture of the real world performance of vehicles contained in the fleet. These results supported the direction that the Fleet management group is

making towards the purchase of a greater proportion of vehicles with an engine capacity of 2 litres or less. Some 4WDs and SUVs were observed to use up to 40% more fuel when travelling identical routes to the smaller vehicles.

A key recommendation from the project related to improving the fleet management software, to allow the Fleet Manager to track the performance of the fleet on an ongoing basis. Enhanced online vehicle tracking and booking software will also allow the establishment of a user-friendly portal for staff to coordinate car-pooling for travel between campuses.

Ned's recommendations have been welcomed by the CSU Fleet management group and we will be seeing several of his suggestions implemented over the next 12 months. One of the more creative of these recommendations aims to provide greater engagement with users of the vehicle fleet and the broader community by openly promoting the Green Vehicle Rating of vehicles via a prominent sticker.

When asked about his experience of the Green Steps @ CSU Program, Ned declared, "I found the challenge most interesting. You begin to see things differently and find opportunities for change where you never knew there was one before. The only determining factor is whether you're willing to accept the responsibility and be one of those positive influences".

C7.1 Sustainable Procurement

Targets:

Establish minimum sustainability performance requirements for commonly purchased goods and services (C7.1)

By embracing sustainable procurement processes, CSU can ensure that it is purchasing goods and services that, while continuing to achieve organisational value for money, also assist in developing the market for sustainable products.

The University's Procurement Review Board (PRB) is an official University committee responsible for supporting the realisation of the University Strategy through ensuring best practice procurement. Under its charter, the PRB encourages University staff undertaking procurement activities to consider the following factors:

- strategies to avoid unnecessary consumption and manage demand
- minimising the environmental impacts of goods and services over the whole of life of the good or service
- suppliers who display socially responsible practices, and
- value for money over the whole of life of the goods and services, rather than just the initial cost.

These criteria are derived from the Australasian Procurement and Construction Council's Sustainable Procurement Guideline and are considered good practice.

Looking forward to 2013

Sustainable procurement will be applied to a range of goods and services that are regularly required by the University, and CSU Green will be working with the Procurement Review Board in 2013 to meet these targets.

While the application of sustainable procurement processes are yet to be systematically incorporated into all of the University's procurement activities, examples of good practice do exist. One such area is the application of lifecycle analysis being undertaken by DFM in the procurement of HVAC (Heating, Ventilation and Cooling) systems in new buildings and major refurbishments. The table below shows a sample of the lifecycle assessment that was undertaken for a number of HVAC options for the new Community Engagement and Wellness building in Bathurst. The table summarises the two most appropriate options that were short-listed from a broader range of options. The gas-driven variable refrigerant flow (VRF) system was selected for this project, despite an estimated 27% higher capital cost than the electric-driven VRF system due to significantly lower energy costs and associated greenhouse gas emissions over the equipment's lifetime.

Lifecycle cost summary for two heating, ventilation and cooling system options considered for the Community Engagement and Wellness building to be constructed at Bathurst Campus

COMPARISON OF LIFECYCLE COSTS FOR HVAC OPTIONS	ELECTRIC-DRIVEN VRF	GAS-DRIVEN VRF
Capital cost	\$550,000	\$700,000
Energy cost (projection over 30 years)	\$1,270,000	\$550,000
Maintenance cost (projection over 30 years)	\$240,000	\$360,000
Greenhouse gas emissions (tonnes of CO ₂ , projection over 30 years)	1,980	960

C8.1: Sustainable building design

Target:

Sustainable design of new buildings and major refurbishments (C8.1)

Charles Sturt University has embraced the Green Building Council of Australia's (GBCA) Green Star frameworks for ensuring that sustainable building elements are included in all new projects. Standard guidelines have been established to ensure that the level of investment required to successfully design, construct and certify a Green Star-rated building is applied to all projects of a suitable size. These guidelines state that:

- New Buildings > \$5 million project value will achieve a Five Star minimum Green Star as-built rating
- New Buildings > \$2 million project value will achieve a Four Star minimum Green Star as-built rating.

Although these targets were not comprehensively applied across all active projects in 2012, there were numerous examples that demonstrated positive progress towards the target. These included:

- National Life Sciences Hub (NaLSH), Wagga Wagga Campus receiving an accredited Five Star Green Star rating under the Green Building Council of Australia's Education Design v1 rating tool (see break out box on page 45)
- Early Learning and Nurture Centre, Albury-Wodonga Campus designed and constructed with the aim of achieving a Five Star Green Star under the Education As-Built v1 rating tool (submission under development at time of writing – see break-out box on page 46)
- National Wine and Grape Industry Centre, Wagga Wagga Campus designed and constructed under the direction of Green Star Education Design v1 rating tool via an informal (self-assessment) process (CSU desired a formal rating for this project, however it was ruled ineligible under the GBCA's guidelines)
- Childcare Centre, Wagga Wagga Campus registered for under Green Star Education As-Built v1 rating tool soon to commence construction with the intention of achieving a Five Star rating
- Community Engagement and Wellness Centre, Albury-Wodonga Campus designed and constructed under the direction of Green Star Education Design v1 rating tool via an informal process
- Community Engagement and Wellness Centre, Bathurst Campus already designed and to be constructed under the direction of Green Star Education Design v1 rating tool via an informal process
- student residential developments, Orange and Wagga Wagga campuses being delivered under a design and construct contract under the direction of Green Star Multi-unit Residential Design v1 tool via an informal process (CSU desired a formal rating for this project, however it was ruled ineligible under the GBCA's guidelines).

Looking forward to 2013

In 2013, a Green Star framework will be embedded in the CSU project control checklist, to ensure that the principles of Green Star are embedded in minor works with a value of less than \$2 million. In addition, the CSU Capital Plan will be closely monitored to track the Division of Facilities Management's compliance against the framework outlined above.

NATIONAL LIFE SCIENCES HUB (NALSH)



The National Life Science Hub (NaLSH) is CSU's new \$48.6 million hub for research and education in plant and animal sciences, food production and security, animal health, and water and environmental sciences. The 4,000 m² facility, located at Wagga Wagga Campus, was officially opened in September 2012.

According to CSU Vice-Chancellor and President, Professor Andrew Vann, "This impressive building is about providing a space where applied and fundamental researchers can be innovative and ultimately produce science for the benefit of Australia, particularly for our agricultural sector. Its location in regional Australia in the heart of the Murray Darling Basin will help the scientists engage with rural industries, agencies and students".

In early 2013, CSU welcomed the Green Building Council of Australia's (GBCA) announcement that NaLSH had been awarded Five Star Green Star certification under the Education Design v1 rating representing "Australian Excellence" by the GBCA for its environmentally sensitive design and construction.

There were only 32 education buildings across Australia that had successfully achieved a Five or Six Star rating at the time of NaLSH receiving this accolade.

The National Life Sciences Hub is designed to operate using 35 per cent less energy than a conventional building of a similar type. This has been achieved using a combination of state-of-the-art features including efficient air conditioning systems, lighting and hot water as well as high-performance building materials.

Some of the building's other sustainable design features include:

- shading structures on north-facing windows and minimal glazing on the western side of the building to minimise summer heat load
- windows are double-glazed and contain a special tinting film to prevent heat escaping the building in winter and entering in summer
- clerestory windows for maximising natural light throughout the building

- bricks used in the construction of NaLSH have been salvaged from demolished buildings
- rainwater is collected from the roof areas and used to flush toilets and irrigate the surrounding landscaped areas
- provision of cyclist facilities for staff and students including lockers, bike storage and showers.



ALBURY-WODONGA EARLY LEARNING AND NURTURE CENTRE



Contributed by Peter Dale (Project Manager, Division of Facilities Management)

CSU outgrew the Albury City based facility of Albury-Wodonga Campus and implemented a program of transfer of operation from the city to a new campus situated in the Albury suburb of Thurgoona. This orderly transfer occurred over several planned stages of construction spanning approximately 10 years and the childcare function was among the last to be transferred to Thurgoona. CSU is known for implementation of sustainable principles within all campuses and in this regard the Albury-Wodonga Campus is the flagship. From the outset, it was decided that the new childcare facility would maintain this reputation.

From the very early stages of design development it was recognised that there were synergies existent between the Early Learning and Nurture Children Centre and the Aspire Early Intervention Centre. Leveraging off these synergies in the design process permitted the possibility of shared facilities in the future as the services develop their respective client base – a process that has

essentially allowed the project team to conserve the materials and resources that would have been required to duplicate similar room functionality.

The development of the design recognises the northerly aspect of the site, so the built form is cruciform with wings the children inhabit being glazed full height on the northern side of the building. There are also clerestory lights facing north on the roofs of the children's play rooms to provide sun light penetration as deeply into these rooms as possible.

The exterior play spaces are located on the north side of the development; car parking, delivery and refuse removal are all located on the southern side of the development.

Heating of the larger children's spaces is achieved with under slab heating controlled from central boiler plant rooms at each end of the building. Offices are heated and cooled by localised cassette in the ceilings. Cooling in the children's areas is evaporative cooling.

Lighting is set on time clocks to operate during the opening hours

of the centre; outside operating hours the lighting is on demand. Lighting is intelligently controlled via sensors which detect the ambient light and adjust the output of fittings to suit. To maximise water efficiency, water over the basins in the children's toilets is delivered via measured amounts and roof water is harvested and used for flushing of toilets.

The design has been developed and executed to adhere to the requirements of Five Star in accordance with the Green Building Council of Australia's (GBCA) Green Star Education Design v1 rating tool. Confirmation of GBCA construction requirements has been undertaken by a Green Star Accredited Professional on the staff of the Architectural Practice and an Independent Commissioning Agent.

At the time of writing the Green Star Accredited Professional is collating the necessary submission for the GBCA for accreditation and the project is on track for accreditation as a Five Star Green Star building.



C9.1: Compliance with environmental regulations

Target:

Comply with all relevant environmental protection legislations (C9.1)

While there were no known breaches of environmental legislation by CSU in 2012, little progress was made in the development of a proactive process for managing this outside of existing systems and processes applied for construction sites. In 2013, CSU Green has prioritised some resources to achieving the following:

- identify a suitable process for identifying environmental legislation relevant to the University's operation
- compile this into a legislation register
- assign responsibility within CSU Green for ensuring that the organisation complies with the relevant legislation.

CSU Green will report back in the next edition of the Environmental Scorecard as to how the organisation progressed in achieving the above points.

While a formal legislation register has yet to be developed, it was identified that CSU was required under the Australian Federal Government's 'National Greenhouse and Energy Reporting' (NGER) to report on the organisation's energy consumption and greenhouse gas emission output. This information is included in the relevant sections of this Scorecard.

COMPLIANCE WITH ENVIRONMENTAL REGULATIONS



Australian Government Clean Energy Regulator

The National Greenhouse and Energy Reporting (2008) legislation requires all organisations over a certain size to report annually to the Australian Federal Government on the organisation's total energy consumption as well as its total greenhouse gas output for the previous financial year. Information collected under this legislation is used to:

- assist in quantifying Australia's carbon footprint
- determine an organisation's carbon liability under the carbon pricing mechanism.

CSU's major sources of greenhouse gas emissions are:

- the purchase of electricity
- the combustion of natural gas and LPG (for heating)
- the combustions of petrol, diesel and LPG (in the CSU fleet).

In the 2011/2012 financial year, CSU produced a total of 30,571 tonnes of CO₂-eq and was responsible for the consumption of 237,926 GJ of energy.

Glossary

BMIS – Building Management Information System

CEC = Campus Environmental Committee

CEW = Community Engagement and Wellness Centre

CO₂-eq = Carbon Dioxide equivalent

DFM = Division of Facilities Management

GBCA = Green Building Council of Australia

Ha = hectares

HVAC = Heating, Venting And Cooling

kL = kilolitres (1,000's litres)

km = kilometres (1,000's metres)

kW = kilowatts (1,000's watts)

LPG = Liquid Petroleum Gas

MJ = Mega joules

MRF = Materials Recycling Facility

NaLSH = National Life Sciences Hub

NGER = National Greenhouse and Energy Reporting

PRB = Procurement Review Board

VRF = Variable Refrigerant Flow

Referenced published documents

References

“Conservation of Australia’s Biodiversity”, (2012).

Retrieved from: www.environment.gov.au/biodiversity/index.html

“Water in Australia: Water for the Future” (2012).

Retrieved from: www.environment.gov.au/water/australia/index.html





