

UC Sustainability Office Report

2013

Introduction

Welcome to the third annual UC Sustainability Office Report. Despite the profound effects of the 2010 and 2011 Canterbury earthquakes on UC's physical infrastructure, UC is now trending in a positive direction against some sustainability indicators. Electricity use, greenhouse gas emissions (2012 data) and coal burnt have reduced, while purchase of fair trade products and membership of the UC Sustainability Community is growing. There are concerns around the amount of waste being sent off site, and around water consumption, which are addressed further on in this report.

2013 saw very important progress made on curriculum development, even though the number of sustainability related courses on offer across the university appears to have shrunk. A new Endorsement in Resilience and Sustainability was introduced to the Bachelors of Science, and a new course, SUST201: Resilience and Sustainability, was approved for 2014.

What are we measuring and how are we doing?

Area	2013		2012	2011
Electricity Used (kwh)	25,543,040	↓	25,712,319	22,016,328
GHG Emissions (tonnesCO₂-e)	No data ¹		23,145	24,318
Coal Burnt (tonnes)	4,913	↓	5,160	4,098
Water consumed (litres)	475,000,000	↑	392,000,000	325,000,000
Waste to landfill (tonnes)	256.14	↑	233.44	197.11
Waste recycled/ composted (tonnes)	521.42 ²	↑	507.44	278.36
Fair Trade in depts.				No data
• Fresh ground coffee (units)	• 24% ³	↑	• 17% ⁴	
• Coffee beans (units)	• 28%	↑	• 21%	
• Black tea (units)	• 5%	↑	• 0%	
Sustainability Courses on Offer:	87 ⁵	↓	132	132
# at Sust Office Events	2221	↓	2383	1135
Members of Sustain Community:	930	↑	735	499
• Facebook	• 872		• 640	• 370
• Newsletter (new)	• 58		• 95	• 129

Table 1: UC Sustainability Indicators

¹ Data is subject to the CEMARS audit in 2014

² This number excludes recycling of pallets, polystyrene, bulbs/tubes and batteries. It also excludes the on-site chipping of green waste which is reapplied to university gardens (including the community gardens).

³ Data supplied by OfficeMax, for the 2013 calendar year

⁴ All Fair Trade data for 2012 was for the period August 2011 – July 2012

⁵ The sudden decline in sustainability course offerings is concerning and relates in part to the drop in student enrolments post-earthquakes. This was also the first proper reassessment of these course numbers since at least 2009, so the process may have been more gradual. It should be noted that 2014 will see the introduction of the first SUST coded course at UC.

Sustainability Progress in 2013

Sustainability planning at the University of Canterbury is based on the draft '[Sustainability Strategy 2012-2022](#)', which breaks sustainability planning into short, medium and long term objectives. Annual planning for sustainability at UC is handled by the Sustainability Office and the operational elements of this are encapsulated in the Engineering Services Operational Plan.

Progress for 2013 in the physical infrastructure/resource use, teaching and learning and community engagement components of the overall Sustainability Strategy is described below.

Carbon reporting

The University of Canterbury remains the only university in New Zealand (and was the first in the Southern Hemisphere) to be certified with the Certified Emissions Measurement and Reduction Scheme (CEMARS). This allows us to comprehensively track our Greenhouse Gas emissions and reduce them. Our carbon profile can be found [here](#).

At the same time a collaboration with the Energy Efficiency and Conservation Authority helped establish a goal for UC to be carbon zero by 2050, and progress on advancing this vision is expected during 2014.



Landscape & Biodiversity



From left to right: Ryan Brosnahan and Hui Liew (Summer Scholarship students), Dr Aisling O'Sullivan (Civil & Natural Resources Engineering), Ting Powell (Summer Scholarship student) and Darryl Cone (Head of Grounds Department), testing water quality in Ilam Stream.

The Grounds Department initiated a trial along the Ilam Stream during 2013 by turning off the artificial flow and encouraging the stream to find its own natural course, with a view to enhancing the native habitat.

The trial resulted in a much reduced channel and new plant species populating the space within a matter of months.

The community garden on the Dovedale site received attention at a selection of community events and course related activities, and hosted a large group of university managers from Jiangxi Province of China. Towards the end of the year the garden was transformed in function to include allotment gardens for a local school and garden beds for large crops that can't be easily grown at the Okeover Community Garden, and is now a satellite site of Okeover. The Okeover Community Garden had a very strong year with huge student interest generated through a new student club, DigSoc. Between 24 May and 28 December over 388kg of produce was harvested and distributed.⁶



Okeover Community Garden

Transport

As UC prepares to consolidate teaching on Ilam Campus, and begins work on the Regional Science Innovation Centre as well as continuing an extensive remediation programme, on-site travel options are being closely looked at. This includes developing priority access ways for both pedestrians and cyclists.

There has been a dramatic decline in the availability of cycle parking facilities since the earthquakes as areas are closed down for remediation (it is estimated that over 700 bike parks have been lost). However, planning is underway to turn this around in 2014 by repositioning existing stands so that more use can be



made of them, and by purchasing new stands.

A major development was the City Council's upgrade of Ilam Road, including concrete separators for cycle lanes and two new pedestrian crossings (both of which had been called for in successive Transport Surveys), a great success. The City Council also began discussions with the University regarding a city to university cycle way, to come through campus.

⁶ A system for weighing the produce was established in May 2013. Two weeks' of produce were not weighed in June

Water consumption

Water metering at UC has been improved significantly over the last three years, and despite some challenges presented with the remediation of buildings which cause some aberrations in the data, we are now in a position to begin reporting on our water consumption. Construction works and a combination of poor pre-earthquake metering, metering disruption post-earthquakes, and improved overall metering have conspired to present a picture of a 46% increase in water use since 2012. The immediate need is to calculate how much of this is an actual increase and how much can be accounted for by data inaccuracies, and we intend to report on this more precisely next year.

Waste & Recycling

The University of Canterbury maintains a four bin waste and recycling system and also maintains back-of-house recycling for cardboard, polystyrene, coal ash, batteries and other items. As the statistics above show, the amount of waste being diverted from landfill increased – by 2.6%, or 13.24 tonnes – over 2012. However, waste to landfill also increased in the same period: by 10.5% or 24.52 tonnes. This is another direct effect of the earthquakes and the subsequent remediation programme, and requires its own specific intervention, which is a priority for 2014.

Paper Use

Over the last three years UC's paper consumption has dropped from 1.5 million sheets to 0.5 million sheets. This considerable achievement has been the result of digitising more course readers and requiring more assessment to be done electronically, introducing more efficient copying equipment and attention to more efficient copying practices.

Video Conferencing

UC has now standardised H.323 video conferencing and Skype video conferencing in its dedicated VC rooms. Improvement to card security to some of these rooms has also been added. UC has adopted Adobe Connect, Skype, Polycom Realpresence, and Scopia Desktop as current desktop video conferencing solutions options.

New Sustainability Courses

Significant progress was made during 2013 in improving our sustainability curriculum, with the creation of a new Endorsement to the BSc in Resilience and Sustainability, and a new course, SUST 201: Resilience and Sustainability. Both the Endorsement and the course are interdisciplinary in nature, requiring students to explore relationships between ecological, social and economic systems, and to apply this knowledge in real-world settings.

Research

Sustainability-related research has been a strong feature at UC in recent years. In 2013 two notable projects – both from the College of Engineering – were highlighted in media reports and at UC's Annual Sustainability Awards. These related to storm water systems and urban streams (which included a green roof trial and progressing the use of Okeover Stream as a 'storm water research park'), and the development of a conceptual tool for retrofitting an entire suburb as a sustainable district, using a 'transition engineering' approach.

Secondary School Support

In 2013 academics from a range of disciplines and the Sustainability Office initiated a pilot project to bring secondary school students on a sustainability tour of the campus. In part this was driven by the realisation that Education for Sustainability as a discipline needs more support in schools at the senior level. Over 150 secondary school students participated, discovering UC's ecological restoration efforts along the Okeover Stream.

NZAEE Conference

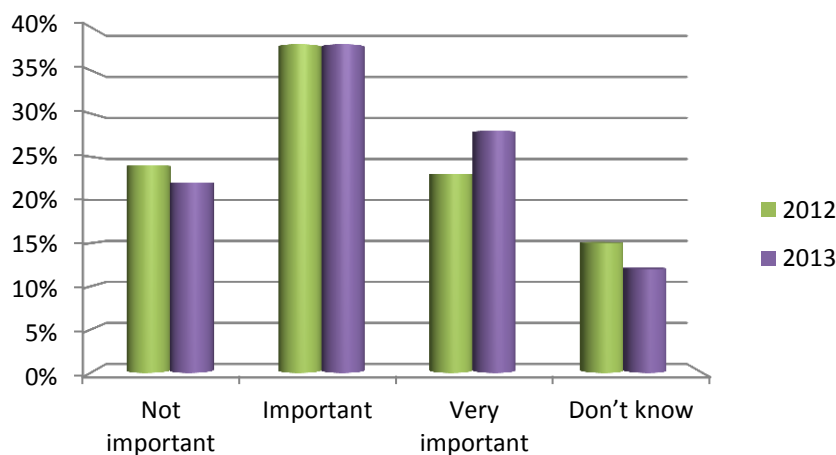
During 2013 the Sustainability Office was actively involved in planning the biennial conference of the New Zealand Association for Environmental Education. This was held at UC with the opening ceremony at CPIT, and brought together 150 environmental educators and sustainability professionals from around the country and beyond.



Niki Harré speaking at her workshop during the NZAEE Conference

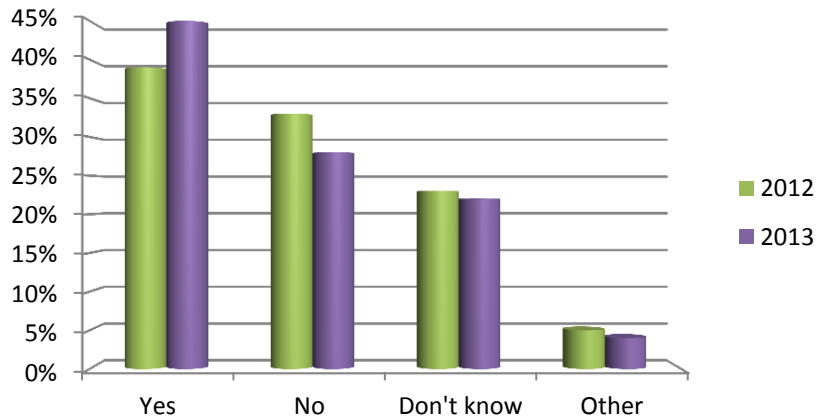
2013 Sustainability Survey Results

Students were again surveyed for their thoughts about sustainability in 2013. The full report of the survey results can be found [here](#). The results indicate, once again, that sustainability is an important area of concern for UC students.



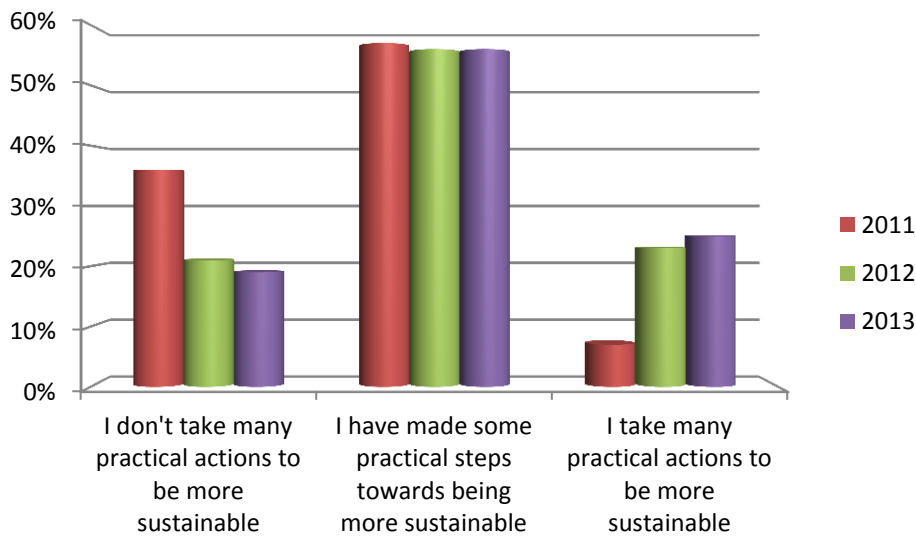
Relative importance of knowledge of sustainable practice for future employment, 2012-2013

In addition to that trend, more students reported that they believe knowledge of sustainable practice would be 'very important' for their employment in the near future. 66% believe this will be important or very important.



Interest amongst students in a stronger sustainability focus to their studies or research, 2012-2013

45% of students reported that they would like a stronger focus on sustainability within their course of studies, up 6% on the 2012 response.



Level of sustainable practice amongst students in their personal lives, 2011-2013

Students again reported that they take action in their own lives to try to be more sustainable, with an increase in those saying they take many practical actions to be more sustainable.

2013 Sustainability Award Winners

The University of Canterbury Sustainability Office rewards those departments and people around campus that are making the effort to make this University more sustainable, by organising and hosting the annual Sustainability Awards, as part of Eco Week.

The 2013 Sustainability Awards winners were presented with a range of prizes by the Student Association's Vice President, Andrew Ramsay, at a function held at the Shilling Club – a new venue on campus. The winners were selected by a judging panel consisting of Chrissie Williams (former Christchurch City Councillor and now leader of Ecan's Natural Environment Recovery Programme), Tony Moore (Christchurch City Council's Sustainability



Justin Pemberton accepting his UC Sustainability Award

Advisor), Bjorn Arndt (UCSA Exec Member - Sustainability) and Sally Airey (Gap Filler Trust). More information about the winners' achievements can be found [here](#).

SUPREME AWARD

Jason Pemberton, Residential Red Zone Reclamation Project

FAIRTRADE DIAMOND AWARD

Simon White, Paper Reduction Project

GOLD AWARD: STUDENT

Hannah Howard, for work with UC Bike and the establishment of the Re:Cycle Project

GOLD AWARD: STAFF

HydroEco Research Team, for the group's work in monitoring and restoring the Okeover Stream (Ash O'Sullivan, Tom Cochrane, Tonny de Vries, Peter McGuigan)

SILVER AWARD: STUDENT

Samia Ali, for proposed work with recycling glass

SILVER AWARD: STAFF

From the Ground Up Team (Susan Krumdieck), for research into sustainable suburban development options post-earthquake

HIGHLY COMMENDED: STUDENTS

Kirtana Darabel, for research into and design of a web-based photovoltaic calculation tool

Tom Marr and Timm Treskatis, for DigSoc

Natalie Kittow, for creating an exchange economy based around relational aesthetics and sustainable clothing

HIGHLY COMMENDED: STAFF

Ryan Reynolds, for Gap Filler Trust and Life in Vacant Spaces

Simon Kingham, for the Endorsement in Resilience and Sustainability, and SUST 201

Summer Sustainability Scholarship Recipients 2013-2014

Summer Sustainability Scholarships were awarded to the following students:

Ryan Brosnahan, “Assessment of Temporal Changes in Travel Behaviour of UC Staff and Students” (supervised by Glen Koory, Simon Kingham and Matt Morris)

Hui Liew and Ting Powell, “Monitoring and Modelling Stormwater Networks on the UC Campus to Help Advance a Niche Urban Stormwater Modelling Framework” (supervised by Aisling O’Sullivan, Tom Cochrane and Frances Charters)

Their final projects will be found [here](#), along with past scholarship reports.

Student View of Sustainability in 2013

Once again, we asked students to define sustainability, and summarised the results in a word cloud. The result is almost identical to that of the two previous years, with a strong focus on resource use, environment and the future.



Key words from sustainability definitions, 2013