



## CONTENTS

### Introduction

Vice-Chancellor, Professor Andrew Vann	4
CSU Green Manager, Ed Maher	5

### Snapshot

Infographic of Sustainability 2016	6 - 7
------------------------------------	-------

### Overview

About the Scorecard	8
Learning in Future Environments LiFE index	9

### Leadership and Governance

Carbon Neutrality	10-11
-------------------	-------

### Awards received

Green Gown Awards	12-13
Crow Awards	
Blue Star Awards	
Green Globe Awards	
Vice Chancellor Awards	

LiFE Benchmarking and action planning	14
---------------------------------------	----

Leadership story of most significant change by Stephen Butt	15
---	----

### Learning, Teaching & Research

<b>Sustainability grants</b>	<b>16</b>
Successful applicants	17
Grassroot grant	

LiFE Benchmarking and action planning	18
---------------------------------------	----

Student engagement story of most significant change by Sam Gross	19
--	----

Learning and teaching story of most significant change by Pamela Roberts	20
--	----

Case study by Marc Greco, Bee study	21
PhD research - Sloane's Froglet Dr Alexandra Knight	

<b>Ten milestones in sustainability at CSU</b>	<b>22-23</b>
--	--------------

### Partnership and Engagement

Carbon neutral launch, Bathurst Campus	24
Tree planting days	25
Carbon offset field trip	

<b>Active transport</b>	<b>26</b>
Bike week	
Tweed ride	

Move out / cook up for REAP Sustainability advisors	27
--	----

LiFE Benchmarking and action planning	28
---------------------------------------	----

Community engagement story of most significant change by Cesidio Parissi	29
--	----

### Facilities and Operations

Energy performance contract Stage 2	30
--	----

Electric vehicles	31
-------------------	----

### Trends in environmental footprint

Reduction in greenhouse gas	32 - 35
Carbon footprint, breakdown by source	
Total carbon footprint	
Total energy consumption	
Total water consumption	

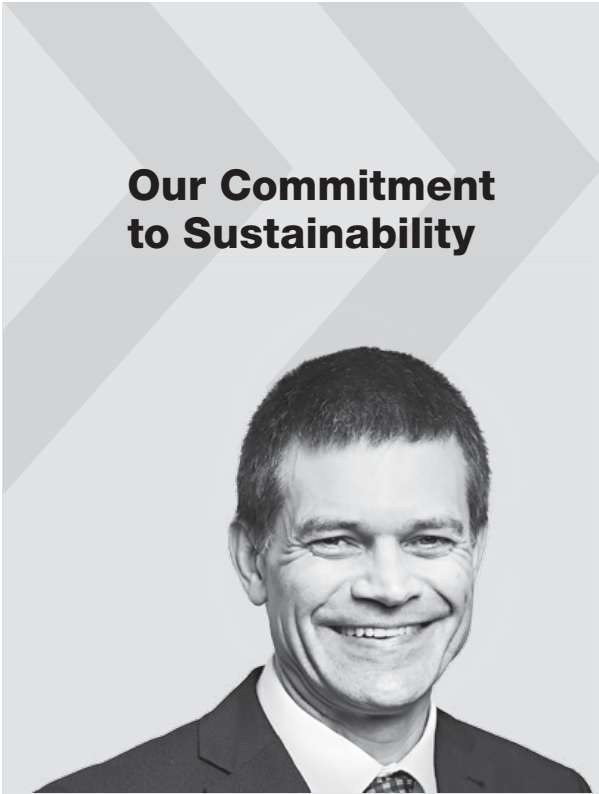
LiFE benchmarking and action planning	36
---------------------------------------	----

Energy story of most significant change by Peter Harris	37
---	----



Solar PV installation, CSU Engineering Bathurst Campus

## Our Commitment to Sustainability



**Professor Andrew Vann**  
Vice-Chancellor

I frequently say that CSU's approach to sustainability is one of the things that attracted me to the role of Vice-Chancellor and it has been important to me to support this work since I have been here. We have achieved so many great things in 2016 that it might seem hard to know what to pick first. But really, what I am most proud of is that our university as Australia's first certified carbon neutral university on 28 July 2016.

We made a plan to become carbon neutral in 2007. It has been a long road, marked by a series of significant efforts to reach the requirements of the Australian Government's Carbon Neutral Program, certifying CSU as 'carbon neutral' against the National Carbon Offset Standard. At a time when we have seen such a struggle to have sensible discussions about energy policy at the national level, I feel it is really important that universities take a lead. CSU is in a strong position to inspire other universities and organisations to take similar action. We will make a commitment to further improving

---

*CSU is in a strong position to inspire other universities and organisations to take similar action*

our sustainability measures – notably our announcement to install a 1.8 megawatt solar installation, one of Australia's largest rooftop systems, at CSU in Wagga Wagga throughout 2017.

The Learning in Future Environments program continues to guide us towards best practice in sustainability across all areas of the university. 2016 has seen our staff and students strengthen their commitment towards this goal.

In 2016 CSU received the Climate Change Leadership Award and the Regional Sustainability Award at the NSW Government's Green Globe Awards. The Green Globe Awards recognise exceptional work in the field of climate change mitigation and adaptation in NSW. CSU also collected the 2016 Green Gown Award in the Carbon Reduction category in November. This national award recognises excellence in sustainability within the tertiary education sector in Australasia.

On a fun note, taking part in the inaugural CSU Tweed Ride was certainly a highlight for 2016. Vintage style dapper gents and dashing ladies joined to celebrate NSW Bike Week, good health and active transport while raising funds for charity. To top off all these wonderful achievements, this is also our 10th Sustainability Scorecard. From humble beginnings, the report has evolved significantly to become an engaging and informative University-wide account of progress against our strategic sustainability objectives.

The Sustainability Scorecard provides testament to our commitment to sustainability at CSU and to live by CSU's core value in the adopted Wiradjuri phrase 'Yindyamarra winhanganha' which is guiding our community to have 'the wisdom of respectfully knowing how to live well in a world worth living in'.

Happy 10th Anniversary to the Sustainability Scorecard and we look forward to the next ten years of sustainability achievements at CSU.

*Andrew Vann*

## CSU Green Message



**Ed Maher**  
CSU Green Manager

I think you will agree at the conclusion of reading our 10th Sustainability Scorecard that 2016 has been a pretty big one for CSU in terms of sustainability achievements. As this is our special anniversary edition, the ten 2016 highlights are certainly some of the most prominent sustainability achievements since the report began back in 2007.

- 1.** Becoming Australia's first certified carbon neutral University in July 2016
- 2.** Achieving our target of completing all 16 baseline ratings and action planning workshops under LiFE
- 3.** Sealing the deal on Australia's largest roof-mounted Photovoltaics system

---

*In 2016, CSU has become Australia's first certified Carbon Neutral University*

- 4.** Formalisation of CSU's Graduate Learning Outcome for Sustainable Practices which sets the commitment that all CSU graduates will soon graduate from CSU with literacy of sustainability relevant to their field of studies and future career
- 5.** Being awarded the Climate Change Leadership Award at the NSW Government's Green Globe Awards in October 2016
- 6.** Receiving the national Green Gown Award in the Carbon Reduction category in November 2016
- 7.** Partnering with Res Life and Cheers at CSU Wagga Wagga to donate 222 single serve meals to REAP. We also helped save 53 boxes of non-perishable food and household items from heading to landfill by donating them to local charities through the Move Out initiative
- 8.** Dressing up in our finest vintage attire for the inaugural CSU Tweed Ride for NSW Bike Week, raising awareness for active transport and fundraising for charity at CSU Bathurst and Wagga Wagga
- 9.** Working throughout 2016 to undertake a complete makeover of the CSU Green website, launched in O Week 2017
- 10.** Partnering with Res Life to appoint our student Sustainability Advisors in readiness for their role educating and inspiring sustainable actions with students in residence in 2017

The year of our 10th Sustainability Scorecard has seen all these exciting milestones and more and we look forward to the opportunities, partnerships and achievements that 2017 will bring.

A handwritten signature in black ink, appearing to read 'Ed Maher'.

# SNAPSHOT OF

# SUSTAINABILITY 2016

**LIFE BASELINE WORKSHOP STAKEHOLDER PARTICIPATION**



**2013-2016 = 106**

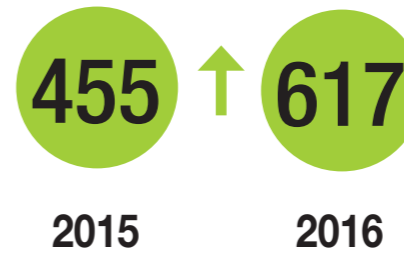
## CSU SUSTAINABILITY GRANTS AWARDED



## CSU GREEN



## FACEBOOK LIKES



**375 BOXES OF NON-PERISHABLE FOOD**



CHEERS WAGGA CREATED

**222 MEALS**

STORIES OF MOST SIGNIFICANT CHANGE COLLECTION 2016



LEADERSHIP AND GOVERNANCE	1
PARTNERSHIP AND ENGAGEMENT	1
LEARNING, TEACHING AND RESEARCH	4
FACILITIES AND OPERATIONS	13
<b>TOTAL</b>	<b>18</b>

CSU'S CARBON FOOTPRINT EQUALS

# ZERO

## SLOANE'S FROGLET

ARE FOUND AT  
**9**  
EPHEMERAL WET LOCATIONS AT CSU ALBURY-WODONGA CAMPUS

**TOTAL INSTALLED RENEWABLE AND LOW EMISSION ENERGY GENERATION**

**841 kW**

## TONER CARTRIDGES RECYCLED:

**294.5 kg**

ACROSS ALL CAMPUSES



**2**

**ELECTRIC VEHICLES**

AT CSU BATHURST AND WAGGA WAGGA

**4 STUDENTS**

**STUDENT SUSTAINABILITY**



**ADVISORS RECRUITED**

## TREE PLANTING DAYS



**15,039**

**TREES & SHRUBS**  
ALL CAMPUSES PLANTED FROM 2010 TO 2016

**CO GEN IN BATHURST GENERATED**



**3,504,000 kWh**

**CSU GREEN WEB PAGE HITS FOR 2016**  
**18,152**

# Overview

## WHAT IS CSU TRYING TO ACHIEVE IN SUSTAINABILITY?

The Charles Sturt University (CSU) Sustainability Scorecard is an annual document providing an overview of the sustainability achievements and challenges of the University in 2016.

The purpose of this document is to involve and inform University students, staff and the wider community about the sustainability projects, initiatives and events occurring annually.

## CONTACT

If you have any comments or feedback regarding this document, or any of the CSU Green projects, please contact

 [csugreen@csu.edu.au](mailto:csugreen@csu.edu.au)

 [facebook.com/csugreen](https://www.facebook.com/csugreen)

 [twitter.com/CSU\\_Green](https://twitter.com/CSU_Green)

## UNIVERSITY SUBPLAN

The Sustainability Scorecard is a report on the progression of CSU's sustainability targets outlined under the University Strategy 2015-16.

The strategic outputs identified under the Infrastructure sub-plan of the University Strategy are:

**OP3.1**

Implement Energy Performance Contract (pg 30)

**OP3.2**

Expansion of on-campus embedded energy generation capacity (pg 34)

**OP3.3**

Holistic integration of sustainability principles across curriculum, research and operating practices (pg 9)

**OP3.4**

Improved carbon footprint (pg 34)

Progress made against the above outputs is detailed throughout this report, with particular focus provided on the pages listed above in parenthesis.

We provide a range of case studies and articles which shine a spotlight on the positive contributions made by staff and students to improve CSU's performance in sustainability.

## LEARNING IN FUTURE ENVIRONMENTS (LiFE) INDEX



LEADERSHIP | ENGAGEMENT | LEARNING | FACILITIES  
OUR SUSTAINABILITY FRAMEWORK

This year saw the completion of a significant milestone in CSU's three year LiFE journey with all 16 frameworks benchmarked by the 16th November, 2016. This activity started with the Leadership framework benchmarked on 16th July, 2013 and involved a cross section of 106 stakeholders across all areas of the university.

The below figure illustrates CSU's progress towards best practice by comparing the CSU baseline rating data against best practice.

The detail of the baseline information is included throughout this document for each of the 16 frameworks. Following the conclusion of the baseline workshops,

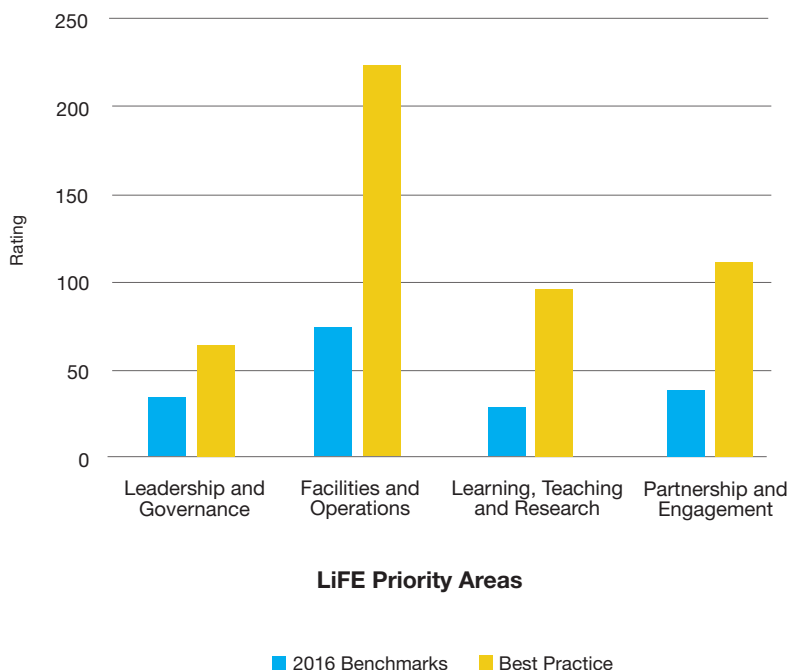
CSU Green undertook a 952 kilometre LiFE Road Trip in late November to conduct face to face discussions with LiFE champions and supporters at CSU Dubbo, Orange and Bathurst.

The purpose of this trip was to conduct impact monitoring through the gathering of stories of most significant change and to discuss the baseline data. Approximately 16 people came to group sessions and nine stories of most significance were collected and eight were filmed. A total of fifteen short vox pops have been uploaded to YouTube highlighting achievements across the LiFE framework at CSU.

**WATCH ONLINE** 

[www.youtube.com/user/CharlesSturtUni/playlists](http://www.youtube.com/user/CharlesSturtUni/playlists)

### CSU's progress towards best sustainability practice



The baseline data will be presented at a Leadership Summit in early 2017 followed by a series of six monthly check in activities to monitor the implementation of action plans to progress CSU towards best practice in sustainability.



## Leadership & Governance

Through good leadership and governance, CSU demonstrates commitment and clarity of purpose. By building social and environmental sustainability into our processes and management systems, we ensure they remain strategically important issues, embedded into our everyday practices for long-term benefit.

**CSU is focusing on the following two priority areas to achieve these aims:**

- **Leadership**
- **Human Capital**

---

*Carbon neutrality is achieving net zero greenhouse gas emissions for a particular activity, process or organisation.*



### **CARBON NEUTRALITY**

On 28 July 2016, the Australian Government's Carbon Neutral Program certified CSU as 'carbon neutral' against the National Carbon Offset Standard.

Carbon neutrality is achieving net zero greenhouse gas emissions for a particular activity, process or organisation. To become carbon neutral, CSU has worked to establish infrastructure and initiatives, reducing emissions as much as possible. Next our greenhouse gas emissions were calculated by an external audit followed by the purchase of carbon offsets or carbon credits equivalent to the remaining emissions. This process results in emissions being offset and leads to net zero emissions or carbon neutrality for CSU.

At CSU we are committed to a sustainable future. Professor Andrew Vann highlighted our commitment to sustainability. Upon the announcement of our certification, Professor Vann said, "Through this certification, Charles Sturt University is showing all Australian communities how we can live more sustainable lives in our unique environment. With this accreditation, we hope that we can inspire other organisations both regional and national, to seek to achieve these standards and do their bit for the planet."

Through becoming Australia's first and only carbon neutral university, Charles Sturt is living out the Wiradjuri phrase Yindyamarra Winhanganha, or 'the wisdom of respectfully knowing how to live well in a world worth living in'."





---

# CSU IS AUSTRALIA'S FIRST CERTIFIED CARBON NEUTRAL UNIVERSITY

Through the National Carbon Offset Standard (NCOS) process, we must maintain an emissions reduction program. We will achieve this through our energy saving and carbon offset projects. These projects are part of who we are and speak directly to our values and ethos.

Reducing carbon emissions and improving energy-saving measures is for everyone at CSU. We're proud of our achievements and our commitment to sustainability. We believe we're in a unique position to lead and inspire organisations nationally and internationally.

Our plan to become carbon neutral started in 2007. We look forward to the achievements the next ten years will bring.

**CSU's Carbon Offsetting Field  
Trip to Press's property at West  
Wyalong on 10th November, 2016.**

*Students, academics and facilities staff undertook professional development with CO<sub>2</sub> Australia in measuring the carbon content of trees and associated rigorous accounting processes.*

## **GREEN GOWN AWARDS**

### *WINNER - Carbon Reduction*

CSU won the 2016 Green Gown Award in Carbon Reduction at a ceremony in Mooloolaba in November. This national award recognises excellence in sustainability within the tertiary education sector in Australasia.

The award acknowledges the University's leadership in being declared certified carbon neutral.

"Charles Sturt University is the first, and currently the only, university in Australia to achieve certified carbon neutrality and our achievement has captured plenty of interest both within the education sector and among the broader community.

"We are one of only 28 Australian organisations to be officially recognised for reaching this national standard." "We have continued our downward trend in greenhouse gas emissions over the past nine years from 177 kg CO<sub>2</sub>-e per square metre in 2011 to zero in 2015." Ed Maher



*Celebrating CSU's win, Kym Witney Soanes, Ed Maher and Peter Harris*

## **CROW AWARDS**

### *WINNER - Excellence in sustainability*

CSU also won the Wagga Wagga Business Chamber's 2016 Crow Award for Excellence in Sustainability for our initiatives aimed at reducing the University's carbon footprint.

"The University places great importance on being a valued contributor to the regional communities in which we operate, so it's particularly rewarding to be recognised by the Wagga Wagga business community through this award." Ed Maher



*CSU Green Manager Ed Maher accepting the 2016 Excellence in Sustainability Award from sponsor Paul Olsen from Origin Energy at the Wagga RSL Club in May 2016.*

## **BLUE STAR AWARDS**

### *Finalist*

In recognition of CSU's sustainability achievements the CSU Green team were pleased to be finalists in the Keep NSW Beautiful's 2016 Blue Star Sustainability Awards. The Blue Star Sustainability Awards recognise and celebrate the hard work of NSW citizens who promote responsible environmental management in their local area. Congratulations to the Overall Regional Sustainability Award prize winners - The City of Maitland.



## GREEN GLOBE AWARDS

WINNER - Climate Change Leadership Award

WINNER - Regional Sustainability Award



Green Globe Award Charles Sturt University with Minister Speakman 2016

CSU won the 2016 Climate Change Leadership Award at the NSW Government's Green Globe Awards in October 2016. The Green Globe Awards recognise exceptional work in the field of climate change mitigation and adaptation in NSW. CSU also won the 2016 Regional Sustainability Award.

The judges commented, "Charles Sturt University has demonstrated an outstanding holistic approach to engaging staff, students and the community and being a sector leader in demonstrating carbon neutrality."

The awards recognised CSU's leadership in becoming Australia's first officially certified carbon neutral university. The Green Globe Awards are the state's leading environmental recognition program, celebrating excellence, leadership and innovation in sustainability.

"It's wonderful to be recognised for our ongoing commitment to integrating sustainability principles across learning, teaching, research and operating practices with our community. We're very proud of our certified carbon neutrality status and hope that this will inspire others to make their own organisations more sustainable." Ed Maher

## VICE CHANCELLOR AWARDS

Christopher Orchard

The Vice-Chancellor's Award for Excellence in Sustainability 2016 was awarded to associate lecturer Christopher Orchard, acknowledging his commitment and creative contribution to sustainability at CSU.

Chris was commended for his excellence in embedding sustainability in curriculum, contributing to the University's sustainability performance objectives in teaching and research as well as nurturing wider community partnerships and engagement.

As Course Director for the Bachelor of Creative Arts and Design, Bachelor of Screen and Stage and the Bachelor of Creative Practice (Hons) 2015-16, Chris developed a new course specialisation in 'Environmental Art.' Chris also organised a conference 'Land Dialogues', which brought 80+ Academics together to discuss sustainability issues across a broad range of



VC award recipient Christopher Orchard with Professor Andrew Vann

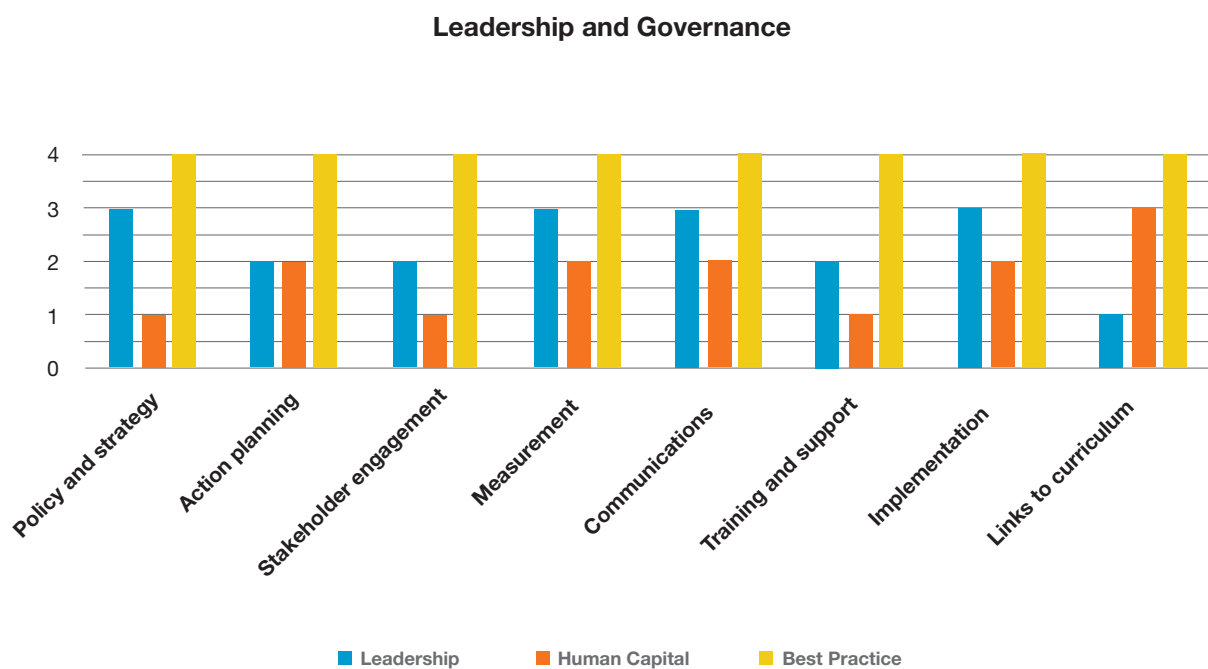
backgrounds. Chris curated or co-curated 4 significant exhibitions on sustainability in the arts, researched and contributed broadly on teaching methods for sustainable communities' and has been involved in numerous other projects connecting the university to the community around sustainability concepts. Congratulations Chris on this inspiring achievement.

# LIFE BENCHMARKING AND ACTION PLANNING

Leadership was benchmarked first on 16th July, 2013. Ratings will be revisited in early 2017.

Human Capital was paired with Staff Engagement (from the Partnership and Engagement priority area) and was benchmarked on the 23rd of May.

The graph below illustrates the 2016 baseline ratings for the two frameworks under the Leadership and Governance priority area. Baselines are compared against best practice.



# LEADERSHIP STORY OF MOST SIGNIFICANT CHANGE

## >> Stephen Butt, Executive Director Facilities Management

This vignette was selected because it provides a great overview of CSU's approach to sustainability. It describes a key component of our organisational change and the success of our key programs to-date like achieving carbon neutrality.

Support from the senior leadership team for the Learning in Future Environments (LiFE) framework across CSU - our vision hasn't changed.

"Some of the changes in the leadership framework include increased awareness amongst our leadership team. We have seen positive outcomes from sustainability goals that took a long time to achieve, in particular obtaining carbon neutrality status. Now CSU's initiatives are recognised at the local, state and national levels. People see that our leadership talk hasn't simply been fluff and bubble. We have converted our goals into specific actions and recognisable achievements. The word is spreading. Consistent leadership and the unwavering commitment by our Vice Chancellor has helped to provide continuity. This has effectively influenced other leaders to follow.

However, the most significant change has been gathering support from the senior leadership team and rolling out the Learning in Future Environments (LiFE) framework across CSU. With the support from our VC and a consistent position from DFM and CSU Green, we have taken our leaders in positions of influence to understand the importance of including sustainability as part of our University strategic plan. The leadership team got on board. Sustainability is embedded in our processes across all the LiFE frameworks. For example the Sustainability Graduate Learning Outcome (GLO) and in decision making for procurement of our vehicle fleet. We have documented baseline evidence for each framework to monitor our progress towards best practice. Without someone leading and people taking on the role of champions in each framework group, this wouldn't have happened. This is significant because the LiFE framework has the long term capacity to change our



**WATCH ONLINE**

[www.youtube.com/watch?v=5LrWPbXmR\\_o](http://www.youtube.com/watch?v=5LrWPbXmR_o)



organisation completely. The 16 frameworks touch all aspects of our business and all the senior leaders are represented with a common goal. Our sphere of influence is maximised if we encourage our senior leaders to champion the cause.

Before 2013 it was a lonely battle. We set a sustainability target because everyone needed to have one. Originally, we had a carbon neutrality target, but no one was actively working towards it until three or so years ago. In the past it felt like a nice aspiration, but now we've turned sustainability into a set of clear and strategic actions.

We achieved this by identifying sustainability as a sub-plan in the 2013 -15 University Strategy. In order for sustainability to be a priority, it had to become part of the strategy. We facilitated the LiFE framework which identified the GLO's and no one questioned how it would come together. CSU Green facilitated that discussion. No one can say they are not going to bother because it is in the original strategy. Staff have a clear road map and as a university, LiFE provides us with a structured framework to work within.

Initially we were disappointed in 2014 when sustainability was removed as specific sub-plan. However, we've capitalised on the momentum built from the engagement undertaken over the last four years. We will continue our engagement across all activity areas of the university through the LiFE framework. That vision hasn't changed."

# Learning, Teaching & Research

Ensuring CSU students graduate as sustainability-literate citizens is an important step towards a sustainable future.

**CSU is focusing on the following three priority areas to achieve this aim:**

- **Learning and Teaching**
- **Research**
- **Student Engagement**

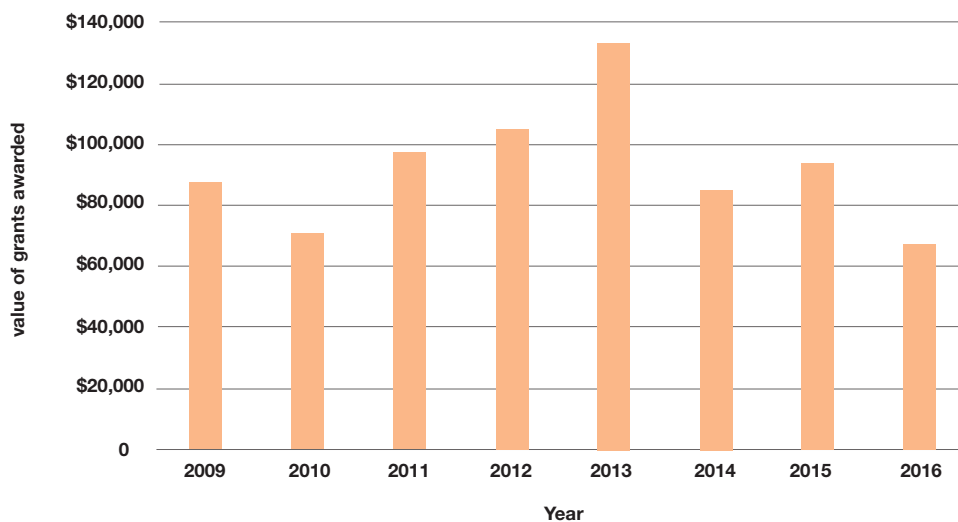


## SUSTAINABILITY GRANTS

CSU Green Sustainability grants are awarded each year to successful applicants who promote the university's commitment to sustainability in their project proposal. The Fund has been running since 2008, and is open to all staff and students to apply.

In 2016, using feedback from members of past research grant evaluation panels, the research stream of the Sustainability Grant program was changed to be specifically directed for seed funding of well-designed research projects that would lead to the likelihood of attracting external funding. All CSU research staff were encouraged to apply for the program. Four high quality grant applications were received. Three of the four applications were successful in receiving funding.

**Grant investment of \$740,972 in sustainability initiatives over eight years**



## 2016 successful applicants

<p><b>Linda Shields</b></p> <p><b>A new and safe method for disposing hospital waste</b></p>	<p><b>Funding \$9,948</b></p> <p>Hospital waste is treated and placed in landfill with heavy environmental impact. This project will provide the basis for new technology for safe disposal of hospital waste with minimum impact and maximum efficiency.</p>
<p><b>Dale Nimmo</b></p> <p><b>Optimal design of regional cities to conserve biodiversity</b></p>	<p><b>Funding \$9,808</b></p> <p>Urban areas house half of the world's human population, and by 2050 they will house an additional 2.5 billion people (United Nations, 2014). Urbanisation is a major driver of biodiversity loss globally as it results in the loss of native vegetation</p>
<p><b>Ann Lazarsfeld-Jensen</b></p> <p><b>Exploring the narratives of the Anthropocene</b></p>	<p><b>Funding \$10,000</b></p> <p>This project is designed to both critically explore and draw attention to the past and current decisions and actions which now constitute the built and natural environment of the CSU-Bathurst campus and the adjoining Bathurst Agricultural Research Station (BARS).</p>

## GRASSROOTS GRANT

Projects at Port Macquarie campus got a head start after receiving funding support through a CSU Green Grassroots Grant. Synapses Magazine a Writers Guild Publication made steps to produce their student publication more sustainably through engaging a sustainable printer and student sustainability writer and marketing assistant.

The Campus Environment Committee (PMCEC) put their grassroots funding towards equipment and uniforms to support the newly established committee. The Port Macquarie staff and PMCEC

showed great initiative in the sustainability space and gave enthusiastic support to CSU's sustainability efforts throughout 2016.

Ben Brooke, a student and Residential Advisor based at CSU in Wagga Wagga, successfully initiated a project to establish a vegetable garden and composting system for organic waste produced by residences.

**MORE INFORMATION ONLINE**  
[www.csu.edu.au/csugreen/grants](http://www.csu.edu.au/csugreen/grants)



# LIFE BENCHMARKING AND ACTION PLANNING WORKSHOPS

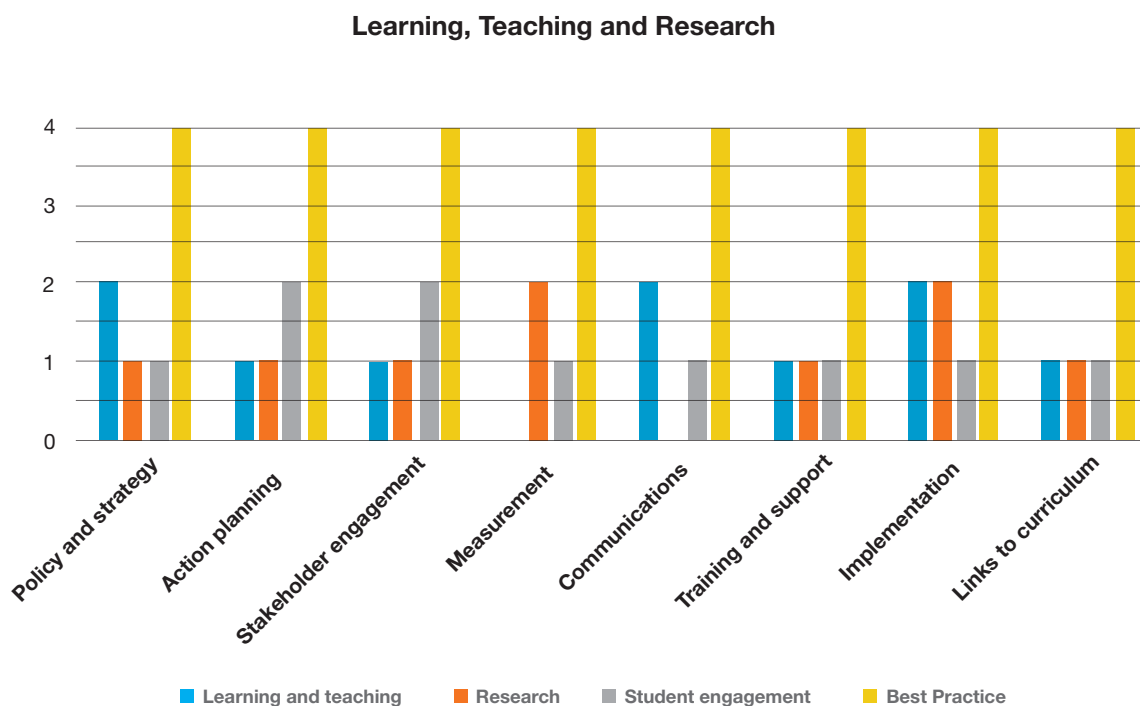
Benchmarks were set during 2016 across three frameworks in the Learning, Teaching and Research priority area. Action plans were also developed detailing how CSU is progressing towards best practice across the eight activity areas.

**Research** was benchmarked on the 27th of October involving eight stakeholders across Canberra, Wagga Wagga and Albury-Wodonga campuses.

**Learning and Teaching** was benchmarked on the 20th of October involving seven stakeholders across four CSU campuses.

**Student Engagement** was benchmarked on the 27th of September involving 13 stakeholders across three campuses.

The graph below illustrates the 2016 baseline ratings for the three frameworks under the Learning, Teaching and Research priority area. Baselines are compared against best practice.





# STUDENT ENGAGEMENT STORY OF MOST SIGNIFICANT CHANGE

## >> Sam Gross Residence Life

This vignette was selected because this initiative has been the catalyst for successful programs like Move Out and further embedded the ResCycle program. This success has arguably been the key driver for the creation of the potential Sustainability Advisor roles too.

'Move-Out' resulted in 375 boxes of non-perishable items donated to charity across all CSU campuses. "At CSU Wagga in 2016 the end of year collections were expanded covering perishable food items with CHEERS (catering) and REAP\* partnering to collect and cook such items for ready-made meals. CHEERS created 222 meals from perishable items left behind by student residents.

The most significant change from the Move-Out module was its uptake and longevity. In 2014, attempts to implement a Move-Out campaign were met with strong resistance from full time staff citing there was no possible way to make it work effectively.

In 2015 the Student Initiatives Coordinator planned and implemented a uniform approach across campuses. We used sustainability grant funds to purchase durable tubs to collect donations and casual staff assisted collecting and sorting the donations.

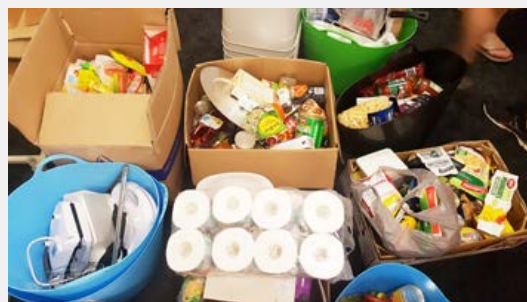
In the first year there were large amounts of donations resulting in a visible reduction from the overflowing red bins. Buy-in from full time staff improved significantly and Student Initiatives encouraged Campus Coordinators to adopt the module as part of their regular operations resulting in sustainability and cost effectiveness benefits.

Since then, Campus Coordinators have been more proactive and Residential Advisors willing to encourage residents to get involved. The Move Out campaign at CSU Wagga gained enough momentum that CHEERS Team Leader, Toby Perry approached Residence Life to become a partner. He contributed through donating perishable food items and labour and creating readymade meals for those in need via REAP.

Prior to this initiative, there was little awareness of sustainability practices and it was a low priority for full time staff and they had a limited understanding of CSU Green activities.

Since this Move Out module, awareness of sustainability practices has increased amongst full time staff. One of the formerly resistant staff members presented the successful outcomes of the module at the AACUHO Conference! (Australasian Association of College and University Housing Officers.) Additionally, Campus Coordinators have adopted the Move Out module as part of their operations due to the positive impact that is delivered in cleaner rooms and buildings with less items left behind.

Now, residents report they gain a lot of sustainability information delivered through the "ResCycle module."



*ResLife students donate their items for Move Out that will be distributed to charities.*

## Residence LIFE

Leadership | Independence | Friendship | Engagement

# LEARNING AND TEACHING STORY OF MOST SIGNIFICANT CHANGE

>> **Pamela Roberts**  
**Graduate Learning Advisor**  
Division of Student Learning, Canberra.

This vignette was selected because fully integrating sustainability into our curriculum is really the biggest, single impact we can have. This story demonstrates that the systems and processes supporting this objective are becoming embedded at CSU and will lead to the best possible outcomes.

We have conversations with course teams up front having a greater impact on their understanding of sustainable practices

“The most significant change in Learning and Teaching has been that Course Directors are contacting me as the Sustainable Practices Graduate Learning Outcome (GLO) Advisor to discuss ways of incorporating sustainable practices in their courses.

There’s a lot of genuineness in Course Directors embracing the importance of sustainability as an attribute for all CSU graduates. In some cases, they are not clear how to integrate sustainability. We work with course teams through a facilitated conversation to build an understanding of what sustainable practices might mean for them and provide them with resources.

This is significant because learning and teaching through embedding sustainability into courses is where the change happens. Staff need to understand sustainability in their professional areas to teach it. Our students will develop skills and knowledge in sustainability which will bring about significant change as they graduate and move into their careers. Previously, there wasn’t a specific GLO Advisor for sustainable practices, so there was no support and few resources to help course teams.



**WATCH ONLINE**

[www.youtube.com/watch?v=SiOAxr\\_gJOs](http://www.youtube.com/watch?v=SiOAxr_gJOs)



When the GLO Advisors were initially appointed, we were simply checking if sustainability was evident in their course design. We turned this process around and now discuss sustainability up front with course teams. Sustainability is embedded in their commitments, course learning outcomes, assessment tasks and subject design.

A CSU Green sustainability grant funded a project in 2013 called ‘Developing a learning resource: Sustainability in the professions’ which identified sustainability related resources creating a new hub by 2016. We now need to make this resource hub more visible. Additionally, we have a GLO Advisor Group and Dr. Jonathon Howard has been appointed as the Sustainable Practices GLO Lead from early 2017 to drive the sustainability GLO.”

---

*We have conversations with course teams up front having a greater impact on their understanding of sustainable practices*



## CASE STUDY

### Marc Greco - Bee Study

CSU researcher and senior lecturer in medical imaging at CSU's School of Dentistry and Health Sciences in Wagga Wagga, Dr Mark Greco combined his professional skills in medical imaging with a passion for apiculture throughout 2016, to study bees' brains to understand how they respond to environmental change.

As approximately a third of our human diet comes from food pollinated by bees, Dr Greco's research affects us all.

"Across the world bees are in decline and it's important for us to understand more about how they are affected by the changes to our environment, both the natural changes and those brought about by human influence. "My research is examining how bees learn things, how they remember things and how they find their way back to the hive."

**WATCH ONLINE**

[www.youtube.com/watch?v=8oRkUEe97gk](http://www.youtube.com/watch?v=8oRkUEe97gk)



CSU's School of Dentistry and Health Sciences in Wagga Wagga, Dr Mark Greco

"When you add various chemicals to the food it actually affects the bees' memory and so it influences the time it takes them to get back to the hive because they forget the landmarks they have memorised on the way to the feeder," Dr Greco

Through the use of x-ray computerised tomography, a CT scanner, Dr Greco's experiments are non-invasive and he can track changes in the brains of bees over time.

Dr Greco received a grant of \$120 000 from the Eva Crane Trust. The trust supports researchers with an interest in developing new technologies to save bees throughout the world.

## SLOANE'S FROGLET INVESTIGATED

Adjunct lecturer in the School of Environmental Science at CSU Albury-Wodonga, Dr Alexandra Knight investigated the CSU Albury-Wodonga flagship and threatened species, the Sloane's Froglet for her PhD research.

Producing the Sloane's Froglet Interim Habitat Management Guide was an outcome to the research. The guide will be used to inform habitat protection, maintenance and expansion to increase connectivity for this highly threatened species at CSU Albury-Wodonga.

The Sloane's Froglet locations have been identified in the biodiversity zone maps and biodiversity plans for CSU Albury-Wodonga.



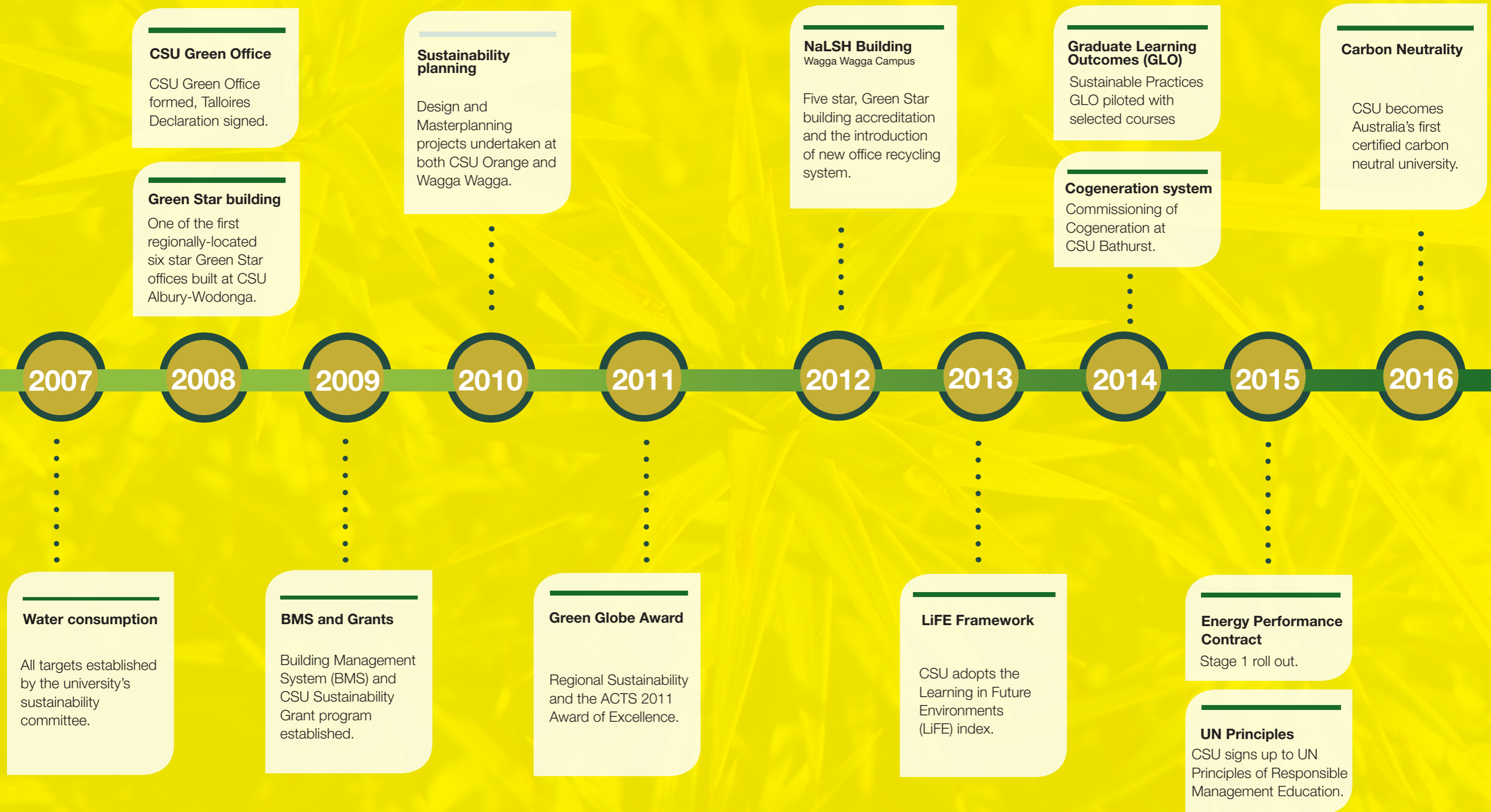
Sloane's Froglet (*Crinia sloanei*) found at CSU Albury-Wodonga and declared as a vulnerable species in NSW. Photo courtesy of the NSW Office of Environment and Heritage.

**ONLINE**

[www.alburyconservationco.org.au](http://www.alburyconservationco.org.au)



# TEN MILESTONES IN SUSTAINABILITY AT CSU



# Partnership and Engagement

Through partnerships and engagement, CSU seeks to encourage collaboration in sustainability through considering the importance of internal communities as well as external engagement with the wider community and local businesses.

**CSU is focusing on the following four priority areas to achieve these aims:**

- **Staff Engagement**
- **Community Engagement**
- **Business and Industry Interface**
- **Procurement and Supplier Engagement**



*Local media interviewing CSU Professor Euan Lindsay at the the carbon neutral certification launch.*



*Professor Euan Lindsay with Vice-Chancellor Professor Andrew Vann planting a commemorative native tree.*

## CARBON NEUTRAL LAUNCH

CSU invited media and guests to attend an official launch announcing our carbon neutral certification in July 2016. Hosted by Professor Euan Lindsay in the foyer of the Engineering building at CSU Bathurst, the event was marked by interviews with Vice-Chancellor Professor Andrew Vann and Engineering's Professor Euan Lindsay.

WIN Television, PRIME7, Western Advocate, 2BS - Gold, and 2MCE attended to highlight our success. Vice-Chancellor Professor Andrew Vann and Professor Euan Lindsay planted a commemorative native tree as a lasting symbol of the university's achievement.

# TREE PLANTING

**ALBURY**   
**400** SHRUBS AND  
SMALL TREES  
PLANTED

ACACIA PARADOX  
LEPTOSPERMUM  
CONTINENTALE  
POA LABILLARDIERI  
GREVILLA LANIGERA  
LOMANDRA LONGIFOLIA  
BURSIA SPINOSE.

**BATHURST**   
**100** SHRUBS AND  
SMALL TREES  
PLANTED

DODONAEA  
BANKSIA INTEGRIFOLIA  
GREVILLEA  
CORREA

Multi campus Tree Planting Days were once again held throughout 2016. Staff were joined by students and Campus Environment Committee members in volunteering time to plant over 1800 native trees and shrubs throughout shared spaces, student residence areas and biodiversity zones across five CSU campuses.

**DUBBO**   
**10** NEW  
PLANTS

ADVANCED  
BANKSIA  
SERATA

**PORT MAC**   
**200** NEW  
PLANTS

CALLISTEMON  
SALIGNUS  
CALLITRIS  
RHOMBOIDEA  
FICUS RUBIGINOSA

**WAGGA**   
**1125** NEW  
PLANTS

ALLOCASUARINA  
VERTICILLATA  
BURSARIA SPINOSA  
CALLITRIS  
GLAUCOPHYLLA  
DIANELLA REVOLUTA

## CARBON OFFSET FIELD TRIP

In November 2016 CO<sub>2</sub> Australia hosted academics, facilities management staff and students from Charles Sturt University at Press's Farm, just out of West Wyalong.

Through a hands-on approach, participants learnt about CSU's carbon offsetting project, the integrity involved in the carbon accounting process and exactly how they can limit carbon usage at their home and work.

**WATCH ONLINE**

[www.youtube.be/KgTFJx8g8FU](http://www.youtube.be/KgTFJx8g8FU)



CO<sub>2</sub> Australia's James Bulinski (Managing Director) and Aaron Soanes (General Manager Operations) training students and staff how to measure the carbon content of mallee trees.

## ACTIVE TRANSPORT



### YAMMER

[www.yammer.com/csu.edu.au/#/threads/show?threadId=769433224](http://www.yammer.com/csu.edu.au/#/threads/show?threadId=769433224)



### Bike Week

CSU held its inaugural Tweed Ride for NSW Bike Week in September 2016. The CSU Tweed Ride was a multi-campus event with rides held at Bathurst and Wagga Wagga campuses. We also encouraged online participation through the CSU and CSU Green co-hosted Facebook event page.

---

*The CSU Tweed Ride was a multi-campus event with rides held at Bathurst and Wagga Wagga campuses.*

### CSU Tweed Ride - Bathurst Campus

The CSU Tweed Ride and Fair on Tuesday 20th September at Bathurst Campus attracted 20 tweed costumed riders and many more fair goers to enjoy the vintage food and tweed fun at stalls including: John Kitchen Bicycles, Wheelers Cycles, CSU Global, CSU Give, 2MCE radio, Sprung Festival, Cheers, Country Women's Association (CWA), Office for Students, Bathurst Campus Environment Committee (BCEC) and CSU Green.

The day was colourfully brought to life with local circus performers on stilts and hula hoops, photography by Thom Dwyer from Light City Creative and clothes provided by the CSU Green Tweed Outfitter Stall. Donations raised went towards the CSU team riding in the MS Sydney Wollongong Charity Bike Ride.

### CSU Tweed Ride Wagga Wagga Campus

The Bike Week Ride to Work at Wagga Wagga Campus saw cyclists meet bright and early at the Trail Street coffee shop, ride over the Boorooma overpass and Murrumbidgee River and arrive on campus by 8.30am to enjoy a delicious breakfast provided by CSU Green.

At the Tweed High Tea at Wagga Wagga campus, CSU Green manager Ed Maher launched the 2015 Sustainability Scorecard. Mr Maher celebrated CSU's achievements, such as becoming Australia's first certified carbon neutral university, and provided information about cycling and active transport.

The High Tea lunch prepared by CHEERS at the Hub provided a safe haven away from the wet weather that had unfortunately rained on our parade. Donations raised went towards the Wagga Women's Health Centre.



### CSU Fundraises for the MS Gong Ride

Liz Smith, Director of Academic Success at CSU Bathurst, is living proof that our sustainability strategy is working. Until recently, Liz didn't own a bike. "I was actually inspired by our Facilities Management Executive Director Steve Butt, who arrived at a meeting one day on a CSU Green bike." Soon afterwards, Liz took delivery of a CSU Green staff share bike for her office.

Encouraged by workmates, Liz bought her own bike, and together with Donna Bateup from CSU's Division of Marketing and Communication, joined the CSU team for the MS Sydney Wollongong Charity Bike Ride in November 2016. "Our team captain is a young mum who was diagnosed with MS a few years ago. If she can do it, so can I."

## MOVE OUT / COOK UP FOR REAP

In October and November 2016 as students moved out of their on campus residences, CSU Green and Res Life partnered for the second year for the Move Out initiative collecting boxes of non-perishable food and household items from student residences across Albury-Wodonga, Bathurst, Orange and Wagga Wagga campuses for donation to local charities.

Joining the CSU Green and Res Life partnership, CHEERS chefs Toby Perry, Henri Kozlik and Michael Krecko and kitchen manager Anthony White at Wagga Wagga campus donated their time in early November for the Move Out Cook-up for REAP. This project turned packets of perishable and frozen food left behind by students into single serve dinners for REAP Food Rescue, the regional arm of OZ HARVEST.

*The Move Out Cook-up was a big success – we made up 222 individual frozen meals for John at REAP to distribute. We also donated a quantity of frozen vegetable and meat packets from Move Out donations and some left over slice portions. The amount of food collected was staggering to me. We had to return some of the dry-goods to Res Life*



*Residential Advisors with Move Out items collected from res students.*

*to include in their second run to charity, but the Cook-up achieved a fantastic result.*

*This food would otherwise have gone to waste so it was great to be able to offer up our chef skills to turn it into a meal for someone who needs it. This is another great way the University engages with our local community at a grass roots level. REAP Food Rescue distributes food donations to charity partners in Wagga Wagga and Junee up to six days a week.*

**Food and beverage services Team Leader, Toby Perry**

## SUSTAINABILITY ADVISORS

PARTNERSHIP FORMED WITH RESIDENCE LIFE



*Recruited Sustainability Advisors with CSU Green Sustainability Officer Alesha Elbourne.*

In mid-2016, CSU Green in collaboration with Residence Life, advertised a position for four student Sustainability Advisors. The aim of the Sustainability Advisors is to work in collaboration with the Residential Advisors during 2017, and drive sustainability awareness within the residential cohort of students.

Four students were employed towards the end of 2016, one Sustainability Advisor at the campuses of Albury-Wodonga, Bathurst, Orange and Wagga Wagga. The principal responsibilities of the Sustainability Advisors is to deliver sustainability-themed events, provide promotional support to CSU Green events, assist in the roll-out of new sustainability initiatives and other sustainability awareness activities throughout 2017.

These positions bring with it exciting opportunities for CSU Green to further connect with students who live on campus. It also enables CSU Green to work collaboratively with Residence Life to drive sustainability-awareness within the residences.



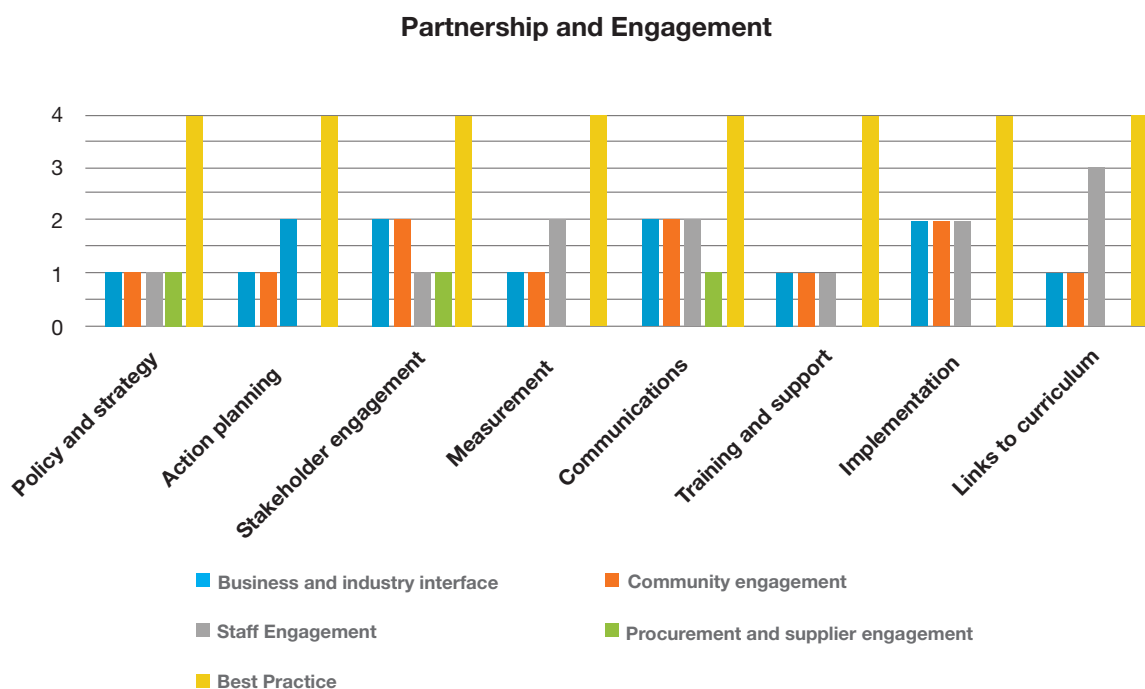
# LIFE BENCHMARKING AND ACTION PLANNING WORKSHOPS

Benchmarks were set during 2016 across all frameworks in the Partnership and Engagement priority area. Action plans were also developed detailing how CSU is progressing towards best practice across the eight activity areas.

**Staff Engagement** was paired with Human Capital (from the Leadership and Governance priority area) was benchmarked on the 23rd of May.

**Community Engagement** was paired with Business and Industry Interface and was benchmarked on the 7th of September involving 15 stakeholders across five campuses. Procurement and Supplier Engagement was benchmarked on the 16th of November with ten stakeholders from Bathurst and Wagga Wagga.

The graph below illustrates the 2016 baseline ratings for the four frameworks under the Partnership and Engagement priority area. Baselines are compared against best practice.



# COMMUNITY ENGAGEMENT STORY OF MOST SIGNIFICANT CHANGE

## >> Cesidio Parissi

Lecturer in Problem Based Learning  
School of Biomedical Sciences

This vignette was selected because it is a genuine example of functional community partnerships, especially with traditional owners. This sustainability initiative has mobilised a new cohort of CSU staff.

Girinyalanha – more than just a ‘Yarning Circle’  
“The most significant change from this sustainability grant \$50,000 investment has been the establishment of a practical and functional partnership with the Aboriginal community.

This has been the most fundamental outcome of the project. It has allowed networking between the local land council workers, CSU, and schools. It has developed cultural awareness sessions and delivered cultural sessions to physiotherapy, nursing and visiting medical students from Sydney. It has facilitated interdisciplinary learning.

Before this project we didn’t have a functional partnership. We employed Aboriginal people to do the welcome to country ceremonies and it felt tokenistic. Over the last 18 months (starting late 2014) CSU fostered trust through meetings between Aboriginal elders and the Aboriginal Land Council meetings, learning along the way. Through that experience, we developed a true partnership. This facilitated the practical design of the Girinyalanha Aboriginal Nature and Bioscience Park. The centre piece of the design is the ‘Yarning Circle’. Whilst sitting around the circle people can view Mount Canobolas in distance which is a sacred site.

Now we have the potential to move forward and develop deeper connections between CSU, Aboriginal people and the local non-indigenous community. We now have the potential to enrich



**WATCH ONLINE**

[www.youtube.com/watch?v=c-SZ5ZBURU0](http://www.youtube.com/watch?v=c-SZ5ZBURU0)



connections between internal university courses, not just nominally, but practically, with Aboriginal people. We have also enriched connections between Aboriginal community and wider communities, thus establishing the potential for unending opportunities.

For example, two weeks ago, a group of Aboriginal students from Wellington High School came to learn about how we developed the ‘Yarning Circle’, as they were going to plan one too.

We plan to have local astronomy nights highlighting the ‘Dark Emu,’ the Aboriginal constellation in the night sky. We are sharing the significance of Aboriginal science, and the site is not quite finished. Currently, we are building a new pathway down to a water feature, a dam at the bottom of the hill. We are planning further designs including planting culturally significant plants like Lomandra for basket weaving, bush foods and medicinal plantings like wattle seed. We are facilitating connections between school children and university students as part of Future Moves. Additionally there are three sacred trees on the site used by Aboriginals thus connecting Aboriginal children to their own presence on the land.”



# Facilities and Operations

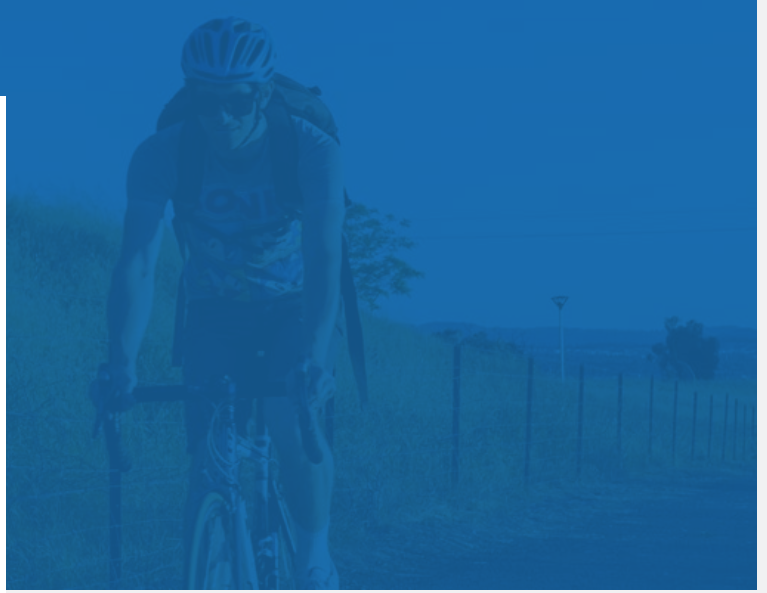
Our aim at CSU is to establish campus environments that exemplify good practice in sustainability. We are also fostering links between facilities / infrastructure and learning / teaching to improve the quality of the campus and the overall student experience.

**CSU is focusing on the following seven areas to achieve these aims:**

- Biodiversity
- Energy
- Resource Efficiency and Waste
- Water
- Sustainable ICT
- Transport
- Sustainable Construction and Renovation

---

*The key feature of the EPC is that energy savings are guaranteed*



## ENERGY PERFORMANCE CONTRACT STAGE 2

Following the rollout of stage 1 of the Energy Performance Contract (EPC) at Bathurst and Wagga campuses, a second stage was completed on the Bathurst campus. Stage 2 focused on the Bathurst Learning Commons and an upgrade of the air conditioning plant including:

- upgrade of chiller and boiler
- replacement or refurbishment of existing fans
- building control strategy upgrade
- replacement of fluorescent lighting with high efficiency LEDs.

The key feature of the EPC is that energy savings are guaranteed. A rigorous measurement and verification process is carried out each year for seven years and any shortfalls in savings are credited to CSU by the supplier.

---

# ELECTRIC VEHICLES

*Our aim is to provide transport options that contribute to the reduction of Charles Sturt University's carbon and overall environmental footprint*

In May 2016 CSU introduced two EMC Electric Vehicles to be used in Bathurst and Wagga Wagga for on campus commuting providing an additional sustainable transport option to the growing number of bicycles available for staff to move around our regional campuses.

"Our aim is to provide transport options that contribute to the reduction of Charles Sturt University's carbon and overall environmental footprint." CSU Division of Facilities Management Director of Operations Mr Wayne Millar The vehicles run on electricity and are fitted with on-board chargers. The batteries are charged when plugged into a standard power point.

With a high visibility flashing emergency light bar across the roof, a public address system, emergency alert siren and the ability to access parts of the campus that a conventional vehicle cannot reach, the carts will also be used by CSU staff to manage on campus emergencies.

"The electric vehicles are a significant milestone in our approach to sustainability. We are leading by example." Ed Maher



# TRENDS IN ENVIRONMENTAL FOOTPRINT

## CSU's innovative pathway to carbon neutrality Specific carbon reduction projects

Some of the projects that are contributing towards carbon neutrality at CSU being implemented from 2011 to present include:

### Energy efficiency initiatives

- stage 1 & 2 of energy performance contract (EPC) including lighting retrofits, HVAC upgrades and building management system (BMS) controls upgrade across 17 of the highest energy using buildings at Bathurst and Wagga campuses
- BMS including the installation of over 500 sub meters to better understand and manage energy and water usage
- video conferencing facilities for staff administration/teaching reducing travel. There are 130 videoconference facilities with approximately 200,000 hours of use annually
- two electric vehicles for use on-campus
- twenty bicycles, located throughout the major campuses available for staff commuting
- implementation of best practice office waste recycling program

### Renewable and embedded generation

- 630 kW cogeneration facility generating electricity and hot water
- installation of a 40 kW PV array (Bathurst) and a 156 kW array (Port Macquarie)
- current installation of combined 1,770 kW PV systems at CSU in Wagga

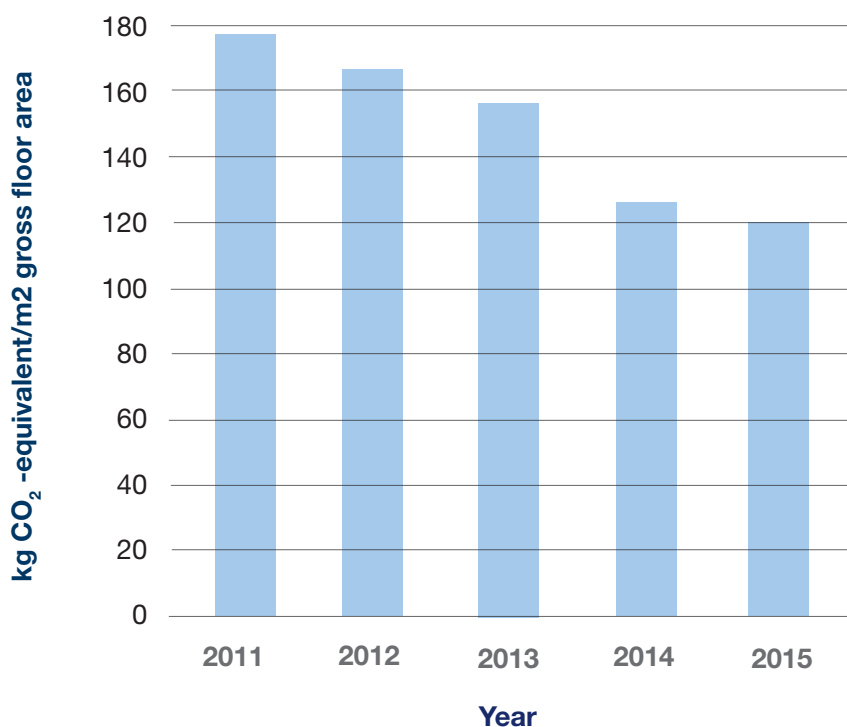
### Carbon offsetting

- certified carbon offsets for the 46,067 tonnes CO<sub>2</sub>-e emitted in 2015

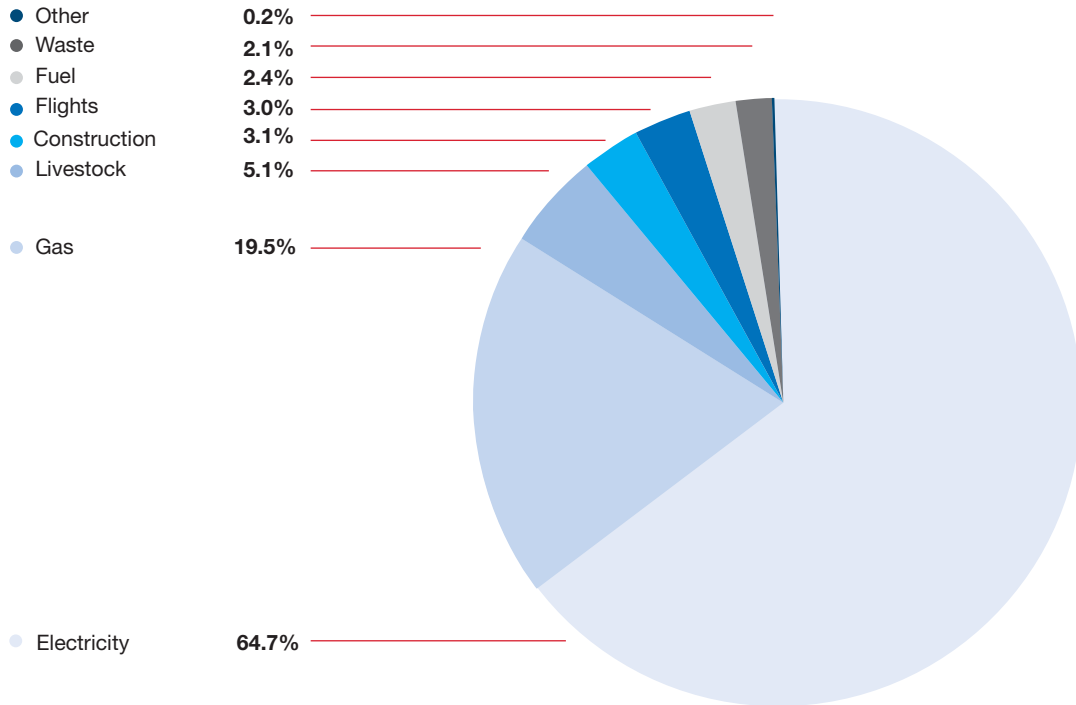
The offset projects we support are a mixture of Australian and internationally-based projects offering a multitude of social, environmental and economic benefits. Such benefits include biodiversity enhancement and diversification of income for Riverina landholders and stimulating investment in renewable energy technologies (wind and biogas) in two developing countries (China and India).

In the period 2011 to 2015, CSU reduced the normalised carbon intensity of its facilities by 32%. CSU will focus on these projects to further reduce normalised emissions so that less carbon offsets are needed annually to maintain carbon neutrality.

## Reduction in greenhouse gas emissions per gross floor area (GFA)



## CSU's Carbon Footprint - Breakdown by Source



### Breakdown by source

Once again, the breakdown of carbon emissions is dominated by electricity (64.7%) and gas (19.5%) highlighting that on campus energy efficiency is the area with the most potential to reduce the university's carbon footprint. Livestock (cattle, sheep and horses) is the third largest source of emissions, followed by construction, flights and fuel usage in CSU's vehicle fleet.

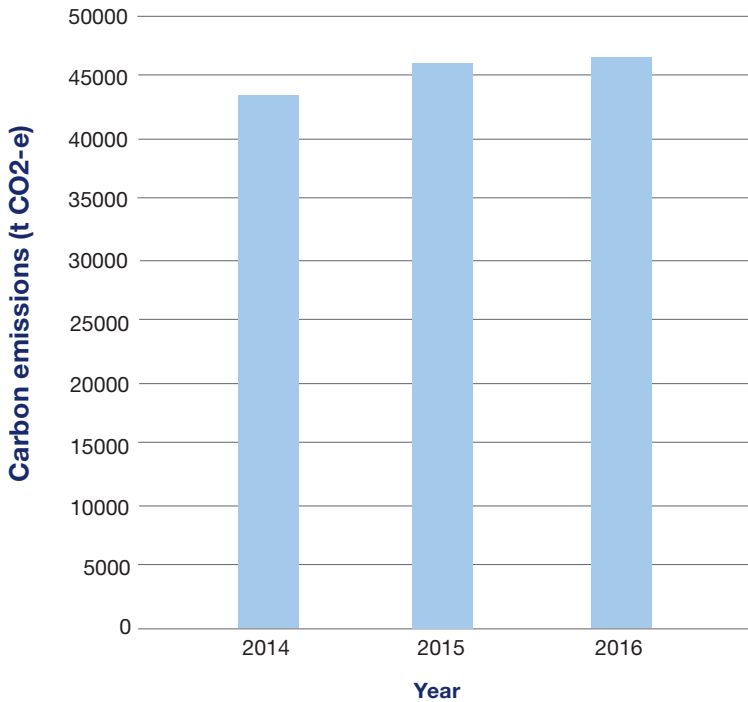
The calculation of CSU's carbon footprint under the NCOS methodology has seen several additional sources of carbon emissions included. These include emissions from construction activities and stationary energy associated with several facilities outside CSU's operational control (e.g Sydney and Melbourne Study Centres).

Due to these changes, only 2014 and 2016 has been calculated under the new methodology.

*The calculation of CSU's carbon footprint under the NCOS methodology has seen several additional sources of carbon emissions included*

## TRENDS IN ENVIRONMENTAL FOOTPRINT

### CSU's Total Carbon Footprint



#### Carbon Footprint

The graph shows a small increase in carbon footprint (before the purchase of carbon offset certificates). This is mainly driven by an increase in gross floor area of the university which reflects the new Port Macquarie campus and the Engineering building at Bathurst.

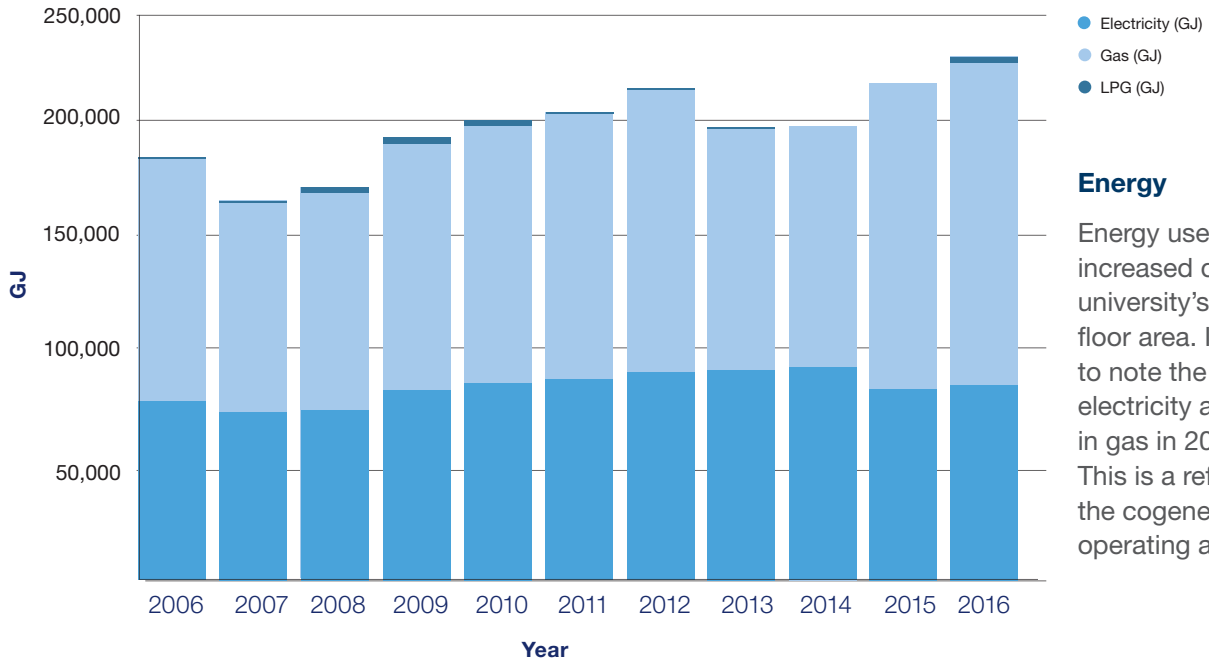
---

*The installation of additional water sub meters will be a priority during 2017 in order to better measure and manage the university's water use.*

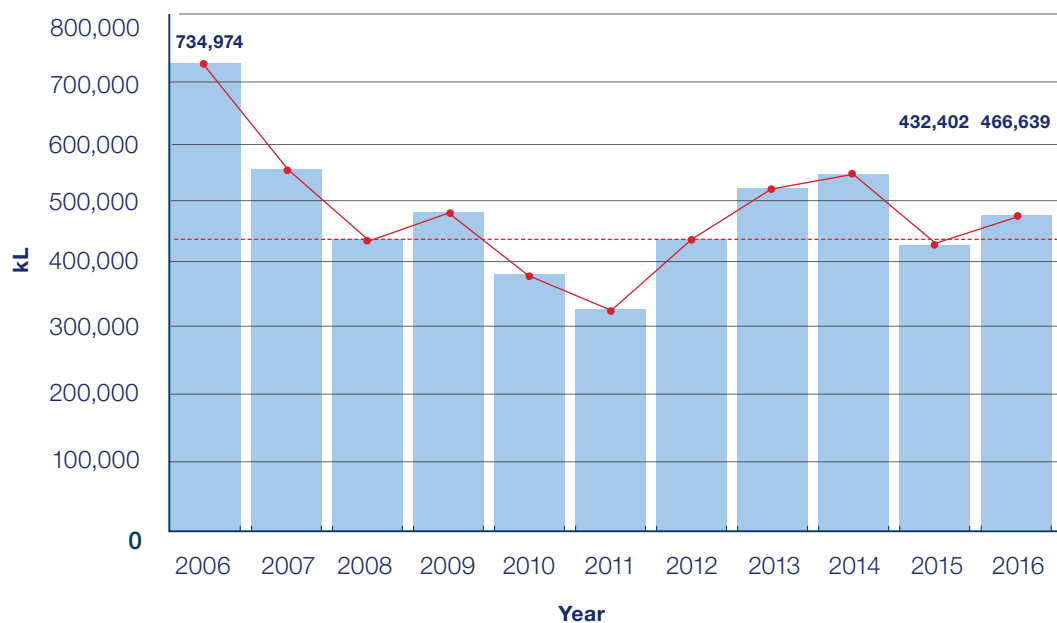
#### Water

Water consumption slightly increased during 2016, again due to the increased footprint of the university's operations. The installation of additional water sub meters will be a priority during 2017 in order to better measure and manage our water use.

## CSU's Total Energy Consumption



## CSU's Total Water Consumption





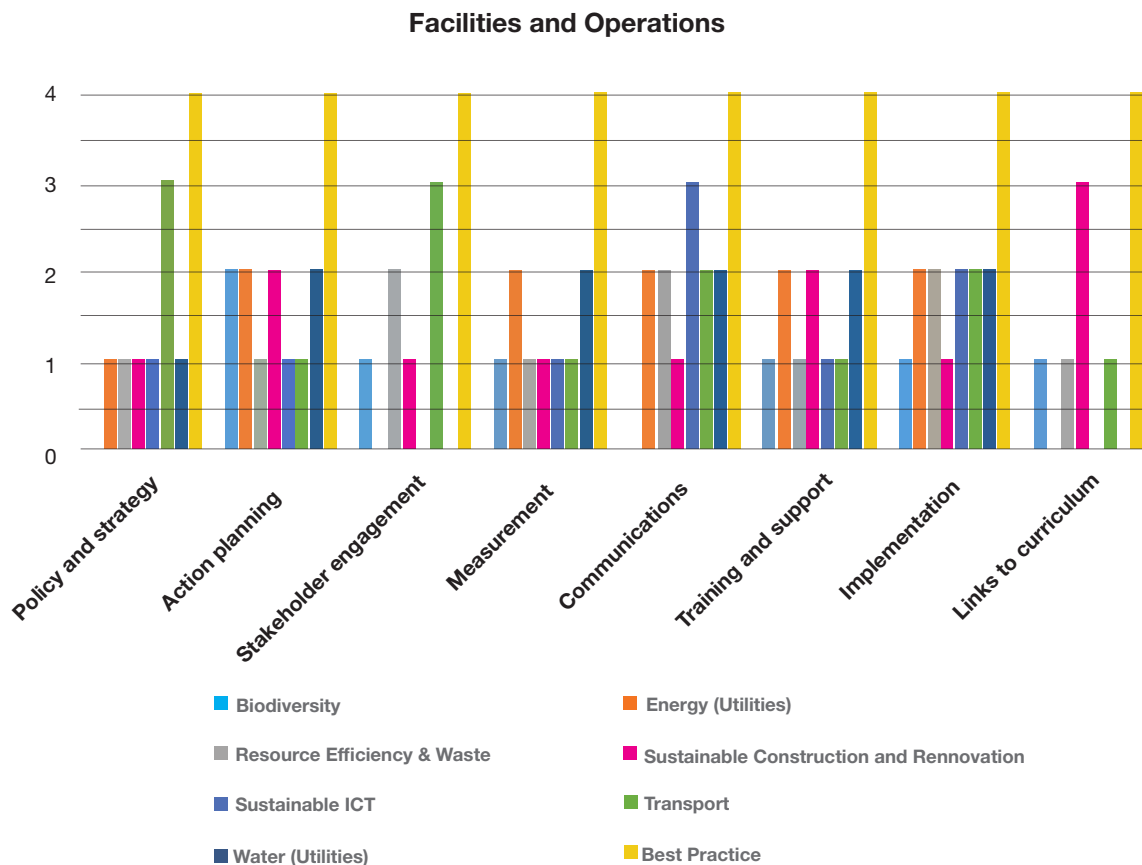
# LIFE BENCHMARKING AND ACTION PLANNING WORKSHOPS

We set benchmarks across all frameworks in the Facilities and Operations priority area. We have also developed action plans detailing how CSU is progressing towards best practice across the eight activity areas.

Transport was benchmarked face-to-face with six key stakeholders in Wagga Wagga on 17th August. Sustainable Information Communications Technology was benchmarked on 14th December, 2014.

The other frameworks were benchmarked on 27th August 2015 at a large face-to-face workshop focusing on Biodiversity, Resource Efficiency and Waste, Sustainable Construction and Renovations. We combined Energy and Water as Utilities.

The graph below illustrates the 2016 baseline ratings for the seven frameworks under the Facilities and Operations priority area. Baselines are compared against best practice.



# ENERGY STORY OF MOST SIGNIFICANT CHANGE

>> **Peter Harris,**  
Energy Manager - CSU Green, Bathurst

This vignette was selected because the Cogeneration facility is one of the biggest contributors to-date in reducing our carbon footprint.

“Many changes have occurred at CSU relating to the energy framework under the LiFE Index including roof top solar installations at Bathurst, Port Macquarie and Wagga Wagga; energy performance contracts at Bathurst and Wagga Wagga; and improvements in the coverage of the sub-meters measuring CSU’s energy consumption.

However, the most significant change has been the Cogen (Co-generation) project installed at CSU Bathurst. The Cogen project is new to the university so it was a bit of a challenge which has subsequently had a big impact on reducing our carbon footprint.

Previously, all electricity was purchased from the grid and hot water was produced in the gas fired boilers at Bathurst.

---

*Many changes have occurred at CSU relating to the energy framework under the LiFE Index including roof top solar installations at Bathurst, Port Macquarie and Wagga Wagga; energy performance contracts at Bathurst and Wagga Wagga*



**WATCH ONLINE**

[www.youtube.com/watch?v=gK-QJ0vpEYY](http://www.youtube.com/watch?v=gK-QJ0vpEYY)



In late 2014 the Cogen was commissioned, it operates by burning natural gas to generate electricity on site, at the same time it captures the waste heat produced from the engine to generate hot water.

It has significantly reduced our carbon footprint because the Cogen is much more efficient than purchasing electricity and gas separately. It has been a good learning process for our operations team to gain knowledge around the workings of this piece of equipment and has significantly contributed towards CSU being certified as carbon neutral in July 2016.



Be a part of active  
transport on campus





[www.csu.edu.au/csugreen](http://www.csu.edu.au/csugreen)