

SUSTAINABILITY

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OUR RESEARCH FOCUS
REVOLVES AROUND
INTERDISCIPLINARY
RESEARCH SPHERES;
RESILIENT PEOPLE,
FLOURISHING COMMUNITIES
AND **SUSTAINABLE
ENVIRONMENTS.**



OUR COMMITMENT TO SUSTAINABILITY

CSU CONTINUED TO PROGRESS TOWARDS BEST PRACTICE IN SUSTAINABILITY THROUGH THE LEARNING IN FUTURE ENVIRONMENTS (LIFE INDEX).

Andrew Vann

ANDREW VANN VICE-CHANCELLOR

It was pleasing for CSU to build on its credentials as Australia's first certified carbon neutral University in 2017 by commissioning one of the largest collections of rooftop solar found on a single site anywhere in Australia.

The system, rated as 1.77 megawatts, consisting of 6,012 panels was installed across 17 separate buildings at CSU in Wagga Wagga. One of the most important aspects of implementing projects that are highly visible that have a distinct sustainability benefit, are the flow on impacts that they have on our students and our regional communities.

A major development for CSU in 2017 was the publication of our refreshed Research Narrative. Via this narrative, we commit to providing meaningful outcomes for industry, government, business and communities. We seek to make an impact on our worlds – regional, national and global – and contribute to their economic, social and environmental sustainability and well-being. Our research focus revolves around interdisciplinary research spheres; Resilient People, Flourishing Communities and Sustainable Environments.

I have been impressed by the rate at which the CSU community has undergone significant positive changes across 2017 via the CSU War on Waste initiative.

This initiative involved an extensive marketing campaign and a discount for customers of our on-campus cafes who bring their own cups in an effort to reduce landfill from disposable coffee cups. This has resulted in more than half of all hot beverages being sold in reusable cups following the launch of this initiative in August. This is a terrific example of what can be achieved when the incentives are targeted and key barriers are minimised.

Across 2017 CSU continued to progress towards best practice in sustainability through the Learning in Future Environments (LiFE Index). Particular improvements have been made in the Facilities and Operations; Learning, Teaching and Research; and Partnership and Engagement priority areas. Through actions like those highlighted above, CSU is taking positive steps to make an impactful contribution to the United Nations' 2030 Agenda for Sustainable Development, underpinned by the 17 Sustainable Development Goals.

The Agenda is ambitious and is arguably one of the most important international agreements ever established. CSU will continue to demonstrate leadership at the national level in this area – a particularly important focus, in my view, given the unique position that universities hold in our society and the great potential they have to be agents of change.

CSU IS CEMENTING
OUR COMMITMENT
TO EMBEDDING
SUSTAINABILITY INTO
ALL ASPECTS OF THE
UNIVERSITY THROUGH THE
LIFE FRAMEWORK.



CSU GREEN MESSAGE

IT HAS BEEN REWARDING TO SEE OUR INAUGURAL STUDENT SUSTAINABILITY ADVISORS WORKING AT A PEER-TO-PEER LEVEL TO EDUCATE AND INSPIRE STUDENTS IN RESIDENCE TO ACT MORE SUSTAINABLY.

A handwritten signature in black ink that reads "Ed Maher". The signature is fluid and cursive.

ED MAHER CSU GREEN MANAGER

Once again working tirelessly to get the most out of every opportunity, establish new programs and partnerships and continue to demonstrate CSU as leaders in sustainability, 2017 saw many exciting developments towards best practice for CSU - cementing our commitment to embedding sustainability into all aspects of the University through the LiFE Framework.

One of the most visible examples was the completion of our 1.77 megawatt solar installation at CSU Wagga Wagga which remains one of Australia's largest roof-mounted PV systems.

It has been rewarding to see our inaugural student Sustainability Advisors working at a peer-to-peer level to educate and inspire students in residence to act more sustainably. Another highlight was being acknowledged at local, state and national levels to win three awards from the Wagga Wagga, Port Macquarie and Regional Murray-Riverina Business Chambers. CSU were also finalists in the national Banksia Foundation awards for large business sustainability leadership.

CSU demonstrated our commitment to biodiversity by exceeding our target, to manage 20 percent of CSU lands for conservation in 2015. In March 2017, we officially ratified the 254 hectares in a series of biodiversity zones across our seven campuses at Albury-Wodonga,

Wagga Wagga, Canberra, Dubbo, Orange, Bathurst and Port Macquarie.

One hundred hectares of these zones are on CSU farmlands. CSU Green developed the first of a stunning Flagship Species series to celebrate biodiversity across CSU campuses in consultation with the six Campus Environment Committees.

Initiatives such as Move Out, Move Out Cook-up and CSU Tweed Ride for NSW Bike Week were once again highly successful and the inaugural Sustainability Day at CSU Albury Wodonga and Food Fair at CSU Port Macquarie were both outstanding events.

By continuing our commitment as Australia's first certified carbon neutral University, CSU joined the War On Waste reducing disposable coffee cup use from 667 cups per day across our campuses by 50 percent from our launch August 1 through our Keep Cup campaign, as well as engaging staff and students to join the reusable bag movement taking usage figures from 50 plastic bags given out with purchases at Charlie's stores daily to 23 bags sold between August and December via on campus sewing bees.

With 2017 bringing excellent partnerships, strengthened commitment and encouraging goal outcomes, I anticipate CSU's 2018 sustainability achievements will be inspiring for us all.

38,816

DISPOSABLE CUPS SAVED IN THE CSU WAR ON WASTE SINCE ITS LAUNCH AUGUST 1

50% CONVERSION TO RESUABLE CUPS 

\$10,000 WON

FOR SKILLSET'S INAUGURAL SPARK TANK COMPETITION



10 NEW BIKES



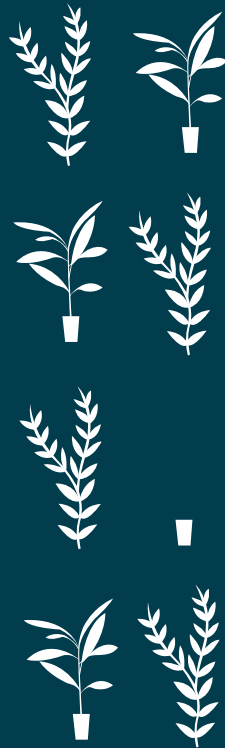
ON BATHURST, DUBBO AND WAGGA WAGGA CAMPUSES THROUGHOUT 2017

20 LIFE WORKSHOPS

UNDERTAKEN ACROSS 2017

\$2,145 RAISED

1072 TREES PLANTED IN THE BEARDS ON 90 CHALLENGE



120 STUDENTS & STAFF AT THE

ALBURY-WODONGA SUSTAINABILITY DAY

FLORA AND FAUNA HIGHLIGHTED AT 7 CAMPUSES THROUGH OUR BIODIVERSITY FLAGSHIP SERIES



8 COSTUMES

CREATED BY SCHOOL OF COMMUNICATION AND CREATIVE INDUSTRY STUDENTS



FOR THE INAUGURAL SUSTAINABLE FASHION SHOW

1.77 MW

6,012 SOLAR PANELS INSTALLED ACROSS 17 ROOFTOPS AT CSU WAGGA WAGGA

348 MEALS

PREPARED BY CHEERS FOR THOSE IN NEED USING UNWANTED FOOD FROM STUDENT RESIDENCES 

4 STUDENT SUSTAINABILITY ADVISORS

WORKING WITH CSU GREEN AND RESIDENCE LIFE TO ENGAGE 2,200 STUDENTS LIVING ON CAMPUS

SNAPSHOT OF SUSTAINABILITY

51 PEOPLE

CALCULATED THEIR ECOLOGICAL FOOTPRINT ON SUSTAINABILITY DAY ON ALBURY-WODONGA CAMPUS 

36 STORIES

OF MOST SIGNIFICANT CHANGE AND

22 VIDEOS

PRODUCED 

\$82,322 \$\$\$

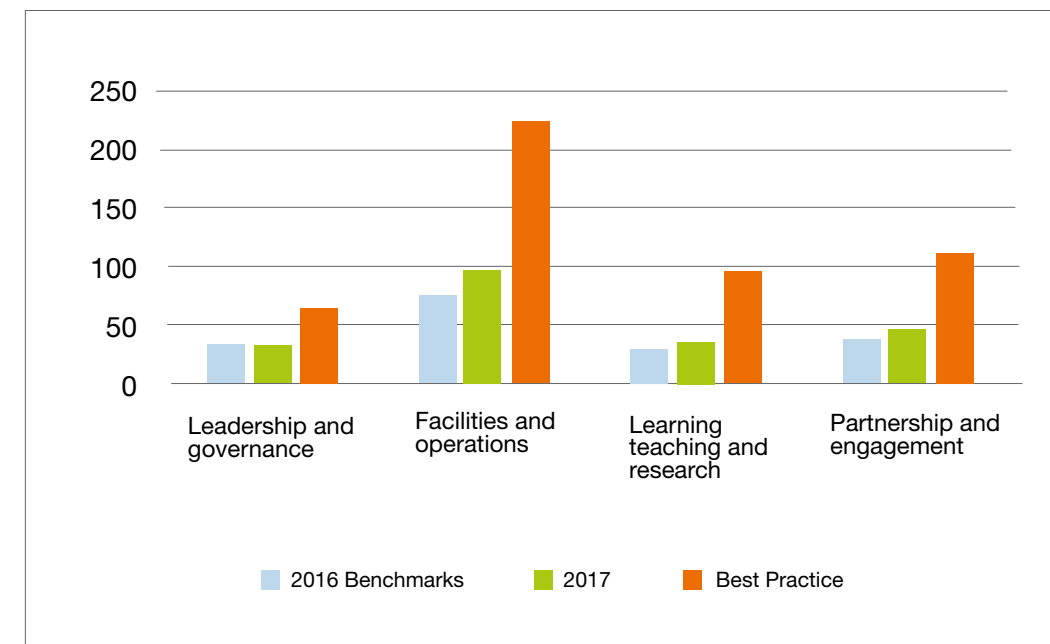
DISTRIBUTED IN THE 2017 SUSTAINABILITY GRANTS PROGRAM

73 LIFE CHAMPIONS

ACROSS CSU



CSU progress towards best sustainability practice



Above graph indicates three out of four priority areas increased ratings demonstrating progress towards best practice. Leadership and Governance remained the same across 2016 to 2017.

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 2017.

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.

The Sustainability Scorecard is based on the progression of CSU's University Performance Measure for sustainability – a five percent annual improvement in the rating for each of the four LiFE Priority Areas.

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.

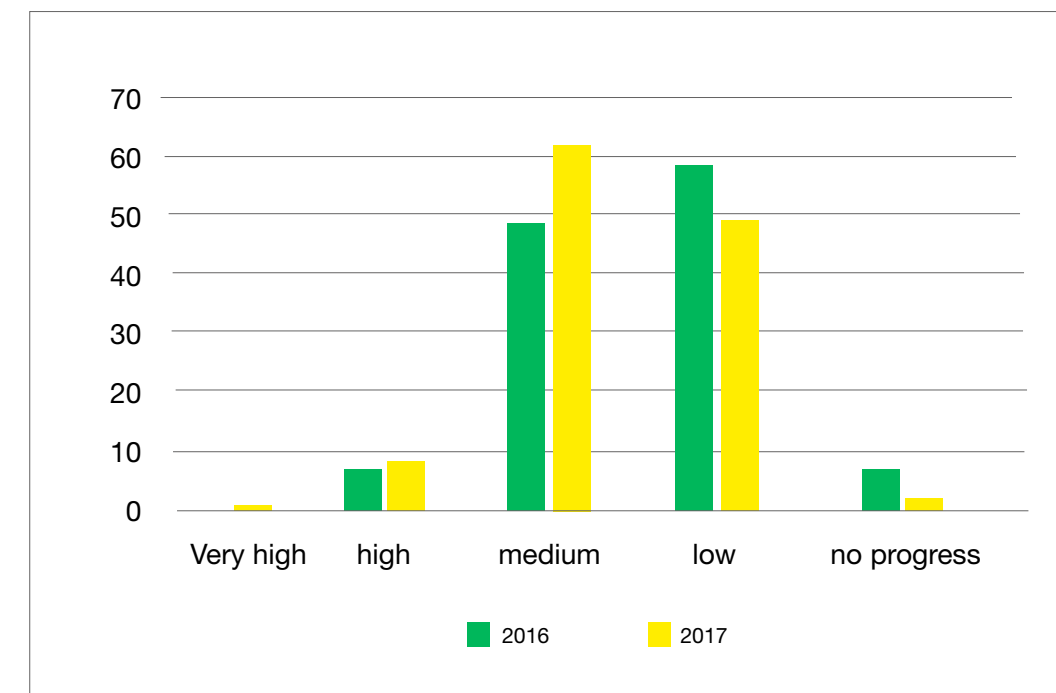
Learning in Future Environments (LiFE) Index

Learning in Future Environments (LiFE) Index This year saw the completion of two check-in workshops across all 16 frameworks.

A total of 84 stakeholders have participated in rating review activities and approximately 50 participated in six monthly check-ins throughout 2017. Reviews revealed four frameworks are performing well exceeding the five percent key performance indicator in their progress towards best practice including:

- Biodiversity
- Learning and teaching
- Procurement and supplier engagement
- Resource efficiency and waste

Total LiFE baseline ratings



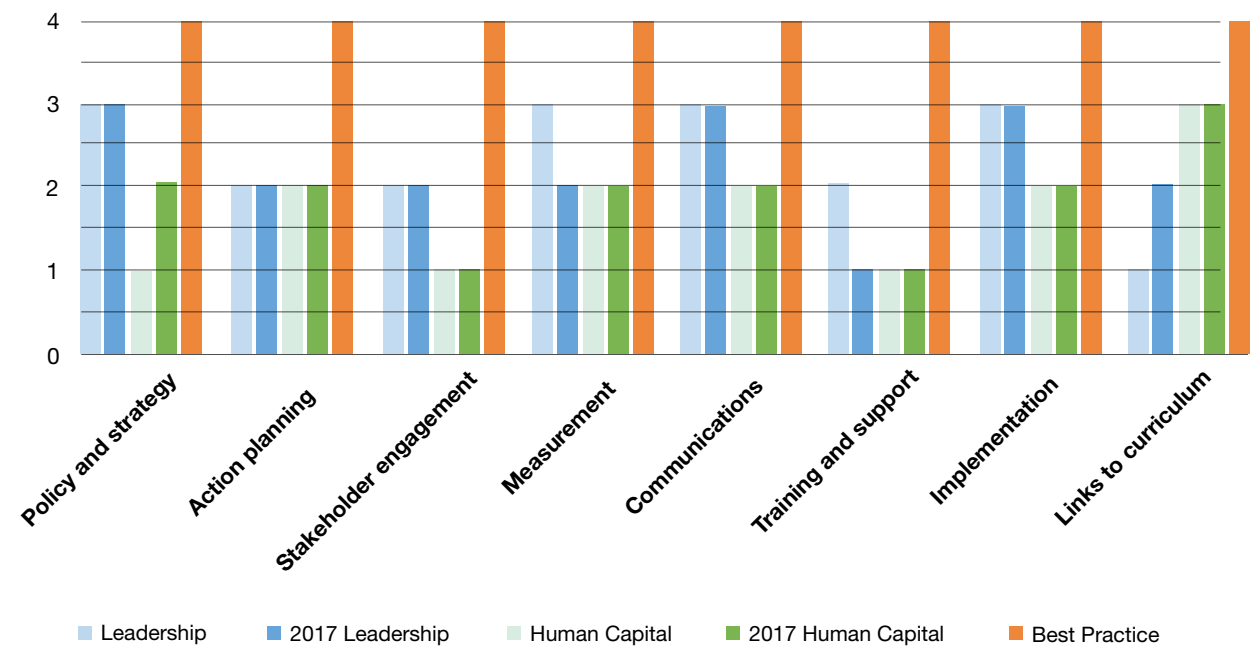
Above graph indicates the movement in ratings across 2017 showing a consistent trend upwards. Notably a significant decline in 'no progress' ratings.

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.

Leadership Human capital

Baseline Ratings



Left: This graph illustrates the 2016 baseline ratings and 2017 progress towards best practice for the frameworks under the Leadership and Governance Priority area. The baseline ratings are in a lighter shade and the updated 2017 ratings are a darker shade are compared against best practice (orange).

LiFE Leadership Summit participants pictured back row from left: Ed Maher (facilitator), Andy Vann, Julia Coyle, Adam Browne, Wayne Millar, Stephen Butt, Sarah Ansell and Tim Wess. **Front row from left:** Kym Witney-Soanes (facilitator), Paul Dowler, Toni Downes, Hedy Bryant, Ken Dillon, Mary Kelly, Jo-Anne Reid and Jeannie Herbert.

LiFE towards best practice

The Leadership framework was reviewed twice in 2017. Senior executives gathered following the VC's Forum in Bathurst on 30th March, 2017 to focus on sustainability at the LiFE Leadership Summit.

Fourteen participants reviewed the Leadership action plan, benchmark ratings and baseline data across all the frameworks. This was the first LiFE framework benchmarked on the 16th July, 2013 and much has occurred in the leadership space in the last four years.

The second review for the Leadership framework was undertaken on the 24th October with the Champions for this framework, the Vice Chancellor's Leadership Team. Human Capital was paired with Staff Engagement and was reviewed in May and November.



Above: Division of Facilities Management, Executive Director Mr Stephen Butt at the LiFE leadership summit.

Awards

Internal and external recognition for CSU's sustainability achievements



2017 Excellence in Sustainability

CSU received the 2017 Excellence in Sustainability award on 29th of May from the Wagga Wagga Business Chamber for the second year running! Charles Sturt University also won the 2017 Murray-Riverina Regional Business Chamber award and Port Macquarie business chamber award for Excellence in Sustainability.

Sustainability Champion

Congratulations to Sustainability Champion Award recipients Toby Perry (CHEERS), Travis Cohalan (Res Life on behalf of Siobhan Hillam) and Anthony White (CHEERS) for a terrific effort preparing and donating 222 TV-style dinners made from leftover perishable food for the 2016 Move Out Cook-up for REAP. The cook-up was a great project to extend the Move Out initiative of leftover non-perishables that students donate to charity each year and thanks to the dedication of the CHEERS and Residence Life teams 2017 saw an increase in the 222 meals prepared in 2016 to 348 meals donated to REAP in 2017.

2017 Banksia award - Finalists

CSU were finalists in the 2017 Banksia Sustainability Awards in the Large Business category. Since their inception in 1989, the Banksia Sustainability Awards have earned the reputation as the most prestigious Sustainability Awards in Australia. The Awards acknowledge innovation, leadership and excellence in economic, social and environmental sustainability.

National Sustainable Building Award

CSU was nationally recognised for our sustainability work. The new engineering building at CSU Bathurst was the project successful in taking out the 2017 National Sustainable Building Award for Educational Projects from the Australian Institute of Architects. Congratulations to our architect Chad Brown from ThomsonAdsett and Euan Lindsay, Professor in Engineering and the CSU team for their drive and commitment to create a such a lovely space for our students to learn.

Below: CSU engineering learning and teaching space in the newly built Engineering building, Bathurst.



Above: CSU's winning Wagga Wagga Business Chamber Award.



Above: CSU green manager, Ed Maher with CSU staff Simon Cole at the Wagga Wagga Business Chamber Awards night.

Learning, teaching and research

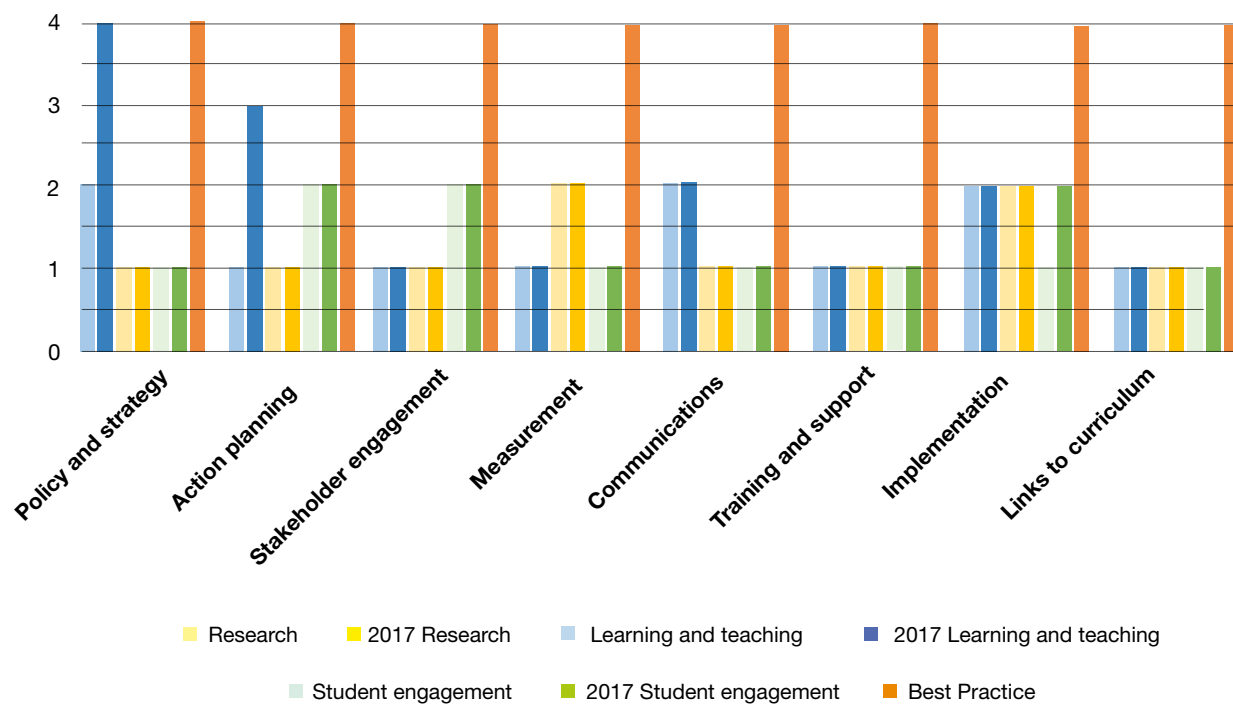
Ensuring CSU students graduate as sustainability-literate citizens is an important step towards a sustainable future.

Learning and teaching

Research

Student engagement

Baseline Ratings



LiFE towards best practice

The three frameworks in the Learning, Teaching and Research priority area were reviewed twice in 2017. Research was reviewed in April and November; Learning and Teaching was reviewed in April and October; and Student Engagement was reviewed in April and September.

Having the sustainability advisors in residences supports the University's efforts through the Learning in Future Environments (LiFE) program to embed sustainability throughout our whole organisation.

Learning and teaching story of most significant change

Jonathan Howard

We have made it easy for people to teach sustainability in their degrees



[Watch video](#)

We created a resource hub available to course directors and designers across the university since the start of 2017 making the implementation of the GLO for sustainability a lot easier. It is a one-stop-shop about how to incorporate sustainability into any degree across the university.

The process involved firstly mapping what CSU taught. Then working the range of current resources that exist then lastly the creation of the hub drawing on existing resources providing that one-stop-shop. It is a hub of resources drawn from the web from sources that automatically get updated. It contains a lot of teaching materials.

The development of this resource is the first step in a process to embed good sustainability practices in every course. There are sub-sets to it. We mapped all courses offered by the university which related to sustainability. We need to build our capacity across the university. Prior to this sustainability grant funded project, there was no knowledge of where sustainability was taught, in what degrees and how.

Now we know exactly where sustainability is taught. We are making it easier for people to teach sustainability in their degrees and provide a solid pedagogical framework within which to deliver outcomes. Success will be when all our students have a high level of self-efficacy the ability to understand they can make considerable change.

Teaching and learning

School of Communication and Creative Industries

Students walk the catwalk for a cause in sustainable fashion

CSU Green participated in a first year assessment task as part of linking sustainability into the curriculum. This was part of the School of Communication and Creative Industries launch of the University Theatre Ensemble on Thursday 27th April at the Riverina Playhouse.

The task for the budding costume designers was to produce an outfit made out of sustainable materials using sustainable methods. As a guest judge, CSU Green was really impressed with the creativity and amount of work in some of the costumes and we were thrilled to participate in this fun event to get to know some of our amazing students.

The theme of threats gave students the opportunity to design costumes promoting some hard hitting issues including sexual assault, nuclear warfare, the dying reef and sex trafficking. Students were required to also sketch their costume and provide a rationale explaining how they constructed their look and their interpretation of the threats theme.

CSU Green participated in the task designing and constructing an outfit from 75 used coffee cups, lids and pods to highlight the landfill produced by using these non-recyclable products.



Above: CSU green sustainability advisor Sophie Kingston (left) with a design student from the School of Communication and Creative Industries.

Vintage clad student steps back in time to coordinate the CSU Tweed Ride

Tahlia Marsh worked with CSU Green for her PR major assessment to assist in coordinating and preparing a communication plan for the CSU Tweed Ride and Fair. The event provided Tahlia the opportunity to work closely with various internal and external stakeholders in a real-world client experience.

The communications and coordination skills Tahlia brought to the execution of the ride increased the participation in the event and ensured CSU Green connected with staff and students through diverse media channels.



[Watch video](#)

Above: CSU PR Student Tahlia Marsh at the Tweed Ride and Fair.

SCCI student projects

CSU Green participated in several projects in partnership with key academics facilitating the inclusion of students from the School of Communications and Creative Industries (SCCI).

Two projects promoted CSU's biodiversity through a video and animation task. Cameron Davies, a third year television production student worked in partnership with CSU Green and the CSU Farm Manager to produce two short videos promoting the biodiversity achievements at CSU.



[Watch video](#)

Above: CSU TV production student Cameron Davies biodiversity video.

The theme of threats gave students the opportunity to design costumes promoting some hard hitting issues including sexual assault, nuclear warfare, the dying reef and sex trafficking.



Above: Design student from the School of Communication and Creative Industries with her 'Threats' costume design.



Above: CSU communications senior lecturer Dr Donald Alexander with CSU Green sustainability project officer Alesha Elbourne.

Another significant project was the participation of final year animation students Samuel Corboy and his team. They chose a biodiversity related topic for an assessment task. They built upon the work of the CSU Green Team's new Flagship Species Series. Congratulations to these students upon their successful graduation in December.

A third example of the participation of SCCI students in sustainability related field, was the production of a television cooking segment. This formed a major assessment task and was written, filmed and acted by final year students in the Green Bike garden near Murrumbidgee Village, CSU Wagga Wagga.

[Watch video](#)

Student engagement

Student pledge to commit to reducing their carbon footprint

Students at Charles Sturt University are aiming to change their behaviours to significantly reduce their carbon use in 2017. During the recent Orientation Week, nearly 300 students at CSU in Albury-Wodonga, Wagga Wagga, Dubbo, Orange, Bathurst and Port Macquarie signed a pledge to reduce their personal carbon footprint. Students' behaviour changes would also contribute towards maintaining our carbon neutrality status.

We were the first University in Australia that has been certified as carbon neutral by the federal government. This means that we have done a lot of work to reduce our emissions and the remaining amount of greenhouse gases we emit into the atmosphere are equal to the amount that we offset through certified offset projects associated with reforestation in central NSW and a range of internationally-based renewable energy systems. The student pledges, which are a new Orientation activity, also make students aware of what it takes to be carbon neutral. The students embraced the initiative with absolute enthusiasm.

This reminds us that our strong leadership in this area is important to these future leaders and professionals in the making. Student pledges included actions aimed at reducing waste and improving energy efficiency as well as in conserving water. Popular pledges included 'I'm committed to turning off my

computer at the power point when not in use, using reusable bags and saying no to plastic and packaging, and get my coffee in a Keep Cup because I know disposable cups are rubbish and are not recyclable'.



Above: Student poses with 'Carbon pledge' certificate, an initiative that creates awareness for students to track their carbon footprint. Below: Students participating in CSU's War on Waste campaign with a keep cup.

CSU's War On Waste gives students in SCCI something to fight for!

PR student Layla Carroll and documentary student Brigette Honeyman based at CSU Bathurst both joined the CSU War On Waste undertaking projects for their major assessments in the School of Communications and Creative Industries.

Layla coordinated events to screen the ABC War On Waste series and engaged students in sewing Boomerang Bags for use in Charlie's Stores as CSU work to phase out the use of plastic bags on campus. Brigette undertook the creative process of filming the progress of the CSU War On Waste to highlight the initiative in her documentary.



Reaching new green frontiers with student Sustainability Advisors

Through the introduction of the inaugural Sustainability Advisor (SA) team came an exciting opportunity to push the boundaries of embedding sustainability into the everyday actions of students living on campus. Based in residences at CSU Albury-Wodonga, Bathurst, Orange and Wagga Wagga through a partnership with Residence Life the sustainability advisor initiative saw the SA team work alongside Residence Advisors to educate and inspire over 2000 students to engage in sustainability initiatives, projects, competitions and events at a peer-to-peer level.

Having the sustainability advisors in residences supports the University's efforts through the Learning in Future Environments (LiFE) program to embed sustainability throughout our whole organisation. It encourages our students to gain the skills required to be sustainability leaders and make a significant contribution to lowering the University's carbon footprint.



Above: Sustainability advisor Laura promoting the #thinkgreen chillout

Lights out for Earth Hour

The lights were out for Earth Hour on March 25 across student residences with each Sustainability Advisor creating an event for their campus.

Albury-Wodonga engaged students to turn off the lights before a game of social netball, Bathurst screened Finding Nemo on the blow up movie screen on Diggings oval, Orange students held a BBQ and Wagga Wagga had over 150 students attend an evening of music, with songs performed in an open mic night under the stars.



Above: Sustainability advisor Sophie Kingston lending a hand to the edible green garden.

Students camp out for Students of Sustainability (SoS) Conference

Three students from CSU Bathurst made their way to Newcastle for the 2017 Students of Sustainability (SoS) Conference with the financial help of a CSU Green ticket subsidy. Camping out with students from across the country, CSU was well represented by our enthusiastic students who returned to campus full of ideas from workshops and presentations in edible plants, eco art, cultural appropriation, indigenous issues, fast fashion and creative protesting. As part of the on campus student Green Team they were keen to share their experience with other students, establishing a Free Shop as demonstrated at the conference as part of the end of year Move Out and were keen to encourage their peers to take up the CSU Green ticket offer to attend the Australian Student Environment Network (ASEN) Training in Sydney or SoS Conference in Melbourne in 2018.

Students compete to use less resources in the Energy Challenge

Students living on campus battled it out to see which residence could use the least electricity for four weeks at the beginning of semester two. Winners are grinners with Rothwell at Albury-Wodonga, Towers at Bathurst, Cottages at Orange and Hampdens at Wagga Wagga taking out the major prizes totalling just over \$7500.

Sustainability Advisors and Head Residences at each campus determined sustainable prizes with long term value to the residence such as a table tennis table and outdoor furniture made from recycled materials.

Research Narrative

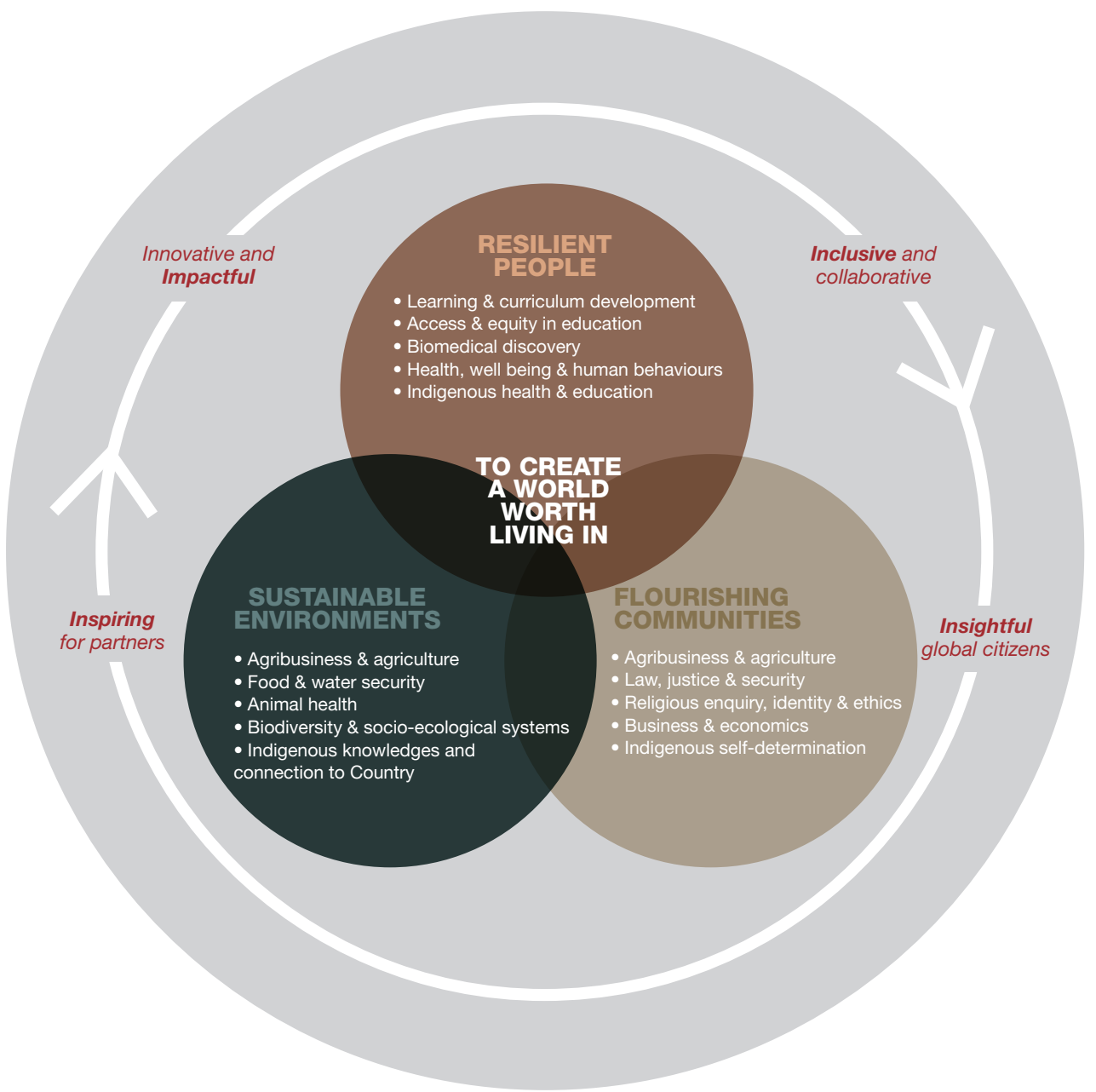
CSU researchers are collaborating with businesses and the community to find new ways to create meaningful impact on local, national and global levels.

Our research generates insights to address issues of deep social significance, inform policy and decision making, and to support people and communities to flourish.

Under CSU's Research Narrative, this research will focus on three key pillars: Sustainable Environments, Resilient People and Flourishing Communities – a comprehensive alignment with contemporary definitions of sustainability.

Charles Sturt University is operating in a paradigm of research excellence and partnership. We will provide meaningful outcomes for industry, government, business, and communities.

A series of six innovative case studies highlight the breadth of research at CSU, and our ability to bring together experts from a range of disciplines to explore real world problems.



1.

Case study one

Environmental flows research provides beneficial outcomes for the environment, water managers and the community.



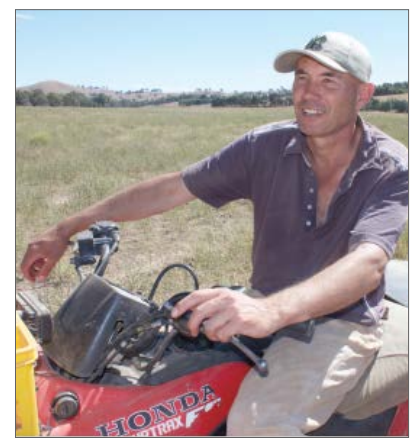
Environmental flows are important because healthy river and wetland ecosystems support native wildlife as well as diversity of industries, including irrigation, dryland agriculture, fishing, tourism, timber production and bee-keeping. Rivers and wetlands also have great cultural and spiritual significance to Aboriginal people providing links to traditional storytelling, beliefs and practices. They also provide a source of food, medicine and materials for shelter, clothing and tools as part of their living culture.

Environmental flows research at CSU has assisted the adaptive management of water by federal and state water managers and communities. Our research has helped to improve environmental outcomes (such as fish spawning and movement, recovery of threatened species and water quality) and has improved community knowledge of environmental flows.

2.

Case study two

EverGraze – more livestock from perennials



EverGraze was designed to develop, test and implement new farming systems based on perennial pastures (plants that live for more than two years) in a range of environments across the high rainfall zone of southern Australia. The project had ambitious goals – to significantly increase profitability of livestock enterprises above local benchmarks and simultaneously reduce ground water recharge, reduce soil loss by water and wind, improve soil health (including acidity and salinity) and improve biodiversity.

The EverGraze research resulted in approximately 2,000 farmers adopting changes to their feedbase, grazing management, livestock systems and soil management. This represented a March 2014 value of \$306 million. Additionally, 550 rural advisers were estimated to have used EverGraze knowledge and resources in their work.

3.

Case study three

Practical management of grapevine trunk diseases



Botryosphaeria dieback (formerly known as bot canker) is a grapevine trunk disease caused by fungal pathogens that grow primarily in mature wood. The pathogens can infect firstly the propagation material, affecting growth of newly planted grapevines; or secondly the established grapevines, through pruning or other wounds.

This CSU project recognised the importance and economic impact this disease in Australian vineyards by wine industry and other stakeholders. This resulted in the adoption of strategies recommended by the research team to manage and reduce the negative impact of this wood disease.

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.

LIFE towards best practice

The four frameworks in the Partnership and Engagement priority area were reviewed in May and November across 2017.

Staff Engagement (paired with Human Capital); Community Engagement (paired with Business and Industry Interface); and Procurement and Supplier Engagement were all reviewed twice this year.

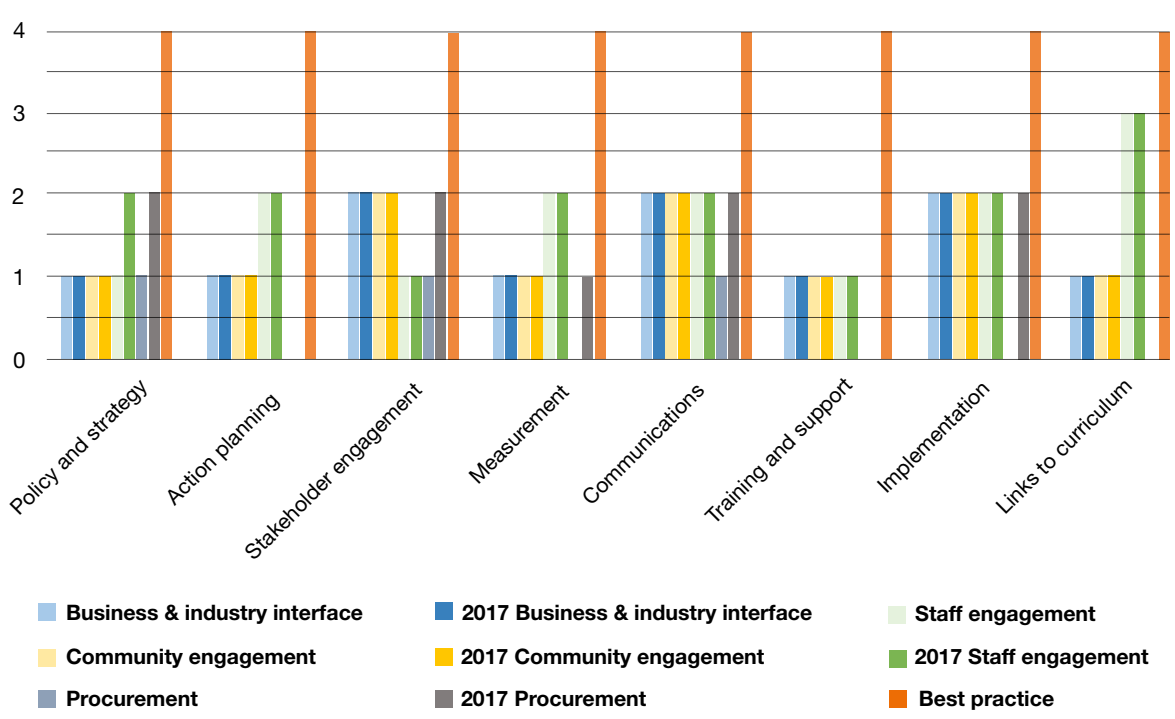
The graph below illustrates the 2016 baseline ratings and 2017 progress towards best practice for the frameworks under the Partnership and Engagement Priority area. The baseline ratings are in a lighter shade and the updated 2017 ratings are a darker shade are compared against best practice (orange).



Above: Staff with their Staff share bike

Staff engagement Community engagement Business and industry interface Procurement and supplier engagement

Baseline Ratings



CSU Alumni celebrate our carbon neutral achievement in Thrive

CSU's carbon neutral achievement was celebrated by graduate students around the world in the February 2017 publication of Thrive Magazine.



 View publication

Engagement

Spark Tank Award

Energy saving CSU students in residence



The CSU Bright Spark initiative won \$10 000 in the 'Home Category' of the Spark Tank program funded by NSW Office of Environment and Heritage (OEH) and run locally by the Skillset Environment team at the Flannery Centre, Bathurst.

Thirteen communities in the NSW Central West region lodged ideas to save energy with Spark Tank and pitched 'Shark Tank'-style proposals to a panel of experts, Spark Tank finalists and their guests at the Flannery Centre on Thursday 16 March.

The Spark Tank prize provided the additional financial support for the University's new student sustainability advisors to embed energy and sustainability education at a peer-to-peer level in student residences and have a significant

CSU let their beards grow for the BeardsOn 90 Day Challenge

Between June 1 and August 30, the CSU Green team raised \$2,144 for tree planting in the BeardsOn 90 Challenge and HalfCut Challenge. The CSU community supported the team at beating the \$2,017 fundraising target. This exciting fundraising partnership saw 1072 trees planted in the Daintree.

BeardsOn co-founder James Stanton-Cooke was excited to have Australia's first certified carbon neutral university be the first university to take up the challenge.

impact in normalising strong sustainability practices through their reach to 2,200 students across University residences in Albury-Wodonga, Bathurst, Orange and Wagga Wagga.

The pitch centred on how the CSU Bright Sparks program would encourage students to lower energy use by: turning off lights in residences; recycle more; and reduce waste. The program engages students in events and initiatives, such as Move Out to donate non-perishable food to charity; the Energy Challenge competition to reduce power use; REScycle; tree planting days; and active transport activities.

CSU Green sustainability officer Ms Alesha Elbourne, and student sustainability advisor Ms Kiara Blyth, from CSU in Orange presented the whole concept of the sustainability advisor role and the initiatives they would run as a complete energy saving idea for the University to take out the competition win.

Ms Elbourne said *We had a lot of fun with it, giving the judges shark face masks and interacting with the audience as we presented our plans to implement energy saving initiatives and events on campus to educate and inspire students in residences to engage with sustainability.*



Above: Beards On advocates at the "Shave off" in CSU Wagga Wagga.

CSU Sustainability Day

Albury campus

The inaugural Sustainability Day was held on a stunning autumn day outside the Gums Cafe at CSU Albury Wodonga on May 11.

A collaboration between CSU Green, Division of Student Services and Murray Campus Council. The day brought students, staff and community partners together to celebrate sustainability through campus biodiversity walks, information displays and stalls, eco art workshops, sustainability trivia, low emissions locally produced lunch, competitions and local music.

Fifty-one students and staff measured their ecological footprint with our student Sustainability Advisor using the WWF footprint calculator app and about 120 students and staff attended the event. Thanks to Cheers for the great food, Miss Mikaila for the music and OEH - Office of Environment & Heritage, Albury City Council, Halve Waste, WATCH, Repair Café, Birralee Park Neighbourhood House and Jonathon Howard for the stalls and running campus tours on the day.

Partnership and engagement



Above: CSU Green staff Kym Witney-Soanes and Alesha Elbourne making a presence at Sustainability Day in CSU Albury-Wodonga.

Move Out Cook-up for REAP 2017

The hunger of the vulnerable and less fortunate in the Riverina was catered for thanks to the generosity of departing CSU Wagga Wagga students.

The 'Move Out Cook-up' initiative has now become an annual event where students departing campus at the end of semester clean out their pantries and donate all of their in-date foods to CHEERS. Staff at CHEERS donate their time to cook and package frozen meals which are then donated to the food rescue charity OzHarvest on Monday 20th November. All three local television stations covered the handover of the 348 prepared meals. This compares to the 222 tally from 2016. The initiative is a credit to the leadership of Toby Perry, Food and Beverage Coordinator for the Southern Region, promoted by Residence Life and the generosity of CHEERS staff and students for their food and time.



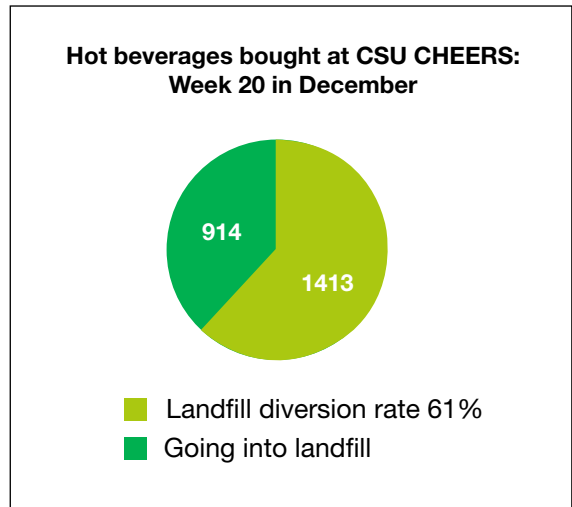
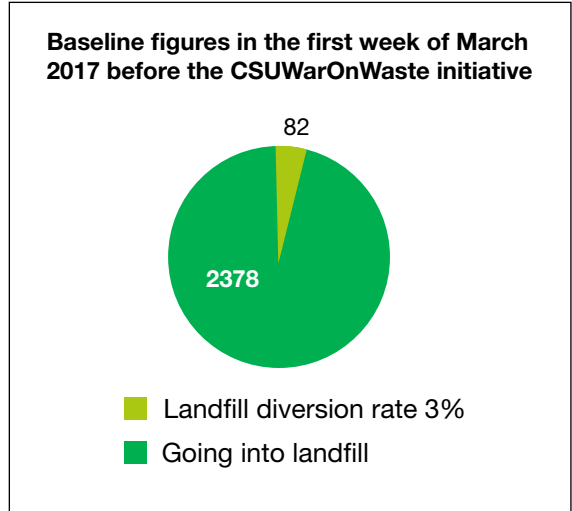
Above: CHEERS Toby Perry and CSU Green staff Alesha Elbourne with the Move Out Cook up initiative.

War on Waste

Building on the momentum of the ABC War On Waste series, CSU Green partnered with on campus food outlets (CHEERS) to implement the CSUWarOnWaste initiative. It commenced on 1st of August tackling disposable coffee cup waste by offering a 50 cent discount for staff and students who brought their own Keep Cup or reusable mug. Our baseline was an alarming disposal rate of 667 cups a week across our nine campuses. After one week of the campaign, 38% of sales were in a reusable cups, diverting 1,267 cups from landfill. By the end of the first three months the diversion rate was 50%! This was a total diversion of 38,816 cups of the duration of the initiative in 2017. Evidence suggests that more cups go into landfill when students are in session, so there's more work to be done changing behaviours in 2018.

Additionally, CSU went plastic bag free in Charlie's Stores by moving to reusable calico bags for uniform orders and established Boomerang Bag bins for in store purchases. By no longer supplying free plastic bags over the counter, single use plastic bag use was reduced by 99% in a month.

Students launched their own attack on waste through filming documentaries and organising War On Waste screenings as assessment tasks. They continue to collaborate with community groups to run Boomerang Bag sewing bees, participate in campus litter collections, donate leftover food and household items through the 'Move Out' campaign and eating in at CHEERS on washable crockery.



Above: Students engaged in the CSU's War on Waste campaign including Boomerang Bags initiative

Staff share initiative @20Eight

A small step to share gave staff in building 28 a reason to care a whole lot more at CSU Wagga. After arriving one morning to find one generous staff member had anonymously set up a DVD movie exchange an exciting new initiative had been created.

By May building 28 had a renovated space in the common lunch room, converted for sharing books, DVDs and even home grown veggies. Every day new items arrived and the sharing community was building.

The fresh layout needed a new name and after a morning tea brainstorming session, @20Eight was born. @20Eight is a great staff initiative to reuse and share, create community among staff and have fun through monthly competitions such as a staff baby photo guessing challenge.

The @20Eight staff welcome new additions, so if you have any items to share, please visit and exchange away. CSU Green encourages all staff to start a share collective.



Above: @20Eight library initiative creative for staff and students to borrow what they please.

CSU student saves humpback whale volunteering with Marine Rescue

A CSU student saved a humpback whale while volunteering with Marine Rescue. In celebration of World Environment Day, CSU Green highlighted the terrific volunteering efforts of Erin Emmerton, a Bachelor of Criminal Justice student at CSU Port Macquarie, in assisting Marine Rescue.

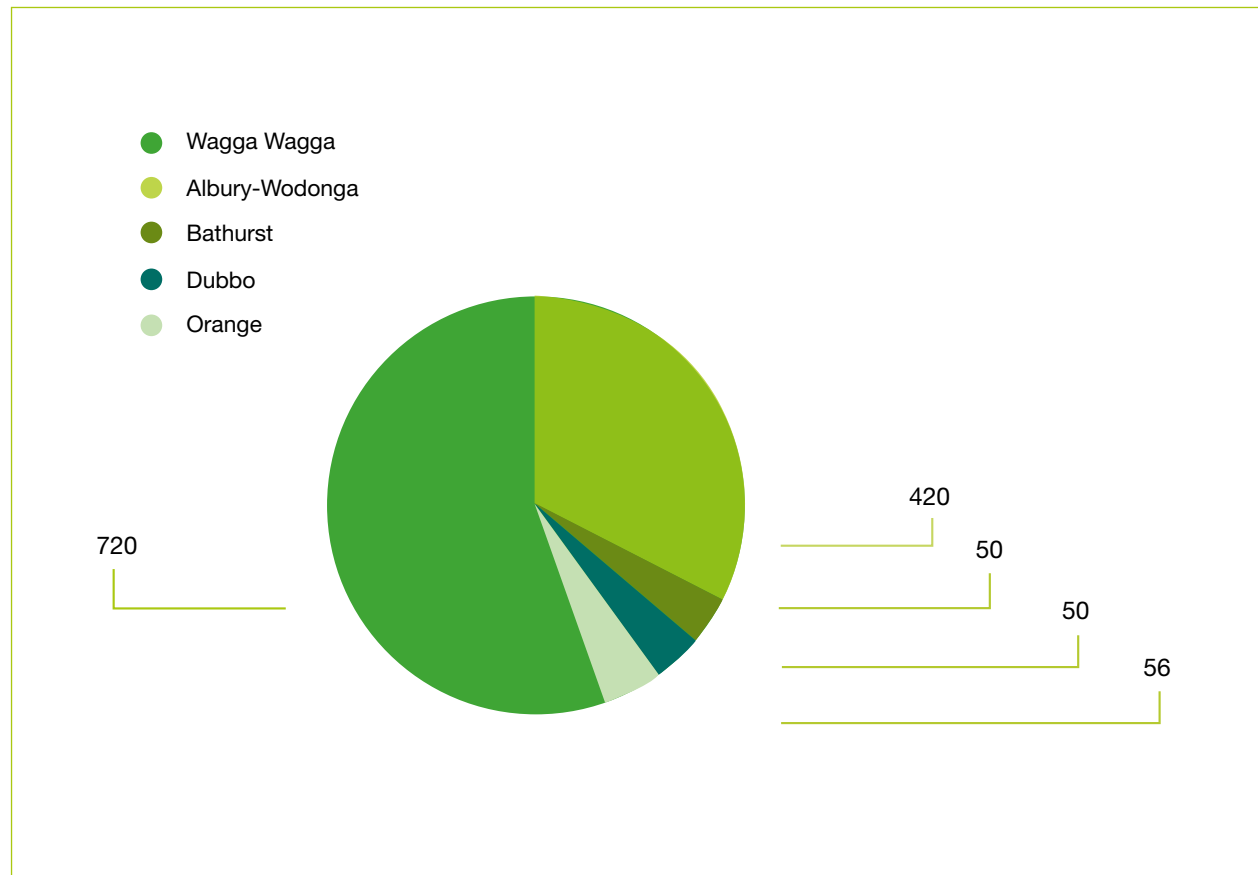
Having received a call out to rescue a humpback that had a large entanglement around its tail, Erin joined the team to help save the whale from the mass of netting which had anchored it to the reef off Diamond Head, south of Port Macquarie. Fortunately, they were able to untangle the mess and the humpback swam out to sea, free and happy.



Above: A humpback being rescued by CSU student Erin Emmerton.

Tree planting

Total trees planted per campus



Breakdown of trees planted per campus

1,296 seedlings planted across CSU in 2017

| ALBURY 420 TREES | BATHURST 50 TREES | DUBBO 50 TREES | ORANGE 56 TREES | WAGGA 720 TREES |
|-------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------|
| CALISTEMON LEPTOSPERMUM ACACIA BURSIA GREVILLEA LOMANDRA | EUCALYPTUS MELLIODORA EUCALYPTUS BLAKELYI | ACACIA PENDULA KANGAROO PAWS KANGAROO GRASS EREMOPHILA MACADAMIA INTERGRAFOLIA | GONIOCALYX MELLIODORA ACACIA AMOENA DODONEA HARDENBERGIA LOMANDRA | MELLIODORA NORTONII BLAKELYI BRIDGESICONA ALBENS |
| | | | | |

Grants

Partnership and engagement



Successful Project Grants

Each year CSU operates a contestable Sustainability Grant program which provides staff and students with access to funding to support valuable projects that will progress the University's sustainability goals. The following is a summary of the projects page that were awarded funding in 2017.

| Description | Lead | Funding |
|---------------------------------------------------------------------------------------------------------------|---------------------|-----------------|
| Sustainable food on the mid north coast | Nigel Urwin | \$7,500 |
| A conservation plan for declining turtles | Dr James Van Dyke | \$8,000 |
| Unlocking the potential of Wirajuri medical plants | Dr Paul Prenzler | \$6,000 |
| Residential edible gardens | Isabel Fox | \$3,000 |
| Wiradjuri Elder Uncle Jimmy Ingram sharing his understanding of the Murrumbidgee River in a book and on video | Dr Bernard Sullivan | \$5,000 |
| Native Tree establishment in Hawthornden Creek riparian zone | Clifford Jackson | \$2,750 |
| Stage One - All Weather Walking Paths and Exercise Stations | Dr Maggie Watson | \$10,000 |
| Educating campus users and visitors about the sustainable design features of the Port Macquarie campus | Rosemary Black | \$6,000 |
| Flora and Fauna - Education | Terry O'Meara | \$7,500 |
| In-ground Worm farms for sustainable accelerated composting | Therese Moon | \$1,860 |
| TOTAL | | \$57,610 |

Successful Research Grants

| Description | Lead | Funding |
|--------------------------------------------------------------------------------------------------------------------|------------------|-----------------|
| The extent to which undergraduate curricula of Australian Universities are becoming more focused on sustainability | Jonathan Howard | \$8,900 |
| Sustaining soils and earth-dwelling fauna in cropping and farming landscapes of the Murray-Darling Basin | Alexandra Knight | \$10,000 |
| Improving water use efficiency in irrigated pasture systems of southern NSW | Alison Southwell | \$10,000 |
| | TOTAL | \$28,900 |



Above: Sloanes Froglet (*Crinia Sloanei*) a vulnerable species found at CSU Albury-Wodonga, Photo credit: David Hunter from OEH

Successful Grassroot Grants

| Description | Lead | Funding |
|------------------------------------|-----------------------------|----------------|
| SCCI Electric Scooter | Dr Damian Candusso | \$950 |
| Murrumbidgee Village Garden | Jannice Banks & Corey Evans | \$1,000 |
| Keep Coffee Cups at Port Macquarie | Matt Newton | \$450 |
| Keep Coffee Cups at Goulburn | Lilian Pain | \$720 |
| | TOTAL | \$3,120 |



Above: Students planting in the Murrumbidgee Village Garden, Photo credit: Mitchell Lamm

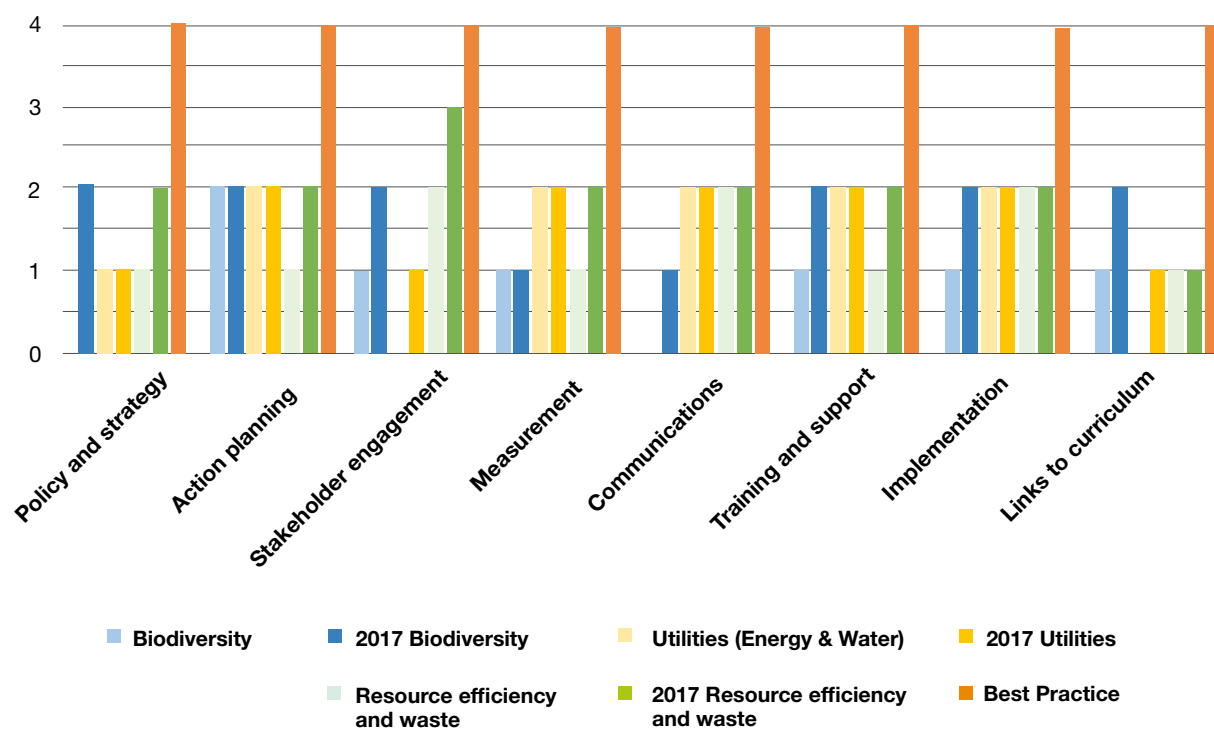


Facilities and operations

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.

Sustainable construction and renovation Energy Transport Biodiversity Water Sustainable ICT Resource efficiency and waste

Baseline Ratings



LiFE towards best practice

CSU Green checked in with LiFE champions and stakeholders in the Facilities and Operations priority area twice during 2017. Ratings were reviewed at workshops with the wider group of stakeholders.

Action plans detailing how CSU is progressing towards best practice across the eight activity areas are updated on a six monthly basis with Champions.

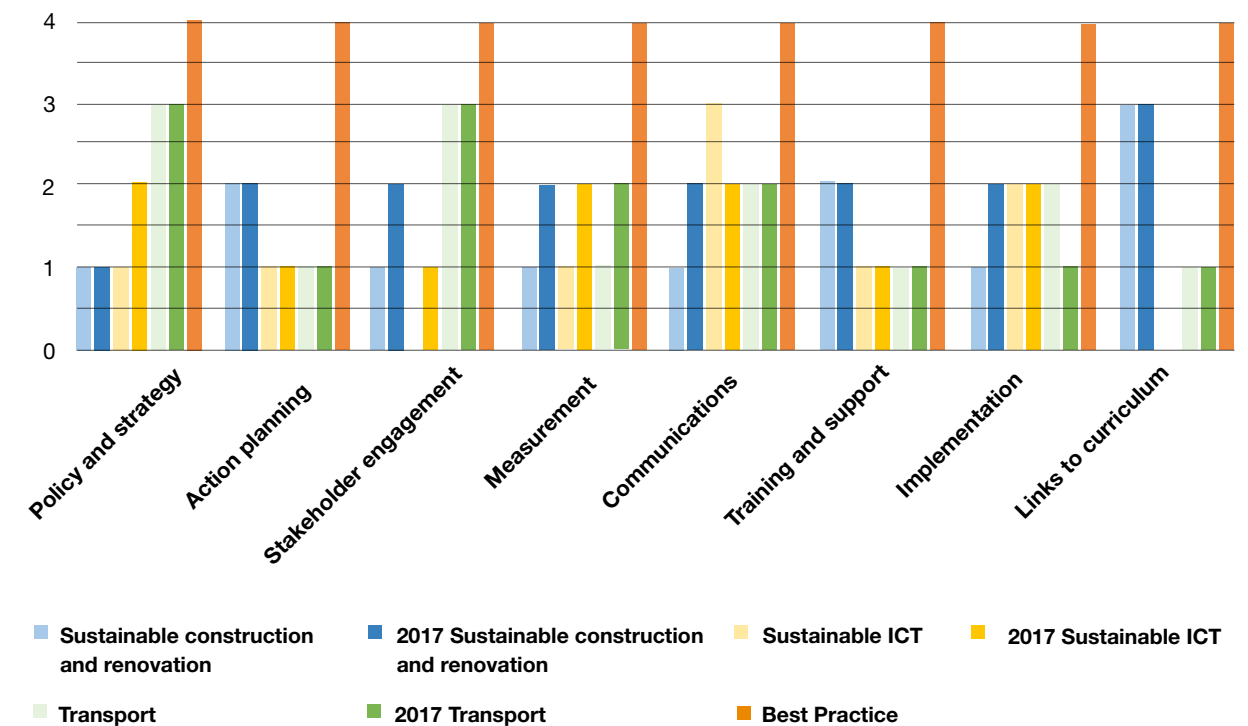
Transport was reviewed in February and in October, face to face in Wagga Wagga. Sustainable Information Communications Technology was reviewed in May and in November. The other frameworks were reviewed on the 14th June at a large face-to-face

multi-frame workshop in Wagga Wagga reviewing action plans for Biodiversity, Resource Efficiency and Waste, Sustainable Construction and Renovations and the combined Utilities (Energy and Water) frameworks.

The two graphs below illustrates the 2016 baseline ratings and 2017 progress towards best practice for the seven frameworks under the Facilities and Operations Priority area.

The baseline ratings are in a lighter shade and the updated 2017 ratings are a darker shade are compared against best practice (orange).

Baseline Ratings (continued)



CSU Flagship Species Series

The CSU Flagship Species Series was developed in 2017 by the CSU Green office in consultation with the seven Campus Environment Committees. This series inspired this year's CSU Green Christmas eCards.

A flagship species is a fauna or flora species selected to act as an ambassador, icon or symbol for a defined habitat, issue, campaign or environmental cause. By focusing on the conservation of that species, the status of many other species which share its habitat or are vulnerable to the same threats - may also be improved. CSU's flagship species have populations that are at risk of survival with conservation statuses either vulnerable or endangered. CSU's flagship species are outlined below:

Albury-Wodonga:

Sloane's Froglet
(*Crinia sloanei*)

Wagga Wagga:

Grey-crowned Babbler
(*Pomatostomus temporalis*)

Dubbo:

Little Lorikeet
(*Glossopsitta pusilla*)

Orange:

Scarlet Robin
(*Petroica boodang*)

Bathurst:

Diamond Firetail
(*Stagonopleura guttata*)

Canberra:

Button Wrinklewort
(*Rutidosis leptorrhynchoides*)

Port Macquarie:

Koala
(*Phascolarctos cinereus*)



A flagship species is a fauna or flora species selected to act as an ambassador, icon or symbol for a defined habitat, issue, campaign or environmental cause.

Biodiversity zones ratification

Biodiversity management plan

Biodiversity zones at CSU in Bathurst, Canberra, Dubbo, Orange, Port Macquarie and Wagga Wagga were formally endorsed by the Senior Executive Committee in early March, 2017.

Zones of significant biodiversity value have been identified for conservation and improvement. These areas also provide teaching, learning and research opportunities internally and externally.

This achievement meets a 2015 target to allocate 20 percent of University land to biodiversity conservation. Areas of CSU Farm land is also included at Wagga Wagga and Orange as a result of working with Jim Mellor, CSU Farm

Operationalising the Biodiversity Management Plan

On the 14th June, nine participants representing four campuses (Albury-Wodonga, Orange, Bathurst and Wagga Wagga) worked on key activities aiming to retain, protect, enhance and connect our biodiversity zones. We reviewed the revegetation plans and strategies for weed removal, pest control, fuel reduction and monitoring. We drafted annual schedule of activities to ensure the biodiversity values are maximised in these zones.



Swamp Wallaby found in CSU Wagga Wagga
Photo credit: Joanne Connolly



LiFE Champions for biodiversity include from left: Betty-Anne Nannes, Cliff Jackson, Jim Mellor, Therese King, Simon Cole and Richard Overall.

Left: Retirement of biodiversity champion CSU Farm Manager Jim Mellor. Ed Maher and Wayne Millar presented Jim with a picture on 30th November to express our appreciation of his 23 years of stewardship on the CSU farms at Wagga Wagga and Orange.

Solar

Solar Photovoltaic (PV) installation at Wagga Wagga

The solar PV installation continues to enhance CSU's reputation as a leading practitioner of sustainability. The installation consisted of more than 6,000 solar panels over the rooftops of 17 buildings. The installed capacity of the system is 1,774 kW making it one of the largest rooftop installations in Australia. The electricity generated by the panels will be enough to provide 20% of the electricity usage on the campus.

The system has been designed to generate as much solar energy as possible whilst minimising the amount of energy which is exported to the grid. The project will assist CSU to meet its targets for embedded generation and carbon neutrality.



 Watch video



Aerial drone view of solar installation in CSU Wagga Wagga. Photo credit: Tim Crutchett, Patrick McKenzie and James Farley



Aerial drone view of solar installation on Building 30 (Dentistry) in CSU Wagga Wagga. Photo credit: Tim Crutchett, Patrick McKenzie and James Farley

Sustainable construction

More awards for CSU Engineering building

ThomsonAdsett has been recognised at this year's NSW Architecture Awards for our work on CSU's Engineering building in Bathurst.

ThomsonAdsett won an award in the Educational Architecture category from the NSW branch of Australian Institute of Architects for the University's purpose built complex for its engineering program.

ThomsonAdsett also received a commendation in the Sustainable Architecture category for the same design. It brings the number of awards the CSU Engineering building has received for its design and construction, to four.

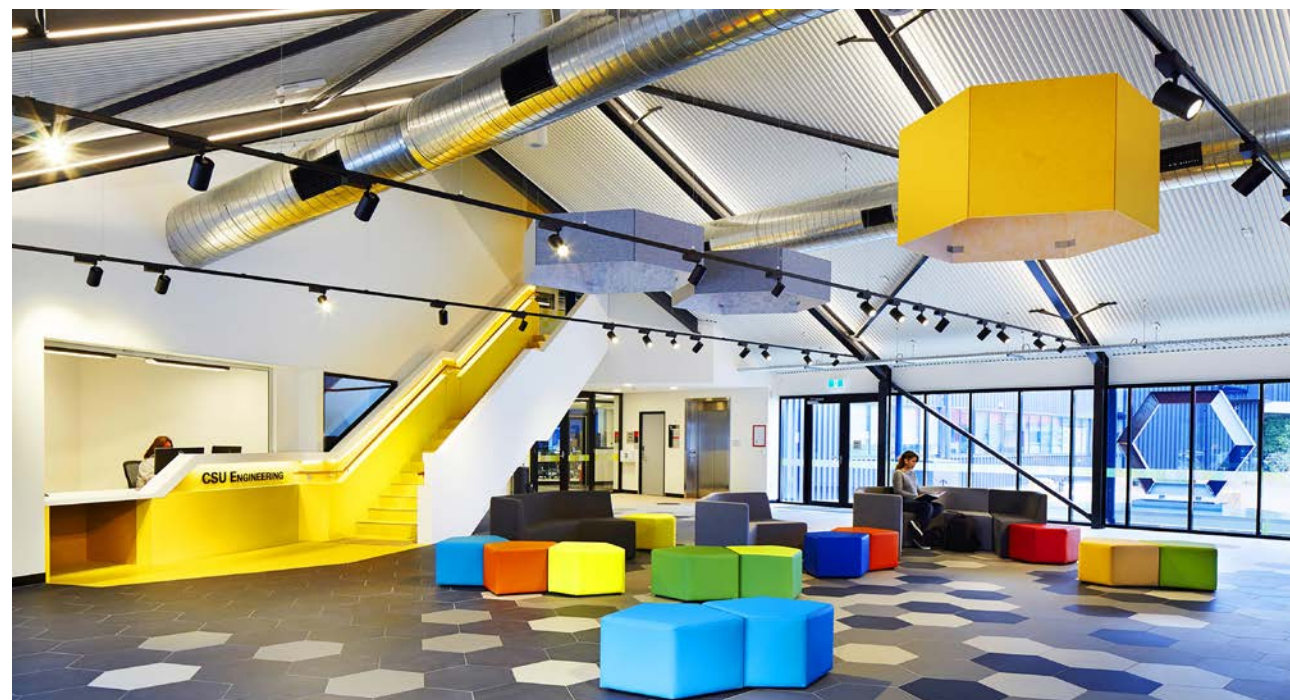
The competition jury stated that the Engineering building fused, 'the pedagogical aspirations of its educators with the architecture, to collectively deliver new tertiary teaching experiences and a new understanding of how engineering is 'learnt' rather than 'taught'.' The jury also noted the design clearly embraced, 'the notion of sustainability in a holistic

manner, reusing existing buildings, integrating renewable energy, utilising best practice water systems and creating open and flexible interiors.'

ThomsonAdsett and the staff of CSU Engineering worked closely with the University's Division of Facilities Management to design an appropriately functional structure. The building houses a 'pitch' space, a maker studio, laboratories, a technological gallery,



 Watch video



Energy Performance Contract

Stage 1

It's been over a year since the first Energy Performance Contract (EPC) was completed at the Bathurst and Wagga campuses. As part of this contract the contractor guaranteed a certain amount of energy (and dollar) savings for a seven year period.

During 2017 CSU received the first of these seven measurement and verification reports to show how the savings achieved compared to what was predicted when the project was undertaken. We're pleased to report that the project not only achieved the savings in predicted but exceeded them!

Across the two campuses, savings of \$177,000 were achieved, exceeding the guaranteed savings by almost \$20,000.

Stage 2

A second stage to the EPC (Energy Performance Contract) was also completed in 2017. This stage, valued at \$1.6 million, was focused on the Bathurst Learning Commons and involved replacing most of the existing HVAC (heating, ventilation and air conditioning) system with a modern, efficient system. As part of the project the existing chiller and boiler were replaced with new models and these were coupled with variable speed drives to control the pumping of the chilled and hot water systems.

The central AHU (air handling unit) was replaced and upgrades were made to the remaining AHUs to improve their efficiency. Changes were made to the control strategy of the building to improve the energy efficiency without impacting on the conditions felt by the users of the building and the existing fluorescent lighting in levels 3 and 5 was replaced with more efficient LED lights.



Installation of variable speed drives

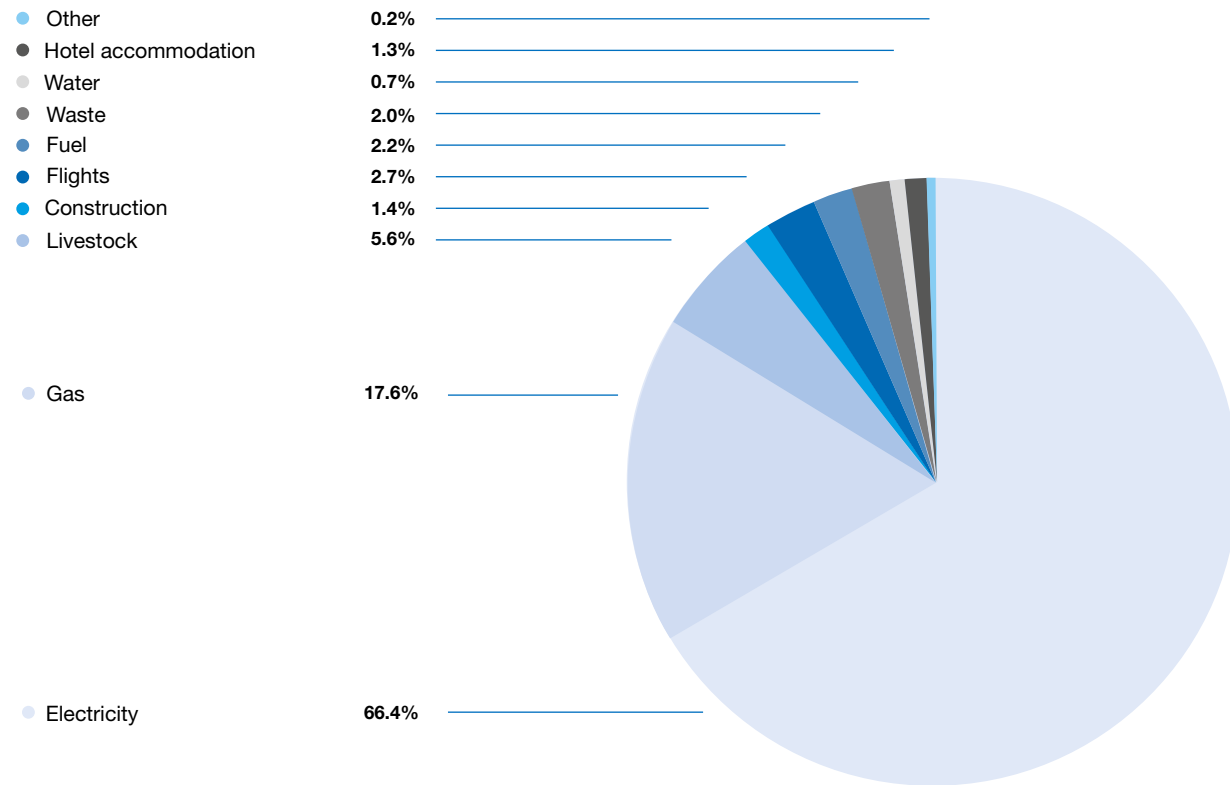


Installation of energy efficient LED lighting in the library

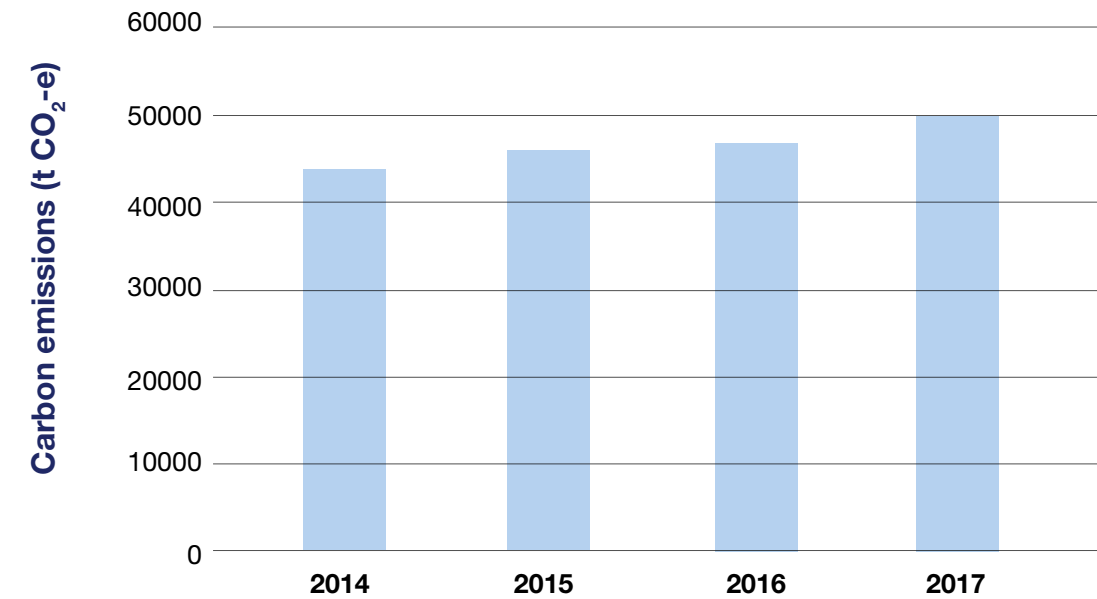


New chilled water pumps

CSU's Carbon Footprint - Breakdown by source



CSU's total Carbon Footprint



Breakdown by source

CSU's Carbon footprint has increased in 2017 compared to 2016, this is driven by the following changes:

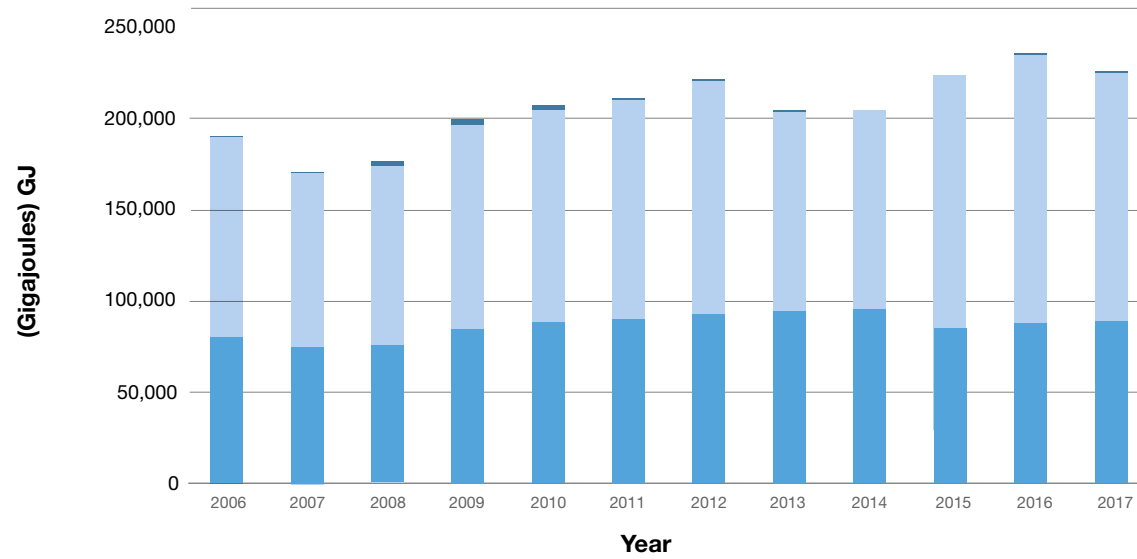
- Large increase in number of students enrolled at external study centres (this accounts for 85% of the increase in the carbon footprint)
- We are reporting emissions associated with water usage and hotel accommodation for the first time
- Natural gas usage has reduced
- Electricity usage has increased
- The number of livestock (cattle, sheep and horses) and their associated emissions has increased
- Construction across the university has reduced

Carbon emissions

As in previous years, the carbon emissions are dominated by energy usage: electricity (66%) and natural gas (18%) are the two largest categories of emissions, livestock is the 3rd largest source of emissions at 5.6% flights, fuel usage and waste are the next three largest source of emissions.

The remaining categories (construction, water, hotel accommodation and other) make up the remaining 3.6%

Energy usage

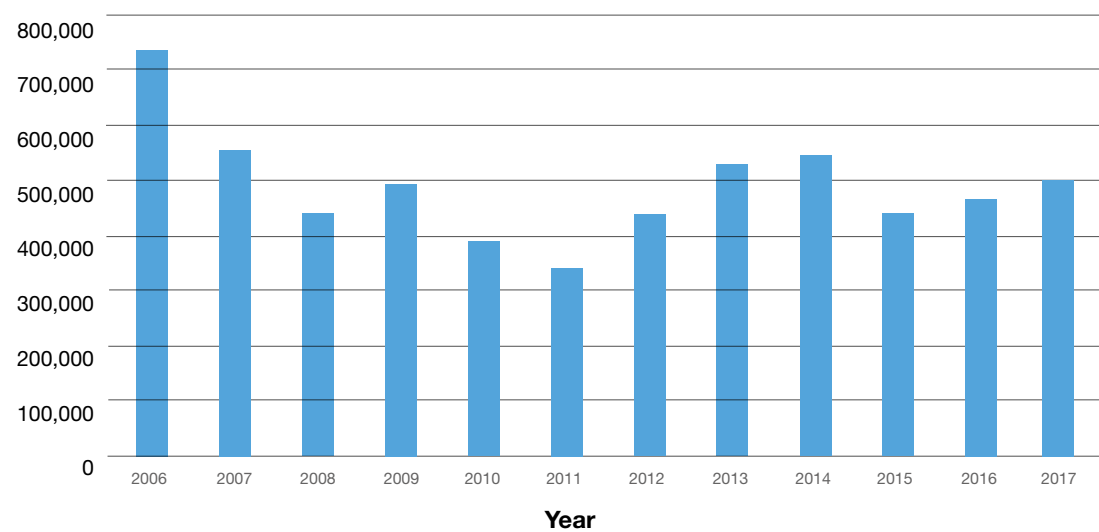


Compared to 2016 Energy use is down, driven by

- Gas usage reducing
- Electricity usage slightly increasing
- LPG usage was constant
- Savings achieved through the Energy Performance Contracts focused on CSU at Bathurst and Wagga Wagga
- Onsite generation through the commissioning of significant solar PV generation assets at CSU in Wagga Wagga

- Electricity (GJ)
- Gas (GJ)
- LPG (GJ)

Water use (kL)



Water use has increased slightly

- This may be due to dryer conditions and requiring more water for irrigation

- Water sub meters are due to be installed early 2018 which will make it easier to determine where water usage is varying each year.

Sustainable ICT LiFE Framework CSU Value Inspiring

People want to hear about our sustainable approach and inquire as to where the old IT hardware goes.

Electronic waste recycling program Gaye Smith

This story is significant because not only is this program diverting significant amounts of electronic materials from landfill, but it is also building capacity in CSU students. Electronic waste recycling program
Gaye Smith

“There have been several notable changes since the LiFE benchmarking workshop for Sustainable ICT in December 2014. Firstly, people want to hear about our sustainable approach and inquire as to where the old IT hardware goes. It has generated increased levels of engagement among staff. Power usage has also become important. Staff and students are interested in how much power is being consumed by computer items. The amount of heat dispersed in our offices has also been an issue.

However the most significant change is that vendors are increasingly very interested in the green credentials of IT hardware. All computers have an energy star rating and I provide vendors with that information. People are concerned about the impacts we are having on future generations.

This is significant because IT manufacturers are conscious of the impact of their products on the environment. It is not just how much energy is being used, it is the packaging with a shift towards minimal polystyrene and plastics being used. Now new computer monitors come with only a thin shield over the screen. I took up this role in 2005 and staff were storing their old IT equipment, just in case they needed it in the future.

When they did connect old devices to network, their antivirus software was not backed up and they experienced connection problems. Items were left in bins for the cleaners to collect and would end up in landfill. I spoke to staff in the Division of Facilities Management to encourage the collection of E-waste to return hardware to me at the computer shop at Bathurst.

Now our system is really good. Devices are disposed at the point of replacement. Staff order computers and they can cascade their old one to another user or dispose of it with their new order form. It does not just include IT equipment, it includes the licenced software and the sensitive data. These need to be transferred and all the data cleared from the devices prior to being sent for public auction or donated to not-for-profit organisations upon request.

Additionally, the E-recycling program has created learning and employment opportunities. I employ CSU students from the funds recovered at the public auctions and E-waste associated fees pays IT students to do the work. Tasks including deregistering machines from the network, transferal of the data and the software for clients. They completely clear all data, software and operating system from the machines. It is a totally cost neutral initiative. Students learn about warehousing, auction houses and dealing with clients.”

CSU Green acknowledges the significant contribution that staff member Nicola Smith has made in her position as Coordinator, Partnerships over the last 5 years



CSU green staff Kerri-Anne Chin (left) and Nicola Smith (Right) taking the electric cart for a drive.

Transport LiFE Framework CSU Value Insightful

Our new Fleetwave software system provides vehicle emission data we never had access to before

Davin Kendall

This story is significant because this system provides CSU with the opportunity to do a complexity of monitoring activities associated with the fleet usage and management.

Normally at the time of purchasing a vehicle the carbon emissions rating is not visible. This can only be determined if you've bought a previous model.

"The most significant sustainability change around the management of the CSU vehicle fleet has been the implementation of a new software system in 2016. Now we can gather real time data on fuel consumption from our vehicles. It makes it much easier for us to monitor what is really happening and the system has only been operational for four months. We compare fuel consumption between different vehicle types as well as comparing the costs of internal and external fuel purchases.

Fleetwave is the software system that went live on the 10th of October in 2016. Approximately 12 staff were trained on the job which is continuing as there's so many things to learn. We have a screen called 'Vehicle Order' describing the make, model and series of the vehicle. For example we can select a Ford Ranger automatic four wheel drive and the software gives us a reading for fuel consumption and therefore the carbon emissions.

The new system even includes all the lawn mowers as well. It is most significant because as time goes on, we'll be able to gauge actual results from our vehicles. We can compare different models of cars and compare fuel consumption to determine which one's are more expensive to run. (E.g. Toyota Hilux versus Ford Ranger) Not only can we monitor fuel consumption, but vehicle servicing as well. We have a workshops at CSU Bathurst and CSU Wagga Wagga where cars are serviced in house. External servicing can be very costly and can vary greatly between our different campuses.

Now, we are seeing useful data which we analyse to get a real picture of what is happening. The new system monitors every vehicle model through the amount of carbon emitted per kilometre. This data could be used to develop our own Green Vehicle Guide at CSU giving different models an emissions rating. The less carbon emitted, the higher the stars.

Previously there was no reporting system. Decisions were based on best guesses using the Green Vehicle Guide. The star ratings influenced the purchasing of cars by preferring vehicles with higher star ratings.

We are still trying to verify some of the data because the system is still pretty new. We are ground truthing some of the data and smoothing out some inconsistencies which will happen over time. This data will greatly help us determine which cars are more fuel efficient and directly informing purchasing decisions. It may even identify mechanical errors or driver behaviour issues in the future."



SCORE CARD