

**WESTERN SYDNEY  
UNIVERSITY**



**WE**



**MATTER**

**Western Sydney Matters:  
Sustainability 2017**

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Locked Bag 1797, Penrith 2751 NSW Australia

## DESIGN

Brittany Hardiman, Sustainable Futures

## PUBLISHED

June 2018

## REFERENCES

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With respect for Aboriginal cultural protocol and out of recognition that its campuses occupy their traditional lands, Western Sydney University acknowledges the Darug, Gandangara, Tharawal (also historically referred to as D'harawal) and Wiradjuri peoples and thanks them for their support of its work in their lands (Greater Western Sydney and beyond).

## GRAPHICS

Icons: Flaticon. (2018). Flaticon, the largest database of free vector icons. [online] Available at: <https://www.flaticon.com/>

SDG Icons: United Nations Sustainable Development. (2018). Communications materials - United Nations Sustainable Development. [online] Available at: <http://www.un.org/sustainabledevelopment/news/communications-material/>

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# WESTERN SYDNEY MATTERS

## Sustainability 2017

Western Sydney Matters is the University's 2017 sustainability report. The Western Sydney region is of increasing national importance where the challenges of balancing economic, social and ecological development are played out on a daily basis. Our University takes seriously its position as the leading University in the region and working collaboratively with our partners to address these issues.

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### MESSAGE FROM THE VICE-CHANCELLOR AND PRESIDENT

Universities are dynamic centres for teaching, learning and innovation and it is important we lead the way in supporting societal transformation. In 2017 Western Sydney University became one of ten Australian and New Zealand Universities committed to developing teaching and research initiatives that support the implementation of the United Nations' Sustainable Development Goals (SDGs) for 2030. The SDGs set out an international framework agreed to by almost 200 nation states in 2015 to address the interlinked global challenges of poverty, inequality, health, resource consumption and production and climate change. Western Sydney Matters 2017 documents the University's contribution to the SDGs 2030 and I am pleased to see our progress across our key areas of teaching, research, campus operations and engagement. I encourage all staff, students and our wider Western community to engage with us on this critical agenda.



Professor Barney Glover

### MESSAGE FROM THE PRO VICE-CHANCELLOR LEARNING TRANSFORMATIONS

The Office of the Pro Vice-Chancellor Learning Transformations supports the educational mission of the University to develop graduates who are global citizens, innovators and future thinkers. The Sustainable Futures team contributes to the portfolio's aim to provide distinctive educational offerings by leveraging sustainability partnerships (locally, regionally and internationally).

Taking up the challenges of the SDG 2030 through these new signature learning experiences offers our students the opportunity to engage with significant global and regional issues. They will ask critical questions about the world in which we all live and help shape the future of our societies.



Professor Simon Barrie





# WESTERN SYDNEY MATTERS

## WHY WE *MATTER*

Western Sydney is home to about 1 in every 11 Australians, it has the third largest economy in Australia and one of the fastest growing populations in the country. We are intersected and surrounded by water-ways and bounded by the world famous Blue Mountains. Western Sydney is also rich in cultural diversity and we speak over 100 different languages. But like the rest of the world Western Sydney is rapidly changing. The gap in social inequality is increasing. We have increasing housing and urbanisation pressures, transport gridlocks, higher unemployment than the national average and a steady loss of agricultural land, riparian zones, bushland and biodiversity.

As our climate changes - and it is changing through human induced actions - it has been projected that Western Sydney will experience more frequent hot days, fewer cold nights, changing rainfall patterns and a greater incidence of severe fires. This will impact everyone and everything that lives here. There will be increased health risks for the young and old, greater variability in our food production systems, increased loss of plants and animals and less water flowing through our rivers and in our wetlands.

This future is going to be ours to deal with. No single person has the answer and no one person can solve all these problems. We need collaborations, we need youth leadership, we need innovative and new ways of thinking, doing and learning. Only 2% of the world's population goes to university, yet graduates make 80% of the decisions. We need engineers, lawyers, storytellers and communicators, social workers, scientists, business managers, entrepreneurs, IT specialists, health workers, teachers, educators, nurses and doctors to understand these significant problems and work together. But we need an agreed way forward.

The United Nations Sustainable Development Goals for 2030 set out a framework for us to think about these challenges both locally for Western Sydney as well as globally. Western Sydney is our home and we want to be part of its future.

*Western Sydney Matters*

Scan the QR code below to watch the "Western Sydney Matters" video scripted by and featuring our Western Sydney University students.





# WESTERN SYDNEY



**3RD**  
LARGEST  
ECONOMY  
IN AUSTRALIA

ONE OF THE  
**FASTEST  
GROWING**  
POPULATIONS  
IN THE COUNTRY

WE  
SPEAK OVER  
**100**  
DIFFERENT  
LANGUAGES



# 21<sup>ST</sup> CENTURY CURRICULUM

## Sharing sustainability knowledge

### OUR SDG COMMITMENT

As a signatory to the Australia/Pacific Sustainable Development Solutions Network Commitment (SDSN), the University is well placed to meet the educational commitment to “provide the educational opportunity for our students to acquire the knowledge and skills needed to promote sustainable development.”

### OUR RESPONSE: 21<sup>ST</sup> CENTURY CURRICULUM AND PARTNERSHIP PEDAGOGIES

The 21<sup>st</sup> Century Curriculum (21C) Renewal Project is our response to a disrupted future of work that will offer our graduates new opportunities, and demands that we equip our students with new knowledge and abilities for their future success. It is a project that speaks to our commitment to our community and the growing cities of Western Sydney and recognises that we must genuinely transform our curriculum if we are to keep pace with the transformations in society.

### STUDENTS AS PARTNERS

Students as Curriculum Partners is an 21C

initiative designed to bring students into a creative conversation about curriculum, and how curriculum is made at university, focused on the ‘future of work’ as the general theme. The 21C Project has employed and worked with eight current Western Sydney undergraduate students who worked alongside academic and professional staff to drive the planning, creative design, and evaluation of a series of Future of Work (FoW) forums.

*“My whole perspective about student life and the university experience was overturned when I joined the Learning Transformations team and embarked on the journey of being a student partner. It has enriched my understanding of university, what it offers students, and how we can contribute to shaping curriculum.”*  
21C Student as Partners reflection

This initiative takes its rationale from the growing interest in the Students as Partners movement that is transforming higher education curriculum across the world.

### SPOTLIGHT: SDSN YOUTH CHAPTER

The Academy in partnership with Sustainable Futures founded a UN Sustainable Development Solutions Network (SDSN) Western Sydney Youth Chapter in 2017. This student led network’s mission is to empower youth globally to achieve sustainable solutions. The ‘Tea Bag Project’ is one SDSN Youth student-led project that aims to collect tea bags for Original T Bag Design - a co-op that was established to support and empower women and men in Hout Bay, South Africa. University staff from Go Global, WSU Careers, Campbelltown Chaplaincy and School of Nursing and Midwifery, along with 15 students, support this project.

*“... it probably seemed like such a crazy idea, but I honestly can say I think the simplicity of this project has engaged many people that would not usually be so active. I’m so proud of the collaboration and all supporting this project.”*, Cheryl, SDSN and Academy student (below)



**\$1M**

of New Colombo Plan Funding for outbound student mobility



**700 hrs**

of medical student placements in the local community with Vinnies



**31**

Academy students attended the 8th University Scholars Leadership Symposium in Bangkok

2017 data



# STUDENTS IN ACTION

## Our students learn both locally and globally

### GLOBAL PERSPECTIVES ON HEALTH AND SUSTAINABILITY

In a virtual learning pilot with Dr Arianne Reis in the School of Science and Health, first year students undertaking "Professional Pathways" participated in this Global Perspectives seminar and week long discussion. Connecting with the UN RCE global network students were introduced to the SDGs relating to health, poverty, wellbeing and climate change. UN RCE practitioners from Nigeria, Finland, UK, Mexico and Canada engaged with the students in a closed online discussion to share their health experiences.

*"I am in awe of people globally working on various initiatives to combat various health and sustainability issues. This is despite many challenges. Thank you for a great learning experience. I enjoyed the read and various perspectives."* Student reflection

### INDUSTRIAL DESIGN

The Industrial Design program in School of Computing Engineering and Mathematics is involved in a very detailed approach to product development from a human-centred perspective and develops specifications of materials for services that seek durability in use.

*"Several units place at its core sustainability principles including Design Management 1 & 2 (process, manufacturing, supply, local and global value chains) and Sustainable Design 2 (product and service design, including product service systems; ecological footprint calculation with relevant software, life cycle assessment of product and engineering environments)." Dr Sasha Alexander, Industrial Design*

### COOLING THE COMMONS

Bachelor of Design (Visual Communications) students in School of Humanities and Communication Arts undertaking Social Design: Research and Practice have developed concepts for initiatives to 'Cool the Commons'

as part of a learning partnership with City of Parramatta Council. The brief collaboratively developed with Council was "How can visual communication design activate a community conversation about cool commons in Parramatta?"

*"This project helped students to see the potential of their work to contribute to real social change."* Dr Abby Mellick Lopes, Design

### WOMEN'S WAR ON WASTE

In June 2017, students from the WSU Careers Women in Science and Engineering (WISE) program investigated Fiji's complex issue of waste management in the Pacific. This included visits to local councils, waste collection facilities (landfill, recycling and composting), a local village involved in a climate change resilience project and international agencies including the Pacific Subregional Office of the Asian Development Bank (ADB). On their return, the students delivered a presentation at the ADB offices in Sydney highlighting what they had learned and were invited to comment on the Suva City Council's Solid Waste Management Master Plan 2018-2027 (Draft).

*"... I've had one of the best experiences as a result of this trip. It has deepened my understanding surrounding waste, and strengthened my passion for what I'm studying. Hopefully what I do will make a difference not only to people, but the environment too. I can honestly say that this trip has changed me, and for the better!"* Post-trip student reflection



### UNDERSTANDING THE REAL WORLD OF HUMANITARIAN AND DEVELOPMENT ISSUES

Through New Colombo Funding, Bachelor of Humanitarian and Development Studies students in School of Social Sciences and Psychology gained hands-on exposure to humanitarian and development issues in Indonesia. These students engaged with humanitarian and development interventions through a combination of in-class workshops and field study in three Indonesian regions: Jakarta, Aceh and Yogyakarta. The trip allowed students to develop a higher appreciation of Indonesia's recent history, cultures and peoples, through interactions with nationally-based partner organisations and disaster-affected populations.

*"As the trip came to an end, I felt a tremendous respect for the country and for all the people. All the knowledge and experiences I have gained on this trip will definitely be a great asset to future possibilities."* Post-trip student reflection

### ECOLOGICAL AGRICULTURE AND CONSERVATION TOURISM

Through the UN RCE network, supported by the Office of International, a mixed cohort of 10 students visited Bohol, Philippines in April 2017 with Dr Jason Reynolds from School of Science and Health. Students studying Sustainable Agriculture and Food Security, Environmental Management and Tourism Management undertook multi-disciplinary research on the challenges of developing ecological agriculture and marine conservation tourism in a largely subsistence poor farming economy. Further New Colombo Plan Funding has been secured for 2018-2020.

*"The trip has benefited my understanding of different agricultural practices and cultural differences, empowering me to aid their agricultural industry and reduce hunger in the country. Additionally, the program has contributed to my professional development."* Post-trip student reflection



# FIRST PEOPLES MATTER

## Closing the Gap

*"It is hard to work in the context of our 'nation' when not all the voices are heard. It's unworkable. People have belonged here and nurtured this place since it began and these are the voices that now must be listened to. The opportunity of understanding the humanity of others – the past, their present is what I call our collective future. It is only within this context that we can all belong and truly understand the rights, responsibilities and obligations of this amazing place we call home."* Professor Lisa Jackson Pulver AM, Pro-Vice Chancellor Engagement, Pro-Vice Chancellor Aboriginal & Torres Strait Islander Leadership

The Universities Australia Indigenous Strategy 2017-2020 contains a number of initiatives that seek to address parity in Aboriginal and Torres Strait Islander Peoples participation in higher education and engage the University community in Aboriginal and Torres Strait Islander Peoples knowledge systems, culture and educational approaches.

### COMMITTED TO CLOSING THE GAP

The University recognises the importance of the First Peoples in Greater Western Sydney and beyond, and continues its efforts to increase their representation and participation in education, research and employment. At Western Sydney University, the Aboriginal and Torres Strait Islander Employment and Engagement Advisory Board, which includes the Elders on Campus program, supports the advancement of First Peoples in employment, engagement and other University-related activities. The University has 60 Aboriginal and Torres Strait Islander employees in academic and professional roles.

In 2017, there are more than 660 students who identified as being of Aboriginal and/or Torres Strait Islander descent studying at Western

Sydney. This number has been increasing steadily over the last five years. We support our students through the Badanami Centre and provide them with programs, services and facilities to encourage and support their involvement in all aspects of tertiary education, including the Tutoring For Success (TFS) program and the Alternative Entry Program (AEP).

### MEANINGFUL ENGAGEMENT

The annual Yarramundi Lecture celebrated its 21<sup>st</sup> anniversary in 2017. The significance of the anniversary was underscored by the issuing of the Uluru Statement from the Heart, the 50<sup>th</sup> Anniversary of the 1967 Referendum and the 25<sup>th</sup> Anniversary of the Mabo ruling. Close to 500 staff, students and community members attended the lecture themed around 'Getting the Message'. A Commemorative Book of the 21 Years of the Yarramundi Lectures was published and contains a summary of every Yarramundi Lecture delivered. The book has taken a longitudinal view of the Yarramundi Lecture series and linked it to events affecting First Peoples in Australia's modern history. Through this annual forum, the University is able to recognise our shared history, whilst also creating an opportunity to learn and evolve.

The 'Our Languages Matter' symposium, as part of Research Week, honoured Aboriginal and Torres Strait Islander languages and highlighted the importance of languages in preserving Aboriginal and Torres Strait Islander history and culture. A total of 21 papers and nine posters were presented at the symposium.

As part of National Reconciliation Week, a 'Food 4 Thought' seminar was attended by 30 staff, students and community members on the Universities Australia Indigenous Strategy 2017-2020.



660<sup>+</sup>

students who identify as being Aboriginal and/or Torres Strait Islander descent



280<sup>+</sup>

Aboriginal and Torres Strait Islander students received tuition support (TFS)



60

Aboriginal and Torres Strait Islander staff members employed



22

Elders on Campus involved at the University in mentoring, leadership and events



equal

success and completion rates over the next decade (Universities Australia)

2017 data

*"If Aboriginal and Torres Strait Islander peoples don't enter the workforce in meaningful numbers in ways they value, then no vision, program or action plan can be considered successful, sustainable, or even useful. The true measure of Employer of Choice for Aboriginal and Torres Strait Islander peoples will not be that it was honestly and sincerely pursued or even that it was achieved. The true outcome should be that we have all forgotten that we needed to think of it in the first place."*

**Ms Melissa Williams, Director, Office of Aboriginal and Torres Strait Islander Education and Employment**



# OUR VIBRANT COMMUNITY

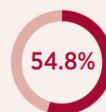
## Equity and Diversity

### EDUCATION FOR OUR REGION

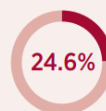
The University draws students from more than 160 ethnic backgrounds and higher than sector average of low socio-economic circumstances. The great majority of our students are the first in their family to attend University. Greater Western Sydney has one of the most significant urban populations of Aboriginal and Torres Strait Islander peoples and gives particular attention to supporting their aspirations. We celebrate and support all of the diverse and rich cultural communities that give Greater Western Sydney its energy and vibrancy.



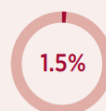
**Domestic Students**  
and 10.2% international students



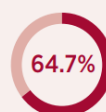
**Female Students**  
and 45.2% male students



**Low Socio-Economic Status**  
out of the total Western domestic students  
(ASES2001)



**Aboriginal and/or Torres Strait Islander**  
out of the total Western domestic students



**First in Family**  
out of the total Western domestic students  
percentage of students whose parents do not  
have a tertiary qualification

2015 data

### GENDER EQUALITY

Gender equality is about fundamental human rights. For the 13th consecutive year the University has been awarded the 'Employer of Choice for Gender Equality' Citation for Excellence in Gender Equality in the Workplace by the Workplace Gender Equality Agency. We received the citation for Excellence in Gender Equality in the Workplace, through setting targets for improving gender equality, prevention of sex-based harassment and discrimination, leadership, learning and development, pay equity, flexible working initiatives to support family responsibilities, and employee consultation. We as a University must continue to challenge the status quo and be innovative and creative in how we overcome the barriers that women, and indeed people of all genders and orientations encounter.



**More than 50%**  
of our staff and students are women

**41%**

of professors are women, highest in the sector

### SEXUALITY AND GENDER DIVERSE

The University is committed to creating an inclusive, safe and respectful place of study and work and highly values the diversity of our staff and students, including our lesbian, gay, bi-sexual, transgender, intersex and queer (LGBTIQ) staff and students. We were one of the first Australian universities to introduce a long-term whole-of-university strategy on improvements for sexuality and gender diverse students, staff and community.

**100+**

staff and students trained as "Allies" who are LGBTIQ aware and friendly, endorsed by the University to provide LGBTIQ-related information and/or support.



# PARTNERSHIPS & ENGAGEMENT

Think global, act local

## UNIVERSITY-WIDE ENGAGEMENT

As the largest education provider in Greater Western Sydney, the University advocates and leads the economic, environmental, social and cultural development of the region in partnership with industry, business, government and community organisations.

### IN 2017 WE:



**RAISED \$2,000**

for the Cancer Council as part of the Biggest Morning Tea held across our campuses



**DONATED 300**

hygiene packs for the homeless in Parramatta Park, using more than **2,000** items donated by our staff and students



**HELD 8**

'Food 4 Thought' seminars attended by staff, students and the wider community on a range of topics



**AWARDED 7**

Community Fellow Awards to individuals from the wider community for their contributions to our region

## INTERNATIONAL AND REGIONAL ENGAGEMENT



REGIONAL CENTRE OF EXPERTISE  
ON EDUCATION FOR  
SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY



**UNITED NATIONS  
UNIVERSITY**

The University hosts one of five Australian Regional Centre's of Expertise (RCE) on Education for Sustainable Development endorsed by the United Nations University. RCEs are a proven international framework to deliver regional impacts. There are 164 RCEs now operating internationally which our students and academics have access to. RCE Greater Western Sydney (RCE-GWS) brings together key educational institutes, community groups, government and non-government organisations and local councils to link and leverage regional sustainability outcomes. Our 30 regional partners work through an integrated process of collaboration to tackle these challenges linked with the 2030 Sustainable Development Goals:

- Transitioning to a low carbon economy
- Developing sustainable communities - health, housing and transport
- Ensuring agricultural sustainability and food security
- Conserving biodiversity and river health

## SPOTLIGHT: CUMBERLAND STEPPING STONES WITH GREENING AUSTRALIA

Cumberland Plain Woodland communities are native to Western Sydney and have been reduced to less than 6% of their original extent due to human impacts. In recognition of this, the Australian Government's 20 Million Trees initiative awarded Greening Australia a \$2.8 million grant to support their ongoing conservation efforts which included a unique community engagement component – 'the Community Corridor' – in the Cumberland Stepping Stones (CSS) project. This community project was in collaboration with Western Sydney University under the UNU RCE Greater Western Sydney network banner.

The Community Corridor project targeted local childcare centres, primary and secondary schools, corporate volunteers, community bush care groups and private landholders across Western Sydney. The project concluded in June 2017 and achieved the following:



**6**

**local government areas covered across Western Sydney:**

Blue Mountains, Penrith, Blacktown, Hawkesbury, Fairfield and Liverpool



**3,000**

**people engaged during the Community Corridor program**



**75,000**

**native tubestock planted (including free give-aways)**



**\$2.8 M**

**funding from the Australian Government's 20 Million Trees, with further funds awarded to continue school activities**



# LIVING LAB INITIATIVES

## Sustainability in Action

### CAMPUSES FOR TEACHING, LEARNING AND RESEARCH

Campus Living Labs foster applied research and education by using the location to embed and test real-time sustainability solutions, offering opportunities to all university stakeholders to turn theory into practice.

#### TEACHING FACILITIES

The University's first six-star, green star facility is used by medical science, psychology, art therapy and social work students and staff. Among the building's green features are highly efficient LED lighting as well as automatic controls for all lighting, cooling and ventilation to reduce inefficient operation. It also makes use of rainwater harvesting, sustainable flooring and other building materials made from 98% recycled materials, a 100kW photovoltaic array to reduce its energy needs and landscaping that minimizes the reliance on irrigation. The University also has a number of other green star rated buildings listed below.



#### 4 x 4 Green Star Buildings

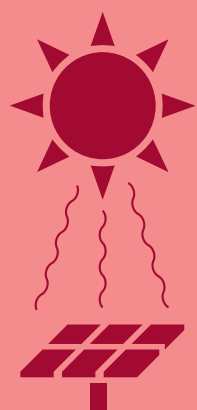
U10, Nirimba; Building 17, Bankstown; WPCC, Werrington South; and Building W, Kingswood

#### 2 x 5 Green Star Buildings

Campbelltown Clinical School, Campbelltown Hospital; and IPSQ, Parramatta City

#### 1 x 6 Green Star Building

Science Building, Parramatta South



## 135,000 kWh

of solar electricity was generated for use at Hawkesbury and Kingswood in 2017 compared to 52,906 kWh in 2010.



The amount generated is enough to power 20.5 avg Aussie homes (based on avg home using 6,570 kWh per year).



## 200,000 kL

of recycled water used on campus through stormwater harvesting and water sensitive urban design in 2017.



32 water bottle filling stations installed.



#### SMOKE-FREE CAMPUSES

All University campuses are listed as smoke-free environment for the health and wellbeing of all students, staff and visitors.



## 4 years

of all campuses being smoke-free zones

#### BIODIVERSITY

Our campuses are home to a wide range of native flora and fauna including the third largest stand of endangered Cumberland Plain Woodland in Western Sydney.



## 600 hectares

of native Cumberland Plain Woodland

#### GREENHOUSE GROWN FOOD

Fresh tomatoes, cucumbers, capsicums and eggplants grown for research in the Greenhouse are donated to Foodbank to aid local food relief.



## 3.6 tonnes

of fresh vegetables donated to Foodbank



# RESEARCH MATTERS

## Humans as the new force of nature

The age of the Anthropocene is the proposed current geological epoch in which humans and our societies have become a global geophysical force. Unprecedented levels of novel 20<sup>th</sup> Century materials namely plastics, concrete and elemental aluminium and the global dissemination of “technofossils” are now evident in sediment deposits of the earth. It has been suggested that the collective human impacts on our environment mark homo sapiens as the “new” force of nature (Steffen et al, 2011). Academic debate, critiques and responses across many disciplines have been prolific and diverse. Questions and debate range from the naming and identification of the epoch to how humans as a species respond to this chaotic new era.

*“For me the proposed new geological age of the Anthropocene brings a new paradigm of scholarly research to sustainability and environmental education. I have previously written extensively in the area of sustainability education but in 2010 I attended the Anthropocene workshop that resulted in the publication of the ‘Manifesto for the living in the Anthropocene’. Since that time the concept of the age of human entanglement in the fate of the planet has provoked a proliferation of scholarly research with an interest in how to think and do being human differently in a more than human world.”* Professor Margaret Somerville, School of Education

### MULTIDISCIPLINARY RESEARCH

The University is committed to collaboration with our regional, national and international communities to contribute to their economic, social and environmental wellbeing. Our four research themes and seven theme champions speak to the history and culture of the University and its communities, and provide a shared vision for the future. Our research themes are:

- Education and Aspirational Change
- Health and Wellbeing
- Environmental Sustainability
- Urban Living and Society

These themes are supported by our 17 research centres, institutes and research groups across the University.

### CHILDREN IN A DIGITAL AGE

Technology is profoundly shaping the way children live and grow around the world, however the insights and experiences of children and young people themselves have been missing from this discussion. Western Sydney University Institute for Culture and Society partnered with UNICEF’s State of the World’s Children team and UNICEF Country Offices and National Committees internationally to conduct a ground breaking study about how children experience life in the digital age. This project culminated in the inclusion of children’s voices in UNICEF’s 2017 flagship report ‘State of the World’s Children: Children in a Digital Age’, as well as in the ‘Young and Online: Children’s Perspectives on Life in the Digital Age’. The reports found that children are overwhelmingly positive about the role technology plays in their daily lives and that they identify connection, communication and sharing as the best things about technology. The impact of the project has been broad, with the participatory and strengths-based approaches to children’s technology use being promoted in key global policy making forums.

“Children increasingly don’t see their digital rights as separate from their rights more broadly. They see the online world as simply another setting in which they interact. But not all children around the world have the same opportunities to engage online and our efforts must focus on supporting them to connect and participate meaningfully. Children who participated in the project reported that they felt empowered by the opportunity to contribute their views to a project positioned to have global policy implications.”

**Associate Professor Amanda Third,  
Institute for Culture and Society**

 **500**

children participated in the global study

 **26**

countries are represented in the survey

**4** QUALITY EDUCATION



**10** REDUCED INEQUALITIES



### GROUNDWATER MATTERS IN INDIA FOR LIVELIHOOD OF VILLAGE COMMUNITIES

India’s natural resources, like groundwater for irrigation and drinking, are increasingly under pressure from its population. In most semi-arid parts of India, farmers face significant water shortages and risk of crop failure with changes in monsoonal rain patterns. The project has involved socio-economic and cultural understanding of groundwater issues as well as monitoring of rainfall and water levels and also identifies water saving practices in selected watersheds in Rajasthan and Gujarat states. The project has used citizen science to engage local villagers who collect, analyse, interpret and disseminate information to village communities.



“Due to the success of our project we are now pushing into new territory by piloting the concept of ‘Village Groundwater Cooperatives’ (VGCs). Groups of up to 20 farmers are setting up VGCs, working together on parcels of land up to about 20-30 hectares in size to recharge groundwater in their area during monsoon season - and as a cooperative, they then share the recharged groundwater. Farmers are also helped to grow crops that use less water while maintaining or improving their annual income. The main idea of VGCs is that by pooling resources, they can produce more crops and make more income using less water than they otherwise would have.”

**Professor Basant Maheshwari, School of Science and Health**

 **\$1.2 M**

funding from Australian Centre for International Agricultural Research

 **6**

global partnerships including CSIRO Land and Water

**2** ZERO HUNGER



**5** GENDER EQUALITY



**6** CLEAN WATER AND SANITATION



**10** REDUCED INEQUALITIES



## SPOTLIGHT: PROFESSOR ANDRE RENZAHO

Professor Renzaho spent two months overseas evaluating international aid programs for a number of international non-government organisations in July. His research in public health addresses complex humanitarian emergencies and the effectiveness of development assistance in developing countries.



"I was in Uganda evaluating the 'Urban Program on Livelihoods and Income Fortification and Socio-civic Transformation for the Youth in Kampala Project' (UPLIFT) for World Vision International. World Vision Uganda with support from World Vision Australia and Australian Aid (the Department of Foreign Affairs and Trade) implement the project in collaboration with the Uganda Youth Development Link. The UPLIFT youth project was a four-year project (2014–2017) whose goal is to improve and sustain quality of life of 3,500 young people aged 13–25 years in Kampala, Uganda by increasing employment potential/employability of young people, access to sexual reproductive health and rights information and services, protection against abuse and exploitation of children, and increased level of civic awareness among young people. This is the first evaluation to use the "difference in differences" technique in the development contexts to depict a project impact, highlighting cutting edge evaluation expertise within Humanitarian and Development Research Initiative (HADRI) and Western Sydney University."

**Professor Andre Renzaho, School of Social Sciences and Psychology and HADRI**



**3,500**

youth targeted to improve and increase awareness of local issues



## HOW COOL IS MY KINDY?

Rising heat is a major concern for public health. As a result of global warming and the loss of green space due to rapid urban development, the Greater Sydney Basin is heating up, and new temperature records are set annually. Children are vulnerable to increased heat effects and often spend a large proportion of their time outdoors for play, learning and socialisation. As such, this project compared the outdoor temperatures at three childcare centres and found startling results.



"This project was undertaken by a student as part of the School of Social Sciences and Psychology Summer Scholarship Research Program. We collected qualitative and quantitative measurements of shade and surface temperatures in outdoor play spaces of three preschool centres located across Sydney's western suburbs, namely in Parramatta, Penrith and Richmond. We were amazed to find that during normal summer days across all centres, surface temperatures of more than 80–90°C were quite common. These temperatures clearly exceed recommendations for maximum temperatures of surfaces and are a potential health risk for children. Consistently, hottest temperatures were recorded on artificial surfaces such as Astroturf and soft fall. The study found that natural grass for surface cover and trees to provide shade were most effective in keeping the childcare centres cool and minimized UV radiation."

**Dr Sebastian Pfautsch (Principal Supervisor), School of Social Sciences and Psychology**

**Dr Abby Mellick Lopes (Second Supervisor), School of Humanities and Communication Arts**



**80–90°C**

surface temperatures recorded in childcare outdoor play spaces



## THE COSTS AND BENEFITS OF WASTE MANAGEMENT PLANNING

The School of Business, under the UNU RCE Greater Western Sydney network banner, has been working with Penrith City Council to improve waste-management in multi-unit dwellings. The aim was to determine the social benefits of improved waste-management mechanisms. While the research is ongoing, the establishment of social benefits of improved practice draws upon the improvement to amenity, social capital and health from improved waste-management practices. From an economic perspective, however, the study found that these benefits are not enough to create change in waste-management practices in new development.



"There is an information problem because new buyers of units do not have a good sense of the quality of waste management practices before they buy and therefore good practices are not built into the price of new developments. This reduces the incentive for developers to improve practice. At the same time, developers are not required to meet strict guidelines preferred by Local Government Authorities. The external cost created on the community and the buyers of units from poor waste-management practices suggests that State Government needs to enact policy that legislates for the stricter guidelines preferred by local Councils on waste management practices."

**Dr Neil Perry, School of Business**

**Associate Professor Maria Varua, School of Business**



**96,000**

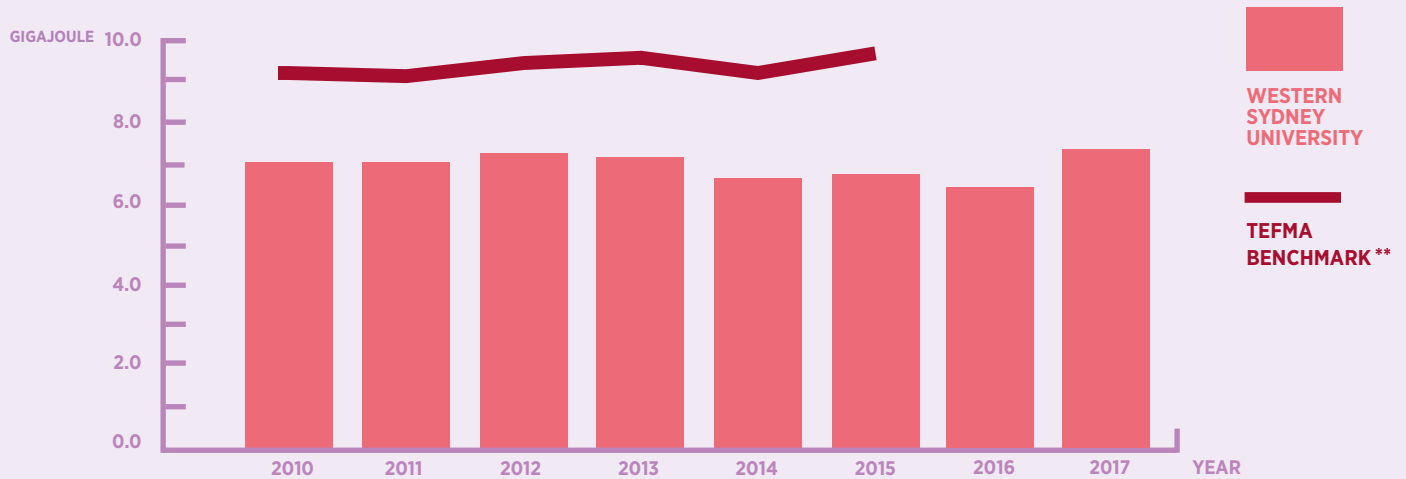
new dwellings expected by 2036 for Penrith Local Government area



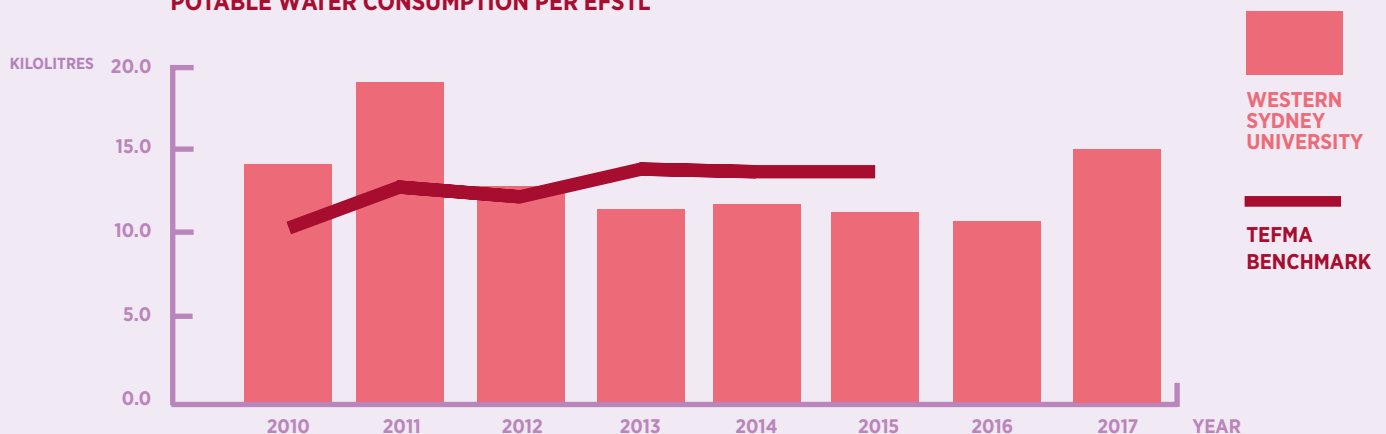
# CAMPUS OPERATIONS

## Our Performance

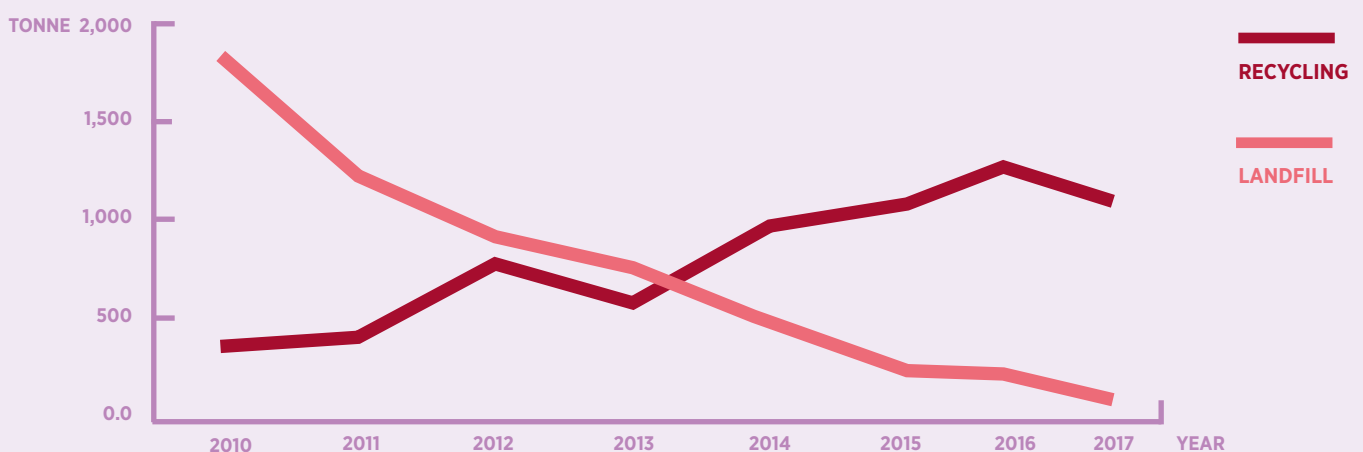
ENERGY CONSUMPTION PER EFSTL \*



POTABLE WATER CONSUMPTION PER EFSTL



WASTE - LANDFILL VS RECYCLING



\* Equivalent Full Time Student Loads (EFTSL) \*\* Tertiary Education Facilities Management Association (TEFMA)  
Our University 2020 targets can be found in the 2015 Sustainability Report under 'Sustainability Ambitions'.



# SDG TARGETS

## Our Performance

Below are some of the ways our University is addressing the Sustainable Development Goals and their targets through education, operations and research featured in this report. By 2030:

### GOAL 1: END POVERTY IN ALL ITS FORMS EVERYWHERE



- Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions

### GOAL 2: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE



- End hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
- Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

### GOAL 3: ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING



- Reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
- Ensure universal access to sexual and reproductive health-care services

### GOAL 4: ENSURE INCLUSIVE AND QUALITY EDUCATION FOR ALL AND PROMOTE LIFELONG LEARNING



- Ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and

appreciation of cultural diversity and of culture's contribution to sustainable development

- Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

### GOAL 5: ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS



- Ensure women's full and effective participation and equal opportunities for leadership at all levels of decisionmaking

### GOAL 6: ENSURE ACCESS TO WATER AND SANITATION FOR ALL



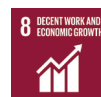
- Achieve universal and equitable access to safe and affordable drinking water for all
- Substantially increase water-use efficiency across all sectors

### GOAL 7: ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL



- Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all

### GOAL 8: PROMOTE INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, EMPLOYMENT AND DECENT WORK FOR ALL



- Substantially reduce the proportion of youth not in employment, education or training

### GOAL 9: BUILD RESILIENT INFRASTRUCTURE, PROMOTE SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION



- Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes

### GOAL 10: REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES



- Empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or

other status

### GOAL 11: MAKE CITIES INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE



- Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

### GOAL 12: ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS



- Substantially reduce waste generation through prevention, reduction, recycling and reuse

### GOAL 13: TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS



- Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

### GOAL 14: CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES



- Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts

### GOAL 15: SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, HALT AND REVERSE LAND DEGRADATION, HALT BIODIVERSITY LOSS



- Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

### GOAL 17: REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT



- Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries

**Contact information**

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Sustainable Futures

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