

WESTERN SYDNEY  
UNIVERSITY



# TRANSFORMING OUR FUTURE

SUSTAINABILITY REPORT 2018



# WESTERN SYDNEY OUR UNIVERSITY



## 48,458

Western Sydney undergraduate and postgraduate students\*

\* As of 2018 head count



**Domestic Students**  
and 13.3% international students



**Female Students**  
and 44.5% 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

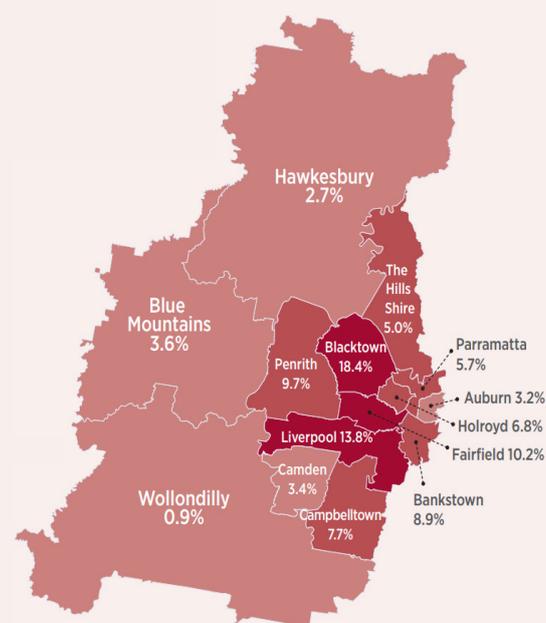


**First in Family**  
out of the total Western domestic students percentage of students whose parents do not have a tertiary qualification

As of December 2017

## 77%

of our domestic students come from Greater Western Sydney\*



\* As of December 2017



Our main campuses and campus sites spread across Western Sydney and beyond.

Main campuses: Bankstown, Blacktown (Nirimba), Campbelltown, Hawkesbury, Liverpool City, Parramatta (North and South), Parramatta City, and Penrith (Kingswood, Werrington North and Werrington South) and Sydney City.

Other campus sites: Bathurst, Blacktown Clinical School, Lismore, Lithgow, Liverpool (Hospital), Macarthur Clinical School (Campbelltown), Olympic Park and Westmead. Offshore campus sites: Hong Kong and Vietnam.

**THE UNIVERSITY  
IMPACT  
RANKINGS  
2019 TOP 20**

Western Sydney was ranked 11<sup>th</sup> in the global impact rankings for the SDGs

## ACKNOWLEDGMENT

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).

# SUSTAINABILITY REPORT 2018

# FOREWORD



*“The 21<sup>st</sup> century presents us with complex, pressing and unpredictable socio-political, economic and ecological global challenges. As one of a small group of Australian universities that is a signatory to supporting delivery of the United Nations Sustainable Development Goals 2030 (SDGs) Western Sydney University is deeply committed to tackling these grand challenges.”*

We recognise our responsibility as an anchor institution in Western Sydney to deliver dynamic learning and teaching programs that have real world impact. Our region faces many sustainable development challenges. Western Sydney is the third largest economy in Australia, has a large multicultural community speaking over 100 different languages and a rapidly growing population. We need to balance increasing urbanisation against biodiversity, bush, river health and farmland losses while reinvigorating sustainable businesses, addressing transport gridlocks and supporting liveable communities in the face of climate change and the associated health risks.

We are undertaking social, cultural, economic, and scientific research both locally and globally that is helping transform the communities with which we engage. We are also developing new curriculum initiatives that assist our students in understanding these global challenges and inspire them to become the next generation of innovative entrepreneurs, future thinkers,

sustainability advocates and global citizens. Our 4th annual sustainability report, ‘Transforming Our Future’ reflects our long standing commitment to this agenda. The report showcases our 2018 achievements across our ‘CORE’ areas - Curriculum, Operations, Research and Engagement and emphasises the connections and linkages to the SDGs.

‘Transforming Our Future’ also foreshadows our world ranking success in 2019 in the THE Impact Rankings. Through our research, outreach and stewardship we are ranked first in the world as the leading academic institution for gender equality and second in the world for reducing inequalities by providing participation and access to higher education opportunities. Overall, we are ranked 11<sup>th</sup> globally. I am very pleased with our progress to date and this is reflected both in our rankings and our annual report.

**Professor Barney Glover**  
**Vice-Chancellor and President**



**THE UNIVERSITY**  
**IMPACT**  
**RANKINGS**  
SDG 5 GENDER EQUALITY  
**TOP 10**



**THE UNIVERSITY**  
**IMPACT**  
**RANKINGS**  
SDG 10 REDUCED INEQUALITIES  
**TOP 10**



**THE UNIVERSITY**  
**IMPACT**  
**RANKINGS**  
SDG 4 QUALITY EDUCATION  
**TOP 20**



**THE UNIVERSITY**  
**IMPACT**  
**RANKINGS**  
SDG 17 PARTNERSHIPS FOR THE GOALS  
**TOP 40**

# OUR SDG 2030 COMMITMENT SDSN SIGNATORY

Our University has acknowledged the responsibility through our teaching and learning to equip the next generation of leaders, innovators and thinkers to understand the global challenges facing the world and the role they can play in rising to meet these challenges.

## WESTERN SYDNEY UNIVERSITY COMMITMENT TO THE SDGS

Western Sydney University signed the UN Sustainable Development Solutions Network Higher Education Commitment in 2017, joining an innovative group of Australian universities. In becoming an educational signatory to the SDSN Australia, New Zealand and Pacific Initiative, Western has committed to support and promote the principles of the SDGs:

- Support and promote the principles of the Sustainable Development Goals;
- Undertake research that provides solutions to sustainable development challenges;
- Provide the educational opportunity for our students to acquire the knowledge and skills needed to

- promote sustainable development;
- Contribute to the achievement of the SDGs by ensuring our campuses and major programs are environmentally sustainable and socially inclusive; and
- Report on our activities in support of the SDGs.

Western is also a member of the SDSN Youth Network, empowering our students to engage with the sustainable development goals through education and action.

## OUR CORE FRAMEWORK

The university has responded to this commitment by identifying the SDG linkages to our CORE framework. Underpinning this work area are the cross-cutting themes of education (SDG 4) and partnerships (SDG 17).



# LEADING THE WAY FORWARD WORLD RANKINGS

## THE UNIVERSITY IMPACT RANKINGS METRICS

The THE University Impact Rankings include metrics based on 11 of the 17 UN Sustainable Development Goals across three broad areas: research, outreach and stewardship. Universities submit data on as many of the SDGs as they are able. SDG 17 is the only compulsory SDG for inclusion in the overall assessment.



## WORLD-LEADER IN THE IMPACT RANKINGS

The University Impact Rankings are a new initiative by the highly-influential Times Higher Education (THE) organisation, which measured more than 450 universities from 76 nations for their social, ecological and economic impact and commitment to the United Nations' 17 Sustainable Development Goals 2030 (SDGs). Western is one of a small group of Australian universities that became a signatory to supporting these goals.

Western Sydney University has been ranked 1<sup>st</sup> in the world for addressing gender equality, and 2<sup>nd</sup> for reducing inequalities promoting inclusive and equitable quality education, in the Times Higher Education (THE) Impact Rankings released in April 2019. Overall we achieved a ranking of 11<sup>th</sup> – placing the University in the top 20 universities worldwide, and the highest ranked university in Australia.



# 1<sup>st</sup>

worldwide for SDG 5: Gender Equality



# 2<sup>nd</sup>

worldwide for SDG 10: Reduced Inequalities



# 11<sup>th</sup>

in the world overall, and 1<sup>st</sup> in Australia for THE University Impact Rankings

# THE UNIVERSITY IMPACT RANKINGS 2019 TOP 20

# SUSTAINABILITY HIGHLIGHTS 2018

## Leading new cutting edge curriculum

### CURRICULUM

The 21<sup>st</sup> Century Curriculum (21C) Project is our response to a disrupted future of work and is the first stage of our commitment to sustainability education.

In 2018, our Western students continued to do amazing things, such as winning the American Solar Car Challenge and our University was the only Australian campus selected for the Global Millennium Fellowship.



### OUR HIGHLIGHTS



# 1<sup>st</sup> in USA

Solar Car team wins at the American Solar Challenge 2018.



# 14

students selected as 2018 Millennium Fellows Development Scholars. Ours was only university campus in Australia to have students selected, and one of 30 campuses globally.

## A leader in campus development

### OPERATIONS

Western has received recognition from the Green Building Council of Australia (GBCA) as a leader. We are ranked 3<sup>rd</sup> in Australia for Green Star certified buildings for the HE sector.

Living Labs are underway across our campuses in collaboration with Engineering, Science and Health, Communication Arts, Chinese Medicine, Sustainable Agriculture and Education staff and students. A strategy to embed the Living Labs design is being utilised for the redevelopment of our Werrington campus.



### OUR HIGHLIGHTS



# 3<sup>rd</sup> in Aus

for the number of Green Star certified buildings on our campuses.



# 15

Living Lab initiatives underway in collaboration with a number of staff and students.

## Above world standard research

### RESEARCH

Our research at Western spans four interdisciplinary themes aligned with internationally recognised strengths, National Research Priorities and the future of Western Sydney:

- Education and work: SDG 4
- Environment and sustainability: SDG 13, 14, 15
- Health and wellbeing: SDG 3
- Urban living futures and society: SDG 11, 12



### OUR HIGHLIGHTS

 **85%**

of our research is 'world standard or above' according to the latest Excellence in Research for Australia evaluation.



**Best paper**

awarded to Dr Abby Mellick Lopes and colleagues at the 4<sup>th</sup> World Symposium on Sustainable Development at Universities for the UTS-WSU Transdisciplinary Living Lab (TDLL) model.

## Deeply embedded in Western Sydney and beyond

### ENGAGEMENT

In 2018, Western Sydney University embarked on a Facebook-driven campaign called EarthIQ. The aim was to raise awareness of climate change and to profile Western's sustainability research. The EarthIQ campaign reached an estimated 2.6 million people.

The first Asia Pacific SDG Youth Challenge was launched by Western and UGM Indonesia. The Challenge reached over 8,800 young people in 23 projects across 7 countries in a peer-to-peer learning model. The initiative received international recognition.



### OUR HIGHLIGHTS

 **2.6m**

people reached through the EarthIQ campaign designed to raise awareness of Climate Change amongst millennials, based on Dr Sebastian Pfautsch's and Dr Tonia Gray's research.



**8,800+**

young people connected in 23 global youth-led projects across the Asia-Pacific region through the global RCE

# TEACHING AND LEARNING OUR STUDENTS DO AMAZING THINGS

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*“I’ve washed all my clothes but the cocktail of scents left in my memory still are etched in my mind. ... Strong women from these communities share stories of resilience, of how they have fought hard for their rights. They have unified for justice. It is a constant pendulum between stories of despair and stories of inspiration... an uplifting and enlightening journey. These friendships and experiences have changed me for a lifetime.”*  
Student reflection

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## STUDENT IMMERSION TOUR: WATER AND HEALTH

Twenty students from The Academy undertook a sustainability immersion tour in Uttar Pradesh, India led by Dr Brahm Marjadi, Dr Michelle Ryan, Dr David Wright and Mrs Helen Angelakis. The program was funded by the Australian Government New Colombo Plan and focused on bringing integrated perspectives of sustainability to critically examine themes of population, water, health and climate change in view of the SDGs. The students also had a rural farm stay in Suhelwa Sanctuary in the foothills of the Himalayas where they interacted with the rural community, local schools and health care centres. The program was developed in partnership with the RCE network, the Centre for Environment

Education Lucknow, University of Lucknow and Western Sydney University. Inspired by the trip, students have continued to support the rural schools by donating clothing, hygiene products, stationary and classroom materials.

## UN ACADEMIC IMPACT MILLENNIUM FELLOWS: P.E.A.C.E

In 2018, 14 Western Sydney University students were the only Australian students to be selected as Millennium Fellows. The program, Promotion Education Awareness Campaigns Empowerment (P.E.A.C.E) was created by students to disrupt the current practices and ideologies within the University and community. It also convenes, challenges, and celebrates student leadership and advocacy of the SDGs.



### WESTERN SYDNEY SOLAR CAR

The Western Sydney University Solar Car team competed in the American Solar Challenge 2018 — a global competition racing for the first time from Nebraska to Oregon, a total of 2,837 km. The team came in first place, beating more experienced and better-resourced teams. This is the first time that a non-American team has won the race, and in doing so Western Sydney University broke a 17-year winning streak by the University of Michigan, USA. The team consists of 22 multidisciplinary volunteer students who design, build, and race their solar car, supervised by Dr Ali Hellany.

*“One of the essential parts of our mission and one that we hold very close to our hearts is engaging young people with a powerful message of sustainability and problem-solving. It’s so critical to our future that the leaders of tomorrow are well aware of the environmental challenges we face, and are fully invested in solving them.”, The Solar Car team*

### VICE-CHANCELLOR’S EXCELLENCE AWARDS: EXCELLENCE IN UNIVERSITY ENGAGEMENT AND SUSTAINABILITY

#### INDIVIDUAL WINNER: NAOMI HASTINGS

Awarded the 2018 University award for ‘Excellence in University Engagement and Sustainability’, Western Sydney student Naomi has shown outstanding dedication to the region. Through various skateboarding initiatives, Naomi has engaged many young people with important mental health and outreach programs, including leading the ‘SaferUSE: Steroid Issues’ Food 4 Thought forum which is a Western Sydney-based dialogue committed to advocating the health, safety and dignity of all persons experiencing drug dependency. In addition, Naomi is an advocate for environmental sustainability and community cohesion, as part of Western’s SDSN Youth Network.

### STUDENT REPRESENTATIVE COUNCIL: PHILANTHROPIC WORK

**\$ \$3,516**

raised for various beneficiaries including Australia’s Biggest Morning Tea, Walk for Autism, Dilly Drought Drive, Bankstown Soup Kitchen and more.



**859**

items given away, such as feminine hygiene packs, essential groceries, non-perishable foods and cleaning products to students in need.



**750**

signatures collected for a number of causes, including the ‘International Students Need Student Concessions Petition’ for discounted access to public transport.



**291**

lives saved through the donation of blood for the Red Cross blood drive.



Photo credit: Solar Car Team



## “ We ask our students...

*How can we create a sustainable society? What is your understanding of ethics, rights, justice and democracy in society? How can we tell we are in the new epoch of the Anthropocene? How can we develop new ways of thinking and learning that enable us to recognise the connections between environmental concerns, social patterns and individual actions? What is the value of animals, rivers and mountains? Should we destroy rainforests to make way for housing or agricultural development?*

”



4 QUALITY EDUCATION



**SDG 4.7:** By 2030, 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.

# GLOBAL SUSTAINABILITY 21C PROJECT

*“The 21C Project reflects our commitment as an anchor institution for the communities of Western Sydney and our recognised national and international leadership in relation to championing just and responsible social change through the United Nations Sustainable Development Goals.”*

Professor Simon Barrie, Pro Vice-Chancellor (Learning Futures)

As part of the University 21C curriculum project Sustainable Futures and a team of academics from 5 schools have developed the Global Sustainability program. This new 21C future of work offering will provide our students a unique, signature learning experience for students involving local and global partners committed to sustainable development. The sub-major explores the interrelationship between humans and the natural and built environment from multiple paradigms. Students in the sub-major must undertake a 60-hour internship/research project to turn their learning into action. This cross-school, multidisciplinary offering is open to all undergraduate students at Western Sydney. All our students can also undertake the new Curiosity Pod as a taster to this sub-major. This offering is connected to the United Nations University Institute for the Advanced Study of Sustainability endorsed Regional Centre of Expertise network.

**GO MAKE A DIFFERENCE WITH WESTERN**

## curiosity pod

The trans-disciplinary Sustainability Bootcamp introduces the concepts of Sustainable Development and the SDGs through systems awareness, worldviews and futures thinking.

## sub-major

This 4-unit sub-major is a unique, signature learning experience for undergraduate students committed to creating a more equitable and sustainable future.

## social action

Students will complete a 60-hour social action internship or research project locally or internationally, in small interdisciplinary project teams on real world sustainability issues.

**SUB-MAJOR NAME:**  
**GLOBAL SUSTAINABILITY**

**COURSE CODE:**  
**SM2054**

 REGIONAL CENTRE OF EXPERTISE  
ON EDUCATION FOR  
SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY



**UNITED NATIONS  
UNIVERSITY**

### SPOTLIGHT: THE PLASTIC LID PROJECT

The Plastic Lid Project (TPLP) led by Naomi Kroll, a student of The Academy, is a large scale artwork, constructed primarily from repurposed plastic bottle lids, that depicts the issues with plastics in our oceans and their impact on marine life. Over 1,000 Western Sydney University students and staff over 8 campuses, Western's SDSN Youth Network, 9 local businesses, 3 music festivals, local schools and youth groups and the Tomra Cleanway Return & Earn Scheme were all involved in collecting a total of 20,000 bottle lids, diverting them from landfill. The artwork has since featured at Penrith's Reel Festival and Hawkesbury City Library for National Recycling Week, and has inspired a 'Create your Future' Exhibition looking at all 17 SDG goals. The project also supported a workshop at Youth Eco Summit at Sydney Olympic Park, in November, for over 2,000 primary school students.

### HIGHLIGHTS: SDG YOUTH CHALLENGE 2018



8,700<sup>+</sup>

young people were directly involved in the SDG Challenge.



23

youth-led projects educating participants on the Sustainable Development Goals 13 and 14.



7

countries represented in the SDG Challenge: Australia, Colombia, India, Indonesia, Republic of Korea, Malaysia and Vietnam.

# YOUTH FOR THE GOALS

# SDG YOUTH CHALLENGE

Today's youth faces extraordinary global challenges. Young people are bombarded with messages about their future and challenged to make positive change, yet are not often given the chance to constructively do so at a meaningful local level. The Asia-Pacific SDG Youth Challenge, 'Youth for the Goals', is an international youth-led project-based initiative that connects youth leaders working in their own communities to a larger global platform that includes mentoring support and peer validation. The Challenge was developed and driven through the global Regional Centre of Expertise on Education for Sustainable Development (RCE) network by the Asia Pacific youth leaders - Ms Brittany Hardiman, Western Sydney University (RCE Greater Western Sydney and Ms Emmy Yuniarti Rusadi, Universitas of Gadjah Mada (RCE Yogyakarta), Indonesia. The aim of the initiative was to engage and empower local youth leaders by giving them the opportunity to have a voice and implement their own place-based projects on issues that mattered to them. Each project was shaped by its youth leader and/or youth team to address the needs of their communities in line with the Challenge SDG theme. Using a peer-peer learning model, young people drove change from a grassroots level incorporating Education for Sustainable Development principles. The 2018 SDG Youth Challenge was themed on SDG 13 Climate Action and SDG 14 Life Below Water. The Challenge engaged 8,774 direct youth engagements through face to face touchpoints (workshops, clean-ups, volunteering, etc.) across 23 youth-led projects in 7 countries. Two of these projects were led by Western Sydney University: the Plastic Lid Project and Learning from Indigenous Environmental Champions in Vanuatu.



## SPOTLIGHT: LEARNING FROM INDIGENOUS ENVIRONMENTAL CHAMPIONS IN VANUATU

This initiative provided 10 Western communication and media students with a unique experience in Vanuatu through the Australian Government New Colombo Plan. The students engaged with real-world sustainability initiatives as interns with the Vanuatu office of the Australian NGO Live & Learn in the Pacific Region. Supported by academics Assoc. Professor Juan Salazar and Dr Tanya Notley, students spent 4 weeks during July, in a number of different villages, creating 2 short documentary films that focus on sustainable development and community-based adaptation to climate change. The work was undertaken in partnership with local champions from the community-based Tasivanua Environmental Network and Nguna-Pele Marine and Land Protected Area Network, in support of their work to conserve and manage natural resources and build long-term resilience activities that will benefit future generations. Watch the short student documentary on YouTube – search for 'Helti Fuja' and 'Tasi Vanua'.

*"We need to hear more about the experiences of those at the frontline of climate change. In Vanuatu the responses by these affected communities to climate change were inspiring and we all learnt so much from them. Building direct connections between students and small island communities can be transformative and nurture relationships that may be critical to addressing climate change."*  
Dr Tanya Notley, mobility project leader.

# RESILIENCE AND REGENERATION LIVING LABS

## RESILIENCE PLANNING FOR CAMPUSES

A resilience planning process commenced in 2018 to address the predicted impacts of climate change in Western Sydney on our campus infrastructure and communities of practice. A preliminary discussion paper was drafted and circulated to infrastructure managers and researchers involved with the Environmental Sustainability Research Theme Champions. This discussion paper drew upon established modelling for climate change impacts, along with strategies proposed by the Resilient Sydney project, and the Property Council of NSW. A range of valuable research already undertaken by Western researchers includes that on Cooling Commons in Western Sydney and heat islands such as carparks. A process of campus workshops was delivered to map strategies on the CORE model of campus roles and interactions, and compiled into a preliminary Resilience Assessment.

While the term Living Labs has commonly been used as a broad rhetorical term, Western Sydney University is now strategically and tactically building partnerships for using campus assets as a focus for teaching, research, demonstration and engagement. This is supported through the Environmental Sustainability group in the Office of Estate and Commercial (OEC), in collaboration with the Environment and Sustainability Research Theme Champions, Sustainable Futures, a range of research, academic and technical staff, and associated agencies and organisations.

## PHOTOVOLTAICS AND ENGINEERING SYSTEMS

*“We are planning to increase the number of PV panels and to introduce various renewable energy resources.” Renewable Energy Research Group leaders*

Investigations into energy efficiency initiatives and market opportunities for renewables are being developed with a hybrid photovoltaic and wind station on Kingswood campus under the Renewable Energy Research Group, led by Dr Tosin Famakinwa and Dr Ali Hellany from School of Computing, Engineering and Mathematics, Computing (SCEM). This project is used for educational and research purposes and the station is generating 148 MWh a year of renewable energy that is going back into the university grid. Project collaborators include SCEM Construction and Engineering Cluster, Renewable Research Group, Technical Support Services and OEC Environmental Sustainability team.



### SPOTLIGHT: THE HAWKESBURY FARM AND REGENERATIVE AGRICULTURE

*“Regenerative agriculture is improving what we have beneath our feet. We are seeing amazing results with the new cover cropping regimes we have implemented over the last few years. With this new system of cropping and mulching the soil there is a huge increase in worm activity which means healthier soil, and better maintenance of soil temperatures, particularly in summer, and our cattle are now healthier and performing better as they have access to a wider range of nutrients.”* Mr Joe Kovacek, Farm Production Coordinator

The Hawkesbury farm is a key asset of the Hawkesbury campus, reflecting the continuing contemporary relevance of agriculture and associated environmental management in a peri-urban context. With a renewed focus on environmental sustainability, the farm has moved to a regenerative agricultural practice and holistic pasture management to restore and sustain our farmlands to a better, higher, or more worthy state. Nearly 700 hectares in size, the farm is used by our students as a teaching resource for animal science and production, horticulture, animal physiology and behaviour, landscape management and food nutrition, as well as for research. The farm also operates a commercial animal production (cattle and sheep) supported by pastures and fodder crops grown on-site and irrigated by recycled water from the Hawkesbury Water Recycling Scheme and river water.



2 ZERO HUNGER



**SDG 2.4:** By 2030, 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

# CAMPUS PERFORMANCE OPERATIONS

## GREEN STAR BUILDINGS

Over the past 5 years, Western Sydney University has become a recognised leader in Green Star certified design and construction in the region, with a total of 8 certified Green Star projects. In some cases these projects are the only Green Star rated projects in their respective LGAs. The benefits of occupying, maintaining and operating a Green Star rated building are well known, with the initial investment being recuperated many times over throughout the life of the building. This includes lower operating costs, increased staff satisfaction, lower emissions and a general improvement in occupant health and amenity.



1 X 4 Green Star Buildings  
Lithgow Outreach Campus



6 X 5 Green Star Buildings  
U10, Blacktown; Building 17, Bankstown; WPC, Werrington South; Building W, Kingswood; Campbelltown Clinical School, Campbelltown Hospital; and 1 PSQ, Parramatta City



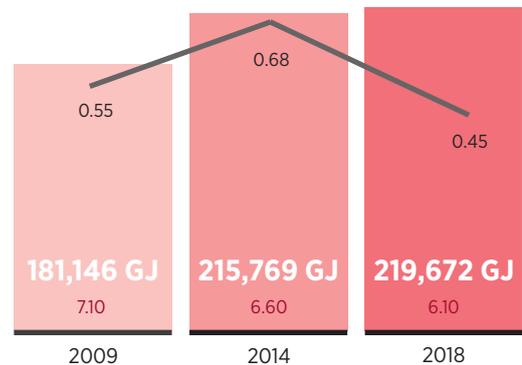
1 X 6 Green Star Buildings  
Science Building, Parramatta South, pictured below



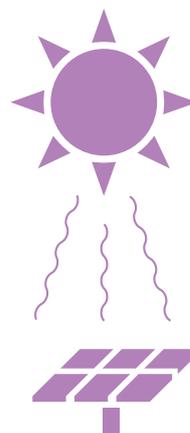
## ENERGY

A broad range of energy efficiency initiatives has already been implemented on campus, including building management systems and high efficiency solar hot water heating. Expanding on these, a sustainable energy strategy is being implemented, and current implementation activities include:

- Rooftop solar and batteries on Building Z, Kingswood campus as part of a solar Living Lab with Engineering;
- A Kingswood pilot carpark solar structure to address urban heat, with investigations into integrated EV charging stations for electric vehicles; and
- A modular 1 megawatt (MW) solar farm on Hawkesbury campus.



■ Energy (GJ - Gigajoules)  
■ Energy (GJ)/Gross Floor Area  
■ Energy (GJ)/Student Load (EFTSL)



## 257,420 kWh

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



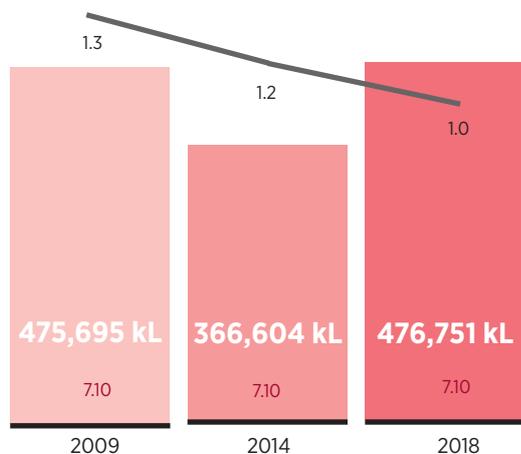
The amount generated is enough to power 39 average Aussie homes (based on avg. home using 6,570 kWh per year)



**WATER**

Water efficiency and use of alternate non-portable water resources are well established at Western. Strategies include:

- Hawkesbury Water Recycling Scheme on Hawkesbury Campus, using recycled water supplied by Sydney Water and incorporating stormwater harvesting and reuse for farm and grounds operations;
- Rainwater harvesting at from roof spaces at Parramatta and Kingswood campus for irrigation and toilet flushing;
- Stormwater harvesting and reuse at Campbelltown student residences for landscaping; and
- Water efficient fixtures in architectural guidelines for all building refurbishments.

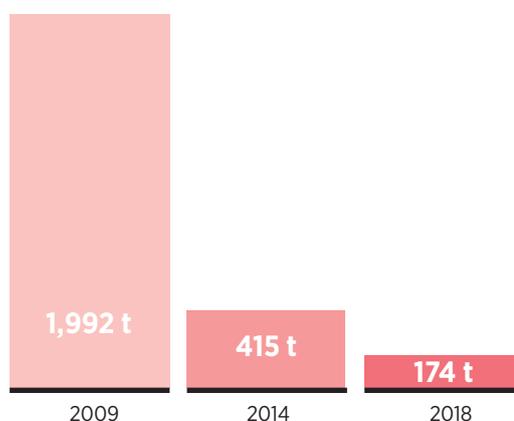


■ Water (kL - Kilolitres)  
 — Water (kL)/Gross Floor Area  
 ■ Water (kL)/Student Load (EFTSL)

**WASTE AND RECYCLING**

Waste and recycling outputs changed drastically due to:

- Recycling of materials which has increased substantially through waste compaction on Bankstown, Hawkesbury, Campbelltown, Nirimba, Parramatta and Penrith campuses;
- Collecting paper and cardboard waste to be sorted into material grades for recycling processes (confidential papers are securely transported to a waste facility and shredded prior to recycling); and
- Other waste services including trade waste (grease traps), and recycling of metals, batteries, fluorescent lights, toner cartridges and Styrofoam packaging.



■ Waste to landfill (t - tonnes)



**545,051 kL**

of recycled water used on campus through stormwater harvesting and water sensitive urban design in 2018.



**986 tonnes**

(85%) of total waste diverted from landfill in 2018, compared with 324 tonnes (15%) in 2010.



# LOCAL TO GLOBAL RESEARCH FUTURE MAKERS

*“As a young university, our strength lies not only in our innovative approach to addressing society’s most pressing issues, but in our ability to connect high-quality research with the communities that need it most – and in unlocking the potential of the next generation of researchers, leaders and change-makers.”*

Professor Deborah Sweeney, Deputy Vice-Chancellor and Vice-President (Research and Innovation)

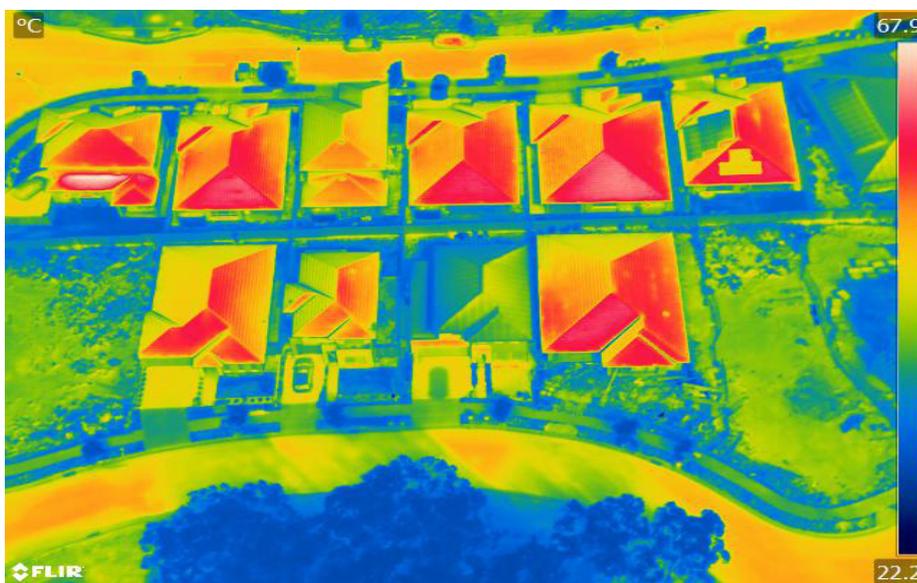
The University is committed to collaboration with our local, regional, national and international communities to contribute to their economic, social and environmental wellbeing. Our research at Western spans 4 interdisciplinary themes aligned with internationally recognised strengths, National Research Priorities and the future of Western Sydney:

- Education and work
- Environment and sustainability
- Health and wellbeing
- Urban living futures and society

## LOCAL RESEARCH

### URBAN HEAT: COOL STREETS, HOT ROOVES

Collaborative research led by Dr Sebastian Pfautsch in Social Science with local councils over summer focused on the assessment of microclimates throughout urban landscapes and in particular how much cooling trees provide. The research found that temperatures in a street in North Parramatta with 10% canopy cover were over 40°C during 12 days last summer, whereas in a street with 30% canopy cover temperatures over 40°C were recorded on only 5 days. These are large differences in local heat between 2 streets that are just 1 kilometre apart. The work also showed that Western Sydney communities have to cope with extreme temperatures much more frequently than previously thought.



The image shows the difference between roof temperatures and green cover/tree canopy in a Western Sydney suburb; the dark coloured rooves are hotter (red = 68°C (highest temperature measured)) compared to the light coloured rooves and trees (blue = 22°C (lowest temperature measured)).



## LOCAL RESEARCH

### INTERGENER8 LIVING LAB (YOUNG AND RESILIENT)

There is an urgent need for a radically new approach to resilience that is holistic, intergenerational, and dynamic. Coordinated by Associate Professor Amanda Third and a team of researchers from the Institute for Culture and Society, the group established the Intergener8 Living Lab in Greater Western Sydney. Building on 20 years of research experience and innovation, the Living Lab explored complex issues of technological, economic and social change. It investigated how to leverage technology to promote the resilience of people – especially young people – and their communities, and to bring together different generations, communities, industry and other experts across Western Sydney.



### PATHWAYS TO WELLBEING, SKILL DEVELOPMENT AND PARTICIPATION

The Royal Botanic Garden Sydney's Master Gardener Volunteer (MGV) Program was developed to promote community gardens and serve in a leadership capacity to achieve long-term sustainability of community participation. Western Sydney University researchers Associate Professor Danielle Tracey, Professor Tonia Gray, Dr Son Truong and Dr Kumara Ward from the School of Education are assessing the MGV Program's effectiveness and examining the trajectories of self-reported changes in the volunteer participants over their involvement in the program.



## REGIONAL RESEARCH

### TINY TONGUES TALKING

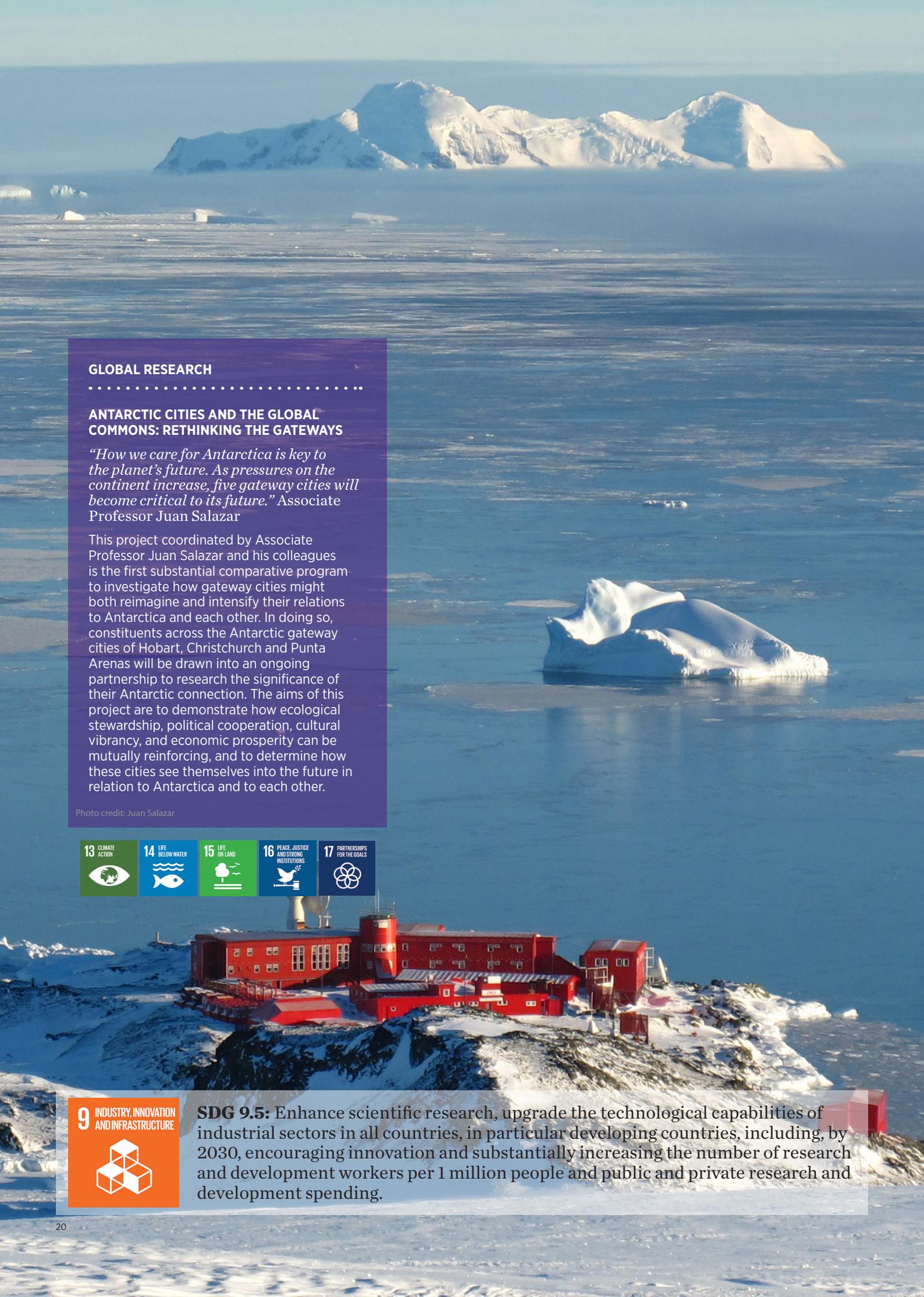
In remote communities east of Katherine, Northern Territory, Sunrise Health Service provides healthcare to Aboriginal families. Many of the children experience early, chronic otitis media (middle ear infection), which may result in hearing loss. A recent evaluation conducted by Associate Professor Caroline Jones from The MARCS Institute and her colleagues found that the program 'LiTTLe' (Learning to Talk, Talking to Learn), staffed by local Aboriginal women, has brought significant value to the community and beyond. The program has provided a way to identify which children are experiencing language difficulties caused by hearing problems, and connect their families with support. The 'LiTTLe' program was tuned to local languages and dialects, and for 8 years it provided a vital service to remote Aboriginal communities.



### RECONFIGURING THE ENTERPRISE: SHIFTING MANUFACTURING CULTURE IN AUSTRALIA

In Australia, there are innovative manufacturers that are re-orienting their businesses towards social and environmental sustainability. Researchers Professor Katherine Gibson, Dr Stephen Healy and Dr Joanne McNeill from the Institute for Culture and Society are exploring how enterprises are making this shift, and the negotiations and compromises involved in operationalising both social and environmental sustainability while remaining financially viable. The research team has been working with 9 case study enterprises from a range of sectors including food, fashion, household materials and furniture, electronics re-use and repair, and specialised vehicles. In so doing, the project contributes to debates about the nature of the enterprise in the 21st century, particularly in the context of climate change and growing social and economic inequality.





## GLOBAL RESEARCH

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### ANTARCTIC CITIES AND THE GLOBAL COMMONS: RETHINKING THE GATEWAYS

*“How we care for Antarctica is key to the planet’s future. As pressures on the continent increase, five gateway cities will become critical to its future.”* Associate Professor Juan Salazar

This project coordinated by Associate Professor Juan Salazar and his colleagues is the first substantial comparative program to investigate how gateway cities might both reimagine and intensify their relations to Antarctica and each other. In doing so, constituents across the Antarctic gateway cities of Hobart, Christchurch and Punta Arenas will be drawn into an ongoing partnership to research the significance of their Antarctic connection. The aims of this project are to demonstrate how ecological stewardship, political cooperation, cultural vibrancy, and economic prosperity can be mutually reinforcing, and to determine how these cities see themselves into the future in relation to Antarctica and to each other.

Photo credit: Juan Salazar



**SDG 9.5:** Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

## GLOBAL RESEARCH

*“Our research expertise within Environmental Sustainability relies on insights from the life and ecological sciences, as well as sociology, sustainable development, social ecology, environmental humanities, design, engineering, green IT, public health, education, law and economics.” Associate Professor Juan Salazar and Associate Professor Jeff Powell, Environment and Sustainability Research Theme Champions*

### FOOD SECURITY IN THE SOLOMON ISLANDS

Solomon Islanders mostly rely on the productivity of smallholder agriculture for household income and food security. Agriculture has been identified as the most important sector of the Solomon Islands economy, and it sustains over 85% of the country’s rural economy. The increasing population density in and around larger cities creates major issues for food security as urban residents are less able to have and maintain the household gardens that rural Solomon Islanders rely on for their daily food needs and income security. A team of HARDI researchers led by Associate Professor Nichole Georgeou and supported by a Western Sydney University Early Career Fellowship Award conducted research in the Honiara Central Market (HCM) with Honiara City Council and the Honiara Central Market Manager. Understanding the interactions taking place at HCM between rural farmers and urban consumers is important both for rural producers who sell their produce to create wealth, and for urban residents who need fresh food. This study examined the factors that affect linkages between rural smallholders and urban consumers of fresh produce and contributed to public policy formation in Solomon Islands on future food supply and food security.



### SPOTLIGHT: HUMANITARIAN AND DEVELOPMENT RESEARCH INITIATIVE

With international concern surrounding the nexus between security and development there is a clear demand to understand the complexity of development challenges and how they articulate with international humanitarian intervention and aid efforts. The Humanitarian and Development Research Initiative (HADRI) at Western has been established with a globally unique approach to pursue research that highlights the complexity of international responses to conflicts and disasters, and the intersections between the multidimensional health, socio-economic and political aspects of complex emergencies.

### SPOTLIGHT: UNITED NATIONS AUSTRALIA ASSOCIATION: GOODWILL AMBASSADOR FOR SDG16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Ms Leanne Smith is an international human rights lawyer who has worked for the Australian Human Rights Commission, in the international NGO sector and as an Australian diplomat with DFAT. She has worked on UN Peacekeeping Operations in Southeast Asia, Africa, the Balkans and Afghanistan, and most recently as Chief of Policy and Best Practices for UN Peacekeeping Operations. As a consequence, she has more than 20 years’ experience in policy development and international peace and security. Leanne is currently the Director of the Whitlam Institute at Western Sydney University.

## ENGAGEMENT HIGHLIGHTS



**596**

academic partnerships recorded\*



**874**

community contribution activities recorded\*

\* moderated in the Tracking and Improving Community Engagement (TICE) database

## GREATER WESTERN SYDNEY

Continued sponsorship of the Western Sydney Community Forum ZEST Awards and the Chancellor's Unsung Heroes Award category, which celebrate the achievements of the community sector in Greater Western Sydney. Over 500 people attended the awards ceremony. This year's recipient of the Unsung Heroes Award was student Amy Briggs, from the School of Education, for her extensive volunteering efforts through the University's Reading Ambassador's Program.

## COMMUNITY FELLOWS

3 Community Fellows were conferred in 2018, namely Chief Inspector Robert Fitzgerald, Bashar Hanna and Aunty Rita Jean Wright.

## PARRAMATTA

Over 300 members of the Western Sydney community participated in the Walk for Harmony event on Parramatta South campus, organised in conjunction with the Ismaili Council.

The annual Aboriginal and Torres Strait Islander staff conference was held at Parramatta and included Aboriginal and Torres Strait Islander staff across Divisions, Schools and Institutes. Staff shared best-practice approaches to student and community engagement.

Food 4 Thought seminars discussing topical issues were held for the greater community, including SafeUSE: Steroids Issues in Bulk, and Community-Engaged Teaching and Learning

## LIVERPOOL

The Aunty Mae Foyer naming ceremony was held in November at the new Ngara Ngura Liverpool City campus. Over 100 people were in attendance to celebrate Aunty Mae's achievements and longstanding commitment to advancing education opportunities for Aboriginal and Torres Strait Islander people.

## CAMPBELLTOWN

Awarded the 2018 Vice-Chancellor's Excellence in University Engagement and Sustainability Award, the Student Support Centre provides mentoring, support and a free evening meal at Campbelltown campus for up to 100 students weekly. This ambitious initiative supports the integration of international students into university life within a multi-faith context, to help them build friendships and support networks on campus.

## SPOTLIGHT: ACCESS AND RETENTION PROGRAMS ACROSS WESTERN SYDNEY

The university draws students from a diverse range of ethnic backgrounds, and from a higher-than-sector average of low socio-economic circumstances. The majority of our students are the first person in their family to attend university. We have a number of signature programs to assist primary, secondary and tertiary students and encourage and further their aspirations toward higher education, including: Fast Forward; The First Foot Forward Program; Strive Towards Educational Participation and Success; Community Engagement Project; Pasifika Achievement to Higher Education; Mentoring and Transition Equals Success; and Transition Success.

# ENGAGING WITH WESTERN SYDNEY OUR REGION AND BEYOND

## REGIONAL AND GLOBAL PARTNERSHIPS

Hosted by Western Sydney University, RCE Greater Western Sydney (RCE-GWS) is endorsed by the United Nations University Institute for the Advanced Study of Sustainability, with a focus on Education for Sustainable Development and the SDGs. Our partners, who include the region's educational institutions, organisations, businesses, community groups and local government, work together on tackling our region's sustainability challenges. We are 1 of 165 recognised RCEs globally and have strong links with the Asia-Pacific.

In 2018, Western Sydney (RCE-GWS) hosted the 11th Asia-Pacific RCE Regional Meeting and international symposium. Opened by the Vice-Chancellor and attended by 91 local and international participants, the 3-day event focused on Education for Sustainable Development and implementing of the SDGs.

## ENERGY ALLIANCE FOR GREATER WESTERN SYDNEY

*"[Our vision is] for Western Sydney to forge the way to Australia's energy transition, by dramatically increasing measures for renewables, efficiency and reduction towards net zero, through enabling strong cooperation between business, government, community, universities and households, providing practical trustworthy information and supporting energy projects and legislative change." GWSEA committee*

The Greater Western Sydney Energy Alliance (GWSEA) is a recently established network of organisations and groups dedicated to increasing the uptake of renewable energy across Western Sydney, connected to RCE-GWS. In 2018 the alliance supported local councils to host energy forums in Penrith, Blacktown and Cumberland, looking at energy efficiencies,

solar, battery storage, rebate assistance for residents. GWSEA worked with the Parramatta Business Chamber and the University to host a Sustainable Expo on energy, water, materials and waste in a contemporary business context, providing opportunities for businesses to collaborate with one another. They also supported a Western student intern to assist with building their website and communication platforms.

## TURN DOWN THE HEAT

Turn Down the Heat is a WSROC-led initiative, an RCE-GWS partner, that takes a collaborative, multi-sector approach to tackling urban heat in Western Sydney. It was developed with the input of 55 different organisations, including Western Sydney University. The strategy lays out a 5-year plan for a cooler, more liveable and resilient future for Western Sydney.



17 PARTNERSHIPS FOR THE GOALS



**SDG 17.16:** Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

# WALKING THE TALK ON GENDER EQUALITY

## SPOTLIGHT: WOMEN EMPLOYER OF CHOICE

*"Our goal is to promote and embed a gender-aware and gender-responsive culture that understands gender equality as a core value. That's our commitment."*  
Professor Barney Glover, Vice-Chancellor and University President.

Western Sydney University has sector-leading paid parental leave and return from maternity leave provisions, including a breast-feeding policy and flexible work arrangements. Our Gender Equality Committee is driving the agenda and projects associated with this work, including:

- 20 weeks paid maternity leave
- 40 week paid phased return to work scheme
- 8 weeks parental leave
- Specific support for women in relation to applications for academic promotion
- Research support incentives for women

## More than 50%

of our students and staff are women. Almost half (**47%**) of our managers are women, and we have one of the highest rates of women professors (**41%**) in the sector.

## 4,271

of our 7,561 students who embarked on their first degree at Western Sydney University this year are women.

## 1,208

female STEM students and graduates/alumni have engaged in the Women in Science and Engineering (WiSE) career development program since its inception in 2015.

**SDG 5.1:** To end all forms of discrimination against all women and girls everywhere.

5 GENDER  
EQUALITY



# OUR NEW GLOBAL HUB REDUCING INEQUALITIES

Western Sydney University was awarded the United Nations Academic Impact (UNAI) Hub for SDG 10: Reduced Inequalities.



Designated one of only 17 hubs internationally the hub is in recognition of the leadership, research, innovation and scholarship undertaken in support of SDG 10 'to reduce inequality with and among countries' and will serve as a resource for best practices for the United Nations Academic Impact network. UNAI is an initiative that aligns institutions of higher education with the United Nations in supporting and contributing to the realisation of United Nations goals and mandates, including the promotion and protection of human rights, access to education, sustainability and conflict resolution.



## WEATHERING THE STORM: THE CASE FOR TRANSFORMING THE HUNTER VALLEY

The Hunter Valley in New South Wales is the heart of Australia's thermal coal industry and the local economy is deeply rooted in coal mining and exports. Thus, the economic future of the region is intimately bound up with global efforts to prevent dangerous climate change.

Researchers from the School of Business, Dr Neil Perry and Dr Gillian Hewitson, conducted research that looked at 2 varying futures (business as usual or diversification) and found that there are far-reaching risks to the region with no preparation for global coal decline. With world action to implement the Paris Agreement climate change goals and the UN Sustainable Development goals, the Hunter is at serious risks if the region does not prepare for the global changes that are underway. Over 5,000 jobs and \$700M in wages and salaries could be lost if predicted global declines in coal occur.

## HUMAN RIGHTS CONFERENCE

*"Our hope is that the conference has made a positive contribution to human rights education worldwide."* Dr Sev Ozdowski

Running since 2010, in November the University hosted the 9<sup>th</sup> International Conference on Human Rights Education (ICHRE) led by Dr Sev Ozdowski AM, Director, Equity and Diversity.

The conference was attended by over 380 delegates and speakers from around 50 countries. The participation of some 110 high school students in the closing discussion panel was a welcomed innovation. ICHRE provides an opportunity for participants to learn about the latest research, practices and trends in human rights education for application to their ongoing work. It also strengthens their practical knowledge and skills and fosters contacts and networks to facilitate partnerships and collaboration. The Conference developed a Sydney Declaration on Human Rights Education to strengthen civil society as an agent for positive change.

## WIDENING PARTICIPATION

Widening Participation Programs undertakes activities that contribute towards the Federal Government target that by 2020, 20% of higher education enrolments at undergraduate level should be from people from low socio-economic status backgrounds. For more than 25 years, Western has been committed to widening participation, resulting in a continuous rise in the number of students from non-traditional backgrounds. The most successful activities are those that have a 'generational' impact, making the children of first-generation higher education students more likely to consider further education. Our priority student groups include:

- Low SES backgrounds
- Aboriginal and Torres Strait Islanders
- Pacific Islander backgrounds
- Women (studying in non-traditional areas)
- Non-English speaking backgrounds
- New and emerging communities (refugee and asylum seeker backgrounds)

**GRAPHICS**

Photos: Courtesy of Sally Tsoutas (2017), Western Sydney University photographer, unless otherwise indicated.

Icons: Flaticon (2019). [online] Available at: <https://www.flaticon.com/>

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