

WESTERN SYDNEY
UNIVERSITY



**REIMAGINING
WESTERN
2021**





WESTERN SYDNEY
UNIVERSITY



IN THE WORLD*



*Times Higher Education ranked Western Sydney University #1 worldwide in 2022 based on its commitment to the United Nations' Sustainable Development Goals

SUSTAINABILITY REPORT 2021

FOREWORD

Western Sydney University acknowledges the peoples of the Darug, Tharawal, Eora and Wiradjuri nations. We acknowledge that the teaching, learning and research undertaken across our campuses continues the teaching, learning and research that has occurred on these lands for tens of thousands of years.

We remain committed to delivering action on social justice, inclusive education, addressing inequality, environmental stewardship and resilience and fostering the next generation of thoughtful leaders and civic-minded citizens who can solve the complex global challenges of the world.

Climate change impacts and the COVID-19 pandemic made 2021 another challenging year for the world. The science is clear – the global community has an obligation to urgently address the cascading ecological and social impacts of climate change. Global La Niña weather patterns forecasting wetter conditions for Australia have been exacerbated by human-caused climate change. Extreme rainfall on the east coast of Australia in March led to widespread flooding across the state from the North Coast to the Sydney metropolitan area, including the Hawkesbury-Nepean region and impacting our campus network. Many areas experienced the worst flooding in 60 years impacting the wellbeing of people, planet and prosperity.

Our 7th annual report 'Reimagining Western' outlines how we, as a University community, have responded to these crucial demands of our times. In this report we focus on how we have 'reimagined' our work across our curriculum, operations, research and engagement (C.O.R.E). We have fast tracked our climate action by taking steps to address our carbon emissions and

investing in renewable energy for all our campuses, we have delivered cutting edge research across all our disciplines, and created transdisciplinary curriculum offerings.

We launched our decadal strategy *Sustainability and Resilience 2030* which sets out an ambitious and aspirational framework to the year 2030. We also navigated a second wave of the COVID-19 pandemic with campus lockdowns between June to October. During this time working, teaching and learning continued in a virtual environment. While we participate in global rankings annually, the 2021 data submission was the year we were recognised as world leaders in sustainability by the THE Impact Rankings tables. I want to commend all our staff and students for their commitment to this work and am very proud of what we have achieved together.



Professor Barney Glover AO
Vice-Chancellor and President



WE ARE WESTERN

OUR STUDENTS

Students*	47,971
Live in GWS	77%
First in family	64%
Born overseas	40%

OUR STAFF

Academic	1,475
Professional	1,836

OUR GWS CAMPUSES

Bankstown
Blacktown (Nirimba)
Campbelltown
Hawkesbury
Liverpool City
Parramatta City
Parramatta (South and North)
Penrith
Sydney Olympic Park
Westmead
Other sites **

OUR CURRENT RESEARCH THEMES

Education and Work
Environment and Sustainability
Health and Wellbeing
Urban Living Futures and Society

OUR SUSTAINABILITY STRATEGIES

Sustaining Success 2021–2026
Sustainability and Resilience 2030



OUR RANKINGS



1st
worldwide for
SDG 6: Clean Water
and Sanitation



2nd
worldwide for SDG 12:
Responsible
Consumption and
Production



3rd
worldwide for SDG 5:
Gender Equality



4th
worldwide for
SDG 10: Reduced
Inequalities



5th
worldwide for SDG 17:
Partnership for the
Goals



9th
worldwide for
SDG 14: Life Below
Water



10th
worldwide for
SDG 15: Life On Land



Western placed first globally in the prestigious University Impact Rankings, an initiative by the highly-influential Times Higher Education (THE) that assess universities against the United Nations' Sustainable Development Goals. This year more than 1,400 universities measured their research, outreach and stewardship on social, ecological and economic impacts. – Professor Kevin Dunn, Pro Vice-Chancellor (Research)



THE SDGS IN NUMBERS

OUR PROGRESS

Western aspires to be in the top 10 globally in the THE University Impact Rankings* for our SDG impact.

2021 AT A GLANCE:



1st

in the global Times Higher Education (THE) University Impact Rankings for our work and progress on the SDGs.



2,197

students graduated from health professions (medicine, nursing and midwifery, and health sciences) across all levels of study.



8,674

prospective high school students across the region participated in face-to-face and online school engagement and pathway programs.



46%

of our senior academic staff and more than half of our enrolled students and graduates are women.



252

publications on local and global research that is relevant to clean water and sanitation, with a 2.7 field-weighted citation index.



7,061

students are first in family to start their first degree and 5,244 commencing international students from developing countries. We have 809 Aboriginal and Torres Strait Islander students currently enrolled.



91%

of our total waste produced on campus was recycled, with only 9% of waste ending up in landfill.



100%

of our total energy used for campus electricity was from renewable resources as from the 1st July 2021 (Green Power Accredited).



26

regional partners in our RCE Greater Western Sydney multi-stakeholder network committed to collaboratively contribute to the 2030 Agenda.

AIM OF THE GOALS

SDG 3: Ensure healthy lives and promote wellbeing for all at all ages.

SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

SDG 5: Achieve gender equality and empower all women and girls.

SDG 6: Ensure availability and sustainable management of water and sanitation for all.

SDG 10: Reduce inequality within and among countries.

SDG 12: Ensure sustainable consumption and production patterns.

SDG 13: Take urgent action to combat climate change and its impacts.

SDG 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development.

ASPIRATIONAL, AMBITIOUS AND PROACTIVE

OUR DECADAL STRATEGY



Our Decadal Strategy details the reasons why, as a leading anchor educational institution deeply embedded in Greater Western Sydney, we must reimagine a more resilient, sustainable and prosperous future.

– Professor Juan Salazar, School of Humanities and Communication Arts and Jen Dollin, Sustainability Education



Sustainability and Resilience 2030 was launched in September 2021. Our Nine Interconnected Priority Statements present both a challenge and an opportunity. Three conceptual areas informed their development: Aboriginal and Torres Strait Islander Indigenous Knowledges; Planetary Health; and United Nations' Sustainable Development Goals (SDGs).

OUR NINE INTERCONNECTED PRIORITY STATEMENTS

- **Aboriginal and Torres Strait Islander Knowledges:** Embrace Indigenous knowledges for pathways to sustainability and Caring for Country.
- **Regenerative Systems:** Value biodiversity linking human wellbeing to environmental health.
- **Resilient Cities:** Enable urban resilience and adaptive capacity in our region.

- **Climate Action:** Step up efforts to support climate action in our region.
- **Economic Transitions:** Enact new visions for economic transitions through ethical economic and ecological relationship.
- **Ethical Artificial Intelligence (AI):** Harness the benefits of AI and automation in planning for sustainability.
- **Food Security and Sustainable Agriculture:** Promote agroecological principles for just food systems.
- **Justice:** Activate environmental justice and social inclusion to tackle inequality in our region.
- **Partnerships:** Collaborate with regional, national and international organisations across all sectors to deliver impact across these priority statements.

OUR 5P FRAMEWORK

Our priorities are aligned to the United Nations' 5P Framework - Planet, People, Prosperity, Peace and Partnerships - and mapped to the SDG targets.

- **Planet:** Protect our planet's natural resources and climate for future generations.
- **People:** End poverty and hunger in all forms and ensure dignity and equality.
- **Prosperity:** Ensure prosperous and fulfilling lives in harmony with nature.
- **Peace:** Foster peaceful, just and inclusive societies.
- **Partnerships:** Implement the agenda through a solid global partnership.

OUR ACHIEVEMENTS

2021 AT A GLANCE:

PLANET

 **10** new transdisciplinary minors launched for undergraduate students

LINKING OUR DECADAL STRATEGY

Our *Sustainability and Resilience 2030* strategy is committed to the **planet** by embracing Aboriginal and Torres Strait Islander knowledges and regenerative systems.



PROSPERITY

 **\$800k+** to support the newly established Lithgow Transformation Hub

LINKING OUR DECADAL STRATEGY

Our *Sustainability and Resilience 2030* strategy is committed to **prosperity** by enacting ethical economic transitions and artificial intelligence (AI).



PEOPLE

 **100%** commitment to our campuses being carbon neutral by 2023, fast tracking our commitment

LINKING OUR DECADAL STRATEGY

Our *Sustainability and Resilience 2030* strategy is committed to **people** by supporting and enacting resilient cities and climate action in our region.



PEACE

 **17 years** of being recognised as an Employer of Choice for Gender Equality

LINKING OUR DECADAL STRATEGY

Our *Sustainability and Resilience 2030* strategy is committed to **peace** by promoting just food systems, environmental justice and social inclusion.



PARTNERSHIPS

 **18** industry-funded PhD scholarships focused on sustainability such as health, agriculture, education and waste

LINKING OUR DECADAL STRATEGY

Our *Sustainability and Resilience 2030* strategy is committed to **partnerships** to mobilise the means required to implement this agenda.



CROSS-CUTTING THEMES

All our 5 Ps are underpinned by education to ensure that all learners acquire the knowledge and skills needed to promote sustainable development.



NSW FLOOD RECOVERY WILL TAKE YEARS...

“Extreme flooding in New South Wales in March 2021 triggered a two-week frenzy of media interest. But while the camera crews and journalists have since moved on, communities still face a long recovery. Some communities were grappling with the effects of bushfire, drought and COVID-19 before the floods hit. It’s important to remember that some flood victims clearly still need our help.” – Dr Ian Wright, School of Science

Research published in June found that many flood-ravaged homes had not yet been repaired and others were infested with mould. Farmers were also struggling to fix damaged infrastructure, while dealing with weed outbreaks and the memories of livestock killed in traumatic circumstances. By the end of March 2021, some 11,700 insurance claims for flood damage had been submitted with the number expected to grow. After natural disasters people often find their insurance policy does not cover the damage, or their claim is rejected, and this problem of under- or non-insurance is likely to worsen under climate change. Climate Council research shows one in every 19 property owners face the prospect of unaffordable insurance premiums by 2030. Flood-prone properties near rivers are particularly at risk. Separate research has also linked insurance disputes and rejected claims to depression among disaster victims. Governments, local councils and charities all try to offer support as do nation-wide flood appeals. It is vital to continue to support flood affected regions.

Human-induced climate change is causing dangerous and widespread disruption in nature and affecting the lives of billions of people around the world, despite efforts to reduce the risks. People and ecosystems least able to cope are being hardest hit.

Intergovernmental Panel on Climate Change (IPCC) Report 2022



Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

OUR CHALLENGES AND RESPONSES

FLOODS AND COVID-19

COMMUNITY CLIMATE ACTION: DEMANDS AND EXPECTATIONS

Climate change impacts and the COVID-19 pandemic made 2021 another challenging year. A 2021 survey of the more than 6,000 Greater Metropolitan Sydney residents found broad support for government-led action on climate change issues – from the drought to bushfires, floods and the COVID-19 pandemic – following multiple environmental crises. Delivered by the Institute of Culture and Society (ICS), with partners Future Earth Australia and Sydney Environment Institute, the research found strong support for integrating the experience and knowledge of climate adaptation of First Nations Australians.

SUPPORTING OUR INDIGENOUS ELDERLY

During the COVID-19 lockdown, the University sent regular care packages to members of Western's Indigenous Elders Advisory Committee.

HEALTHCARE STUDENTS TO HELP ROLLOUT VACCINATIONS

"I jumped at the chance to be part of the student workforce – I hope it will help boost vaccination rates and make a real difference in our local communities, particularly for the people of south-west and western Sydney." – Western student

Throughout August more than 70 students from across the University's healthcare disciplines put their hands up to be part of the 'Western students for Western students' initiative coordinated by Western Sydney Local Health District. The initiative to vaccinate affected Year 12s from across the region helped protect the HSC students' health and keep their final-year studies on track. Medical, nursing, paramedicine and other allied health students participated in delivering the COVID-19 vaccinations. These University students formed part of a much-needed surge workforce to support the mass vaccination hub located at Sydney Olympic Park.

EXPERT RESOURCES TO SUPPORT HOME SCHOOLING

"We understand that students across both primary and secondary years, and their families, have been severely impacted by the COVID-19 lockdowns. Our hope is that these resources will provide much-needed support to the parents and guardians who are selflessly stepping up to assist with their child's educational, mental and physical needs." – Professor Michele Simons, Dean, School of Education.

The School of Education launched their freely available online resources to help parents, guardians and caregivers who home-schooled their children during lockdown. Developed by experts from the School's Education Knowledge Network, the factsheets contain research-driven advice across the areas of English and Literacy, Mathematics, Physical Education, Creative Arts, Student Wellbeing and HSC support, and included in-language versions with Arabic, Chinese Mandarin, and Vietnamese translations.

SUPPORTING OUR PEOPLE



\$3.2 million

in support for our vulnerable students since the Student Assistance Fund was established



733,764

Zoom meetings held by our staff



10,000+

staff and students have engaged with the wellbeing resources provided (WHS&W)

SPOTLIGHT ON: WESTERN SUCCESS

Our Western Success Advisors continued to play an important role in supporting our students over 2021, through connecting students with social initiatives like MATES and WESTERNLife, providing access to resources and tools to enable students to succeed academically, such as PASS, or offering support with mental health and general wellbeing. Almost 7,000 international and domestic students were assisted by personalised peer-to-peer advice from Western Success Advisors. Over 8,000 virtual activities were held by the Student Community team and our student clubs, including live music, arts and crafts workshops, online bingo, movie and trivia nights, fitness classes, and Community Table discussions.

EDUCATION FOR UNCERTAIN FUTURES

REIMAGINING CURRICULUM

“To forge a successful future for themselves and their communities in a disrupted future of work today’s students need transdisciplinary breadth to add to disciplinary depth. The 21C project has reimagined our curriculum to meet these demands. – Professor Simon Barrie, Deputy Vice-Chancellor (Academic)”

NEW CURRICULUM OFFERINGS

To forge a successful future for themselves and their communities in a disrupted future of work today’s students need transdisciplinary breadth to add to disciplinary depth. These capabilities will produce leaders of tomorrow that can deal with complexity, uncertainty and diversity. Over 2021, the re-imagined 21C Project announced five new exciting Curriculum Challenges supported by academic Curriculum Champions and Curriculum Fellows from across the institution.

Our new Transdisciplinary 21C sustainability minors cover Climate Justice, Water for Life, Urban Evolution, Global Sustainability, Equitable Technologies, Eco-Socially Conscious Design and Manufacturing. These minors challenge our students to think beyond disciplines and develop the capabilities and competencies to confidently grapple with challenging questions of our time.

“I’m excited about these unique 21C offerings in sustainability for all our students. Connecting with diverse academic colleagues has strengthened all our teaching practices.” – Associate Professor Ricky Spencer, 21C Curriculum Champion (Sustainability Advocates)

OUR CURRICULUM CHALLENGES

- **Future Thinkers led by Dr Jenna Condie and Dr James Gourley:** Our Future Thinkers are creative inquiry-led, multidisciplinary, novel solution-oriented thinkers who can thrive in a digital world.
- **Global Citizens led by Associate Professor Brett Bennett:** Informed and engaged local Global Citizens, culturally competent, adept communicators, and stewards of our Western Sydney community.
- **Innovative Entrepreneurs led by Dr Tendai Chikweche and Dr Neil Perry:** Innovative Entrepreneurs are resilient, technologically savvy leaders with advanced knowledge and practical skills.
- **Sustainability Advocates led by Associate Professor Ricky Spencer:** Our Sustainability Advocates are committed to advancing and interrogating the UN Sustainable Development Goals.
- **STEM+ led by Dr Mariam Darestani and Dr Chris Jones:** Driving positive social and technological change through the development of STEM+ capabilities.

STUDENTS AS CURRICULUM PARTNERS

One of the most distinctive and exciting elements of the 21C project is that students are partnering with staff and external partners to co-create and co-design these new experiences using an idea we call Partnership Pedagogy. Student curriculum partners are employed to ensure a student voice is always present in the room when challenging, generating and testing curriculum ideas.

“Sustainability is a necessary guiding principle for how we think and how we live. This is why we need Sustainability Advocates. We’ve helped to co-create three transdisciplinary minors for students who are determined, passionate and more invested than ever for a more sustainable, equitable and hopeful future.” – Shivani Suresh and Kobi Newell, 21C Student Curriculum Partners (Sustainability Advocates)



SCAN ME

Scan the QR code to watch “Sustainability Advocates Minors” with Western students Shivani, Kobi and My and our 21C Champions.



Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

A new transdisciplinary minor

0315
Climate Justice

Challenge the way we deal with global crises. Act now.

WESTERN SYDNEY UNIVERSITY

SCAN ME

A new transdisciplinary minor

0196
Global Sustainability

Take on the grand challenge of building a sustainable society.

WESTERN SYDNEY UNIVERSITY

SCAN ME

A new transdisciplinary minor

0311
Water for Life

Explore the role of water in shaping our local and global communities.

WESTERN SYDNEY UNIVERSITY

SCAN ME

A new transdisciplinary minor

0310
Eco-Socially Conscious Design and Manufacturing

Contribute to a paradigm change in design and manufacturing.

WESTERN SYDNEY UNIVERSITY

SCAN ME

A new transdisciplinary minor

0312
Equitable Technologies

Demand a future in which technology serves equity and justice for those who most need it.

WESTERN SYDNEY UNIVERSITY

SCAN ME

A new transdisciplinary minor

0313
Urban Evolution

Create smart green solutions to care for our cities.

WESTERN SYDNEY UNIVERSITY

SCAN ME

OUR NEW 21C MINORS

WE CHALLENGE OUR STUDENTS TO ASK:

In a warming world how do we think beyond ‘business-as-usual’ thinking and offer just methods for multispecies flourishing in the present and future?

What would happen if technologies, digital systems and devices served the interests of those who need them most?

Water is essential to all life, yet the majority of women globally are precluded from water resource management and decision making – what does it take for these inequities to be addressed?

What urban revolutions are needed to transition our growing mega-cities to places of biodiverse sustainable food production, wellbeing and social inclusion?

With the ongoing automation of manufacturing and industrial practices how does eco-socially conscious design and manufacturing make a difference?



Target 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

IMPACT SNAPSHOT: TRANSDISCIPLINARY SKILLS FOR WATER LEADERS

Led by the School of Science, Western Sydney University partnered with the Australia-India Water Centre and the National Hydrology Project, India to lead the India Young Water Professionals (YWP) Program with 20 participants from across India. Funded by the Australian Water Partnership and supported by the Ministry of Jal Shakti, the YWP is a transformational capacity development program for young Indian water professionals. Commencing in 2021, the 10-month training (which focuses on leadership development, systemic thinking and gender equality and diversity) will equip emerging water professionals with the necessary skills, knowledge, behaviours and networks to better enable them to contribute to the development and management of water resources and water management reforms in India.

"Investing in our next generation of water leaders is essential if we are to address the world's most challenging water issues. The innovative Young Water Professionals Program is driven by research excellence and impact and is set to build a long-lasting relationship between India and Australia. Western Sydney University are delighted to be leading this important program." – Professor Deborah Sweeney, Deputy Vice-Chancellor (Research, Enterprise and International)

Professor Basant Maheshwari, School of Science, is leading this unique program with 70% percent of the training focused on project-based learning with real-world situations and clients supported by international supervisors and mentors.

With India facing a set of severe water challenges and demand for fresh water expected to exceed supply by 50% before 2030, what major water management reforms can be undertaken?



THE
AUSTRALIAN
WATER
PARTNERSHIP

WESTERN'S IMPACT RANKINGS



1st

in the world for SDG 6
in recognition of our
research, outreach and
stewardship in this space



Target 6a: By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
Target 6.b: Support and strengthen the participation of local communities in improving water and sanitation management

FORWARD THINKING TEACHING FOR THE FUTURE

OUR EDUCATIONAL PROGRAMS ASK:

What sort of curriculum inspires journalism students to be of service to people seeking to progress a fairer and more sustainable world?

What does an age-friendly future look like and how can society support older people to be their own active agents of change?

JOURNALISM EDUCATION FOR A SOCIALLY JUST WORLD, SCHOOL OF HUMANITIES AND COMMUNICATION ARTS

“Solutions journalism and constructive news reiterates journalism’s fundamental purpose: an obligation to truth, verification, independence from those it covers, and acting as an independent monitor of power.”

– Dr Asha Chand, School of Humanities and Communication Arts

Western’s immersive journalism program combines an understanding of how the news media works with practical experience in broadcast, print and online journalism underpinned by the principles of constructive news, ethical journalism and search for truth while presenting diverse voices in news. Our journalism students engage with these principles through authentic placements with a diverse range of communities who have not been represented in the mainstream media. These include providing live coverage of annual refugee forums and producing digital oral histories on senior Blacktown residents through the local library. Students receive in-depth media training in these areas and graduate prepared to make a difference in the world of news.

AGEING GRACEFULLY, SCHOOL OF NURSING AND MIDWIFERY

Western’s exciting new postgraduate program, focused on Ageing, Wellbeing and Sustainability, takes a strength-based approach to prepare practitioners and professionals involved in the planning and provision of services to communities to age successfully. The program offers students multiple perspectives of ageing combining biomedical, physical environment and design, legal, ethical, policy, service provision and social contexts. Flexible study streams include engaging communities, social ecology and ecopsychology and cultural change making this a truly transdisciplinary offering. Graduates will be able to apply comprehensive and integrated understanding to deliver outcomes and improve practices for an inclusive, sustainable and age-friendly future.

“Our new program stems from our strong advocacy on reimagining a ‘future for all ages’. It invites innovative thinking from professionals and practitioners studying the course, where a huge part of these ideas are around sustainability.” – Dr Jed Montayre, School of Nursing and Midwifery

SUSTAINABILITY MATTERS - ACADEMIC PROFESSIONAL DEVELOPMENT, LEARNING FUTURES

Western’s professional development program, Foundations of University Learning and Teaching (FULT), offer academic staff short bite-sized asynchronous modules to support their academic development. Sustainability Matters, developed consultatively with several Western staff, provides an introduction to key sustainability education concepts and our institutional commitments to sustainability. Learning outcomes for the Sustainability Matters module include:

- A basic understanding and critiques of the Anthropocene and the United Nations’ Sustainable Development Goals 2030 framework;
- Become familiar with Education for Sustainability (EFS) theory and connect with key pedagogical approaches to developing sustainability literacies;
- Initiate these core orientations through key readings in systems awareness, worldviews and futures thinking; and
- Be aware of further learning resources and opportunities to embed sustainability literacies in teaching.



Target 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

REIMAGINING CAMPUS OPERATIONS

ENVIRONMENTAL

SUSTAINABILITY

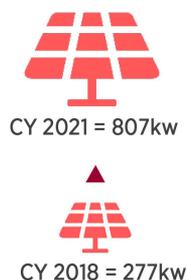
Operational dimensions of business continuity and support for the emerging learning and teaching approaches, have reinforced the current and ongoing need for resilience planning to the impacts of climate change we are already facing.

REDUCING OUR ENVIRONMENTAL FOOTPRINT

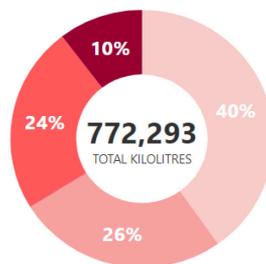
Over the last three years, our solar capacity has increased by almost three times with new solar installations coming online across our campuses, and electric vehicle charging stations installed. Our Hawkesbury Water Recycling Scheme, incorporating recycled water from Sydney Water, along with stormwater harvesting from the local catchment for re-use, continues to support our water savings strategy. Management of waste sources has resulted in a significant reduction in waste volumes over the last decade, and current waste compaction results in recycling of almost 90% of Western's total waste.

SOLAR ON CAMPUS

3-YEAR TREND



WATER CYCLE MANAGEMENT

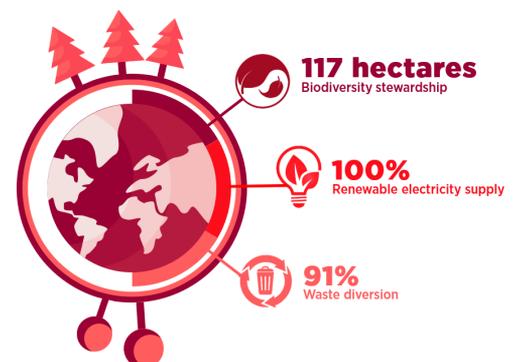
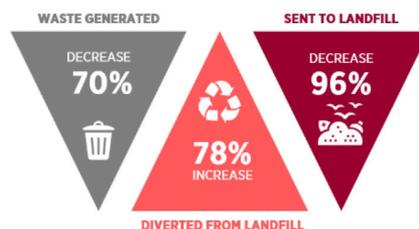


BIODIVERSITY STEWARDSHIP, CREDITS AND OFFSETS

It is recognised that progress towards being biodiversity positive complements carbon neutrality and the pathway to future low carbon and climate positivity. Increasingly institutional arrangements are incorporating different types of credits and offsets to reflect ecosystem services and impacts and financial offset requirements. Following a decade of efforts with the NSW Biodiversity Conservation Trust, Western's first Biodiversity Stewardship Site was established on Hawkesbury campus, encompassing 117 hectares of threatened native ecological communities, the Cumberland Plain Woodland.

WASTE AND RECYCLING

10-YEAR TREND



RACE TO ZERO

RENEWABLE ENERGY AND CARBON NEUTRALITY

During 2021, Western's electricity supply contract was updated to reflect 100% accredited GreenPower sourced from renewable sources, estimated at 39% of Western's carbon footprint in our 2021 Carbon Neutrality Implementation Plan. Following the University's commitment to the UN led 'Race to Zero for Universities and Colleges' of Carbon Neutral by 2023 and Climate Positive by 2029, steps were taken to begin the progress towards Climate Active accreditation with the assistance of the NSW Government's Sustainable Advantage Program. Supporting initiatives included further expansion of rooftop solar energy generation, planning towards roll-out of solar carparks, and installation of electric vehicle (EV) charging stations on most of our campuses.

"Western Sydney University's commitment to this pledge and fast tracking of carbon neutrality targets reiterates our dedication to addressing climate change and a future that is not only habitable, but also inclusive and equitable." – Professor Barney Glover AO, Vice-Chancellor and President



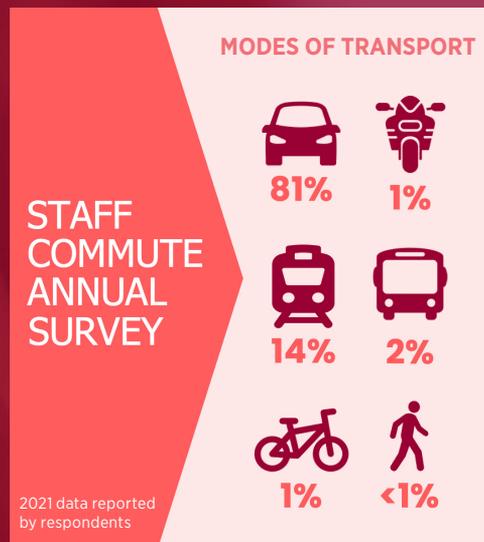
100%
carbon neutral by 2023



Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

STAFF COMMUTER SURVEY

As part of the University's 'Race to Zero for Universities and Colleges' pledge, the Environmental Sustainability team worked to estimate our carbon footprint. An important part of this is to understand how our staff typically travel to and from work. The great majority of staff drive to campus, with public transport used to a much lesser extent.



OPERATIONAL STEWARDSHIP

RESPONSIBLE INVESTMENT

The University implemented its new Investment Strategy and updated Investment Policy. The strategy and policy reflect investment principles aimed at strengthening the University's approach to Responsible Investment and ensuring that environmental, social and governance (ESG) issues are integrated into the development and implementation of the University's investment portfolios. The University has appointed Mercer as its investment advisor, a founding signatory to the Principles for Responsible Investment, and recognised as a global and local leader in responsible investing.



5th
out of 12 Australian universities for our responsible investment*

* The basis of these rankings is Mercer's peer-benchmarking methodology and assessment

WESTERN GROWTH AND INTEGRATED EDUCATIONAL PRECINCT

The University's Western Growth Strategy continues to build its embedded role in Western Sydney through Green Star accredited vertical campuses and integrated campus precincts. During 2021, the new Engineering and Innovation Hub opened in Parramatta city, enabling students from Engineering, Architecture, Industrial Design and Entrepreneurship, to draw upon the shared expertise of both Western and UNSW researchers and academics. It is both a Green Star and a WELL Health-Safety rated building.



Engineering and Innovation Hub, Parramatta city (6 Star Design)



1st
WELL Health-Safety rated building, monitoring features that impact human health and wellbeing



Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all

ON-CAMPUS INITIATIVES LIVING LABS



Living Labs are becoming an increasingly recognised approach to support the use of campus assets as educational resources addressing the complex and dynamic issues faced by our Western Sydney communities. – Dr Roger Attwater, Environmental Sustainability



SOLAR LIVING LAB AT KINGSWOOD

On Kingswood campus, Building Z saw an additional 100kw of rooftop solar, totalling 300kw of solar PV (made up of 200kw rooftop and 100kw solar carpark) along with the established 60kw of batteries. This scale of operation provides our first pilot micro-grid which contributes to the buildings adjacent to Building Z. The Solar Engineering Living Lab with Dr Ali Hellany and Dr Tosin Famakinwa continued to be utilised as a useful teaching resource, and the Centre for Smart Modern Construction's investigation of Internet of Things (IoT) and Building Information Modelling (BIM) progressed at the John Philips Library.



Scan the QR code to watch "Kingswood Solar Car Park" with Western student Will Goodwin.

WATER AT HAWKESBURY

On Hawkesbury campus, the collaborative research into constructed wetland performance between Sydney Water and the School of Science continued, with Dr Michelle Ryan taking a leadership role on this research project. Focusing on the stormwater treatment wetlands at Hawkesbury campus, the implications of this ongoing research program will inform emerging nutrient offset arrangements with Sydney Water and the NSW EPA. As part of the Hawkesbury Water Recycling Scheme this initiative also complements utilisation as a case study for "Water in the Landscape".

AGRICULTURE AT HAWKESBURY

The Hawkesbury Farm, also on Hawkesbury campus, continues to be a teaching resource for both the School of Science and the emerging teaching programs of the Centre of Excellence in Agricultural Education - Richmond Agricultural College. The Livestock Team comprising students from Animal Science and Sustainable Agriculture

re-established their activities following the interruptions necessary due to COVID-19. On the Hawkesbury Farm, The Yield Internet of Things (IoT) application continued to be used for farm operations including irrigation, and greenhouse gas flux monitoring equipment installed by Professor Elise Pendell, from the Hawkesbury Institute for the Environment, in an area managed for regenerative commercial agriculture.

EMERGING TECHNOLOGIES AT PARRAMATTA

On Parramatta South campus, the ecological assets of Vineyard Creek continued to be a case study for our Communication Arts students. Two groups investigated the design of emerging technologies in collaboration with IT students, including the opportunities for the design of smartphone apps to integrate imagery from 360-degree filming and potentially virtual reality (VR) and augmented reality (AR) overlays.



REIMAGINING RESEARCH CLIMATE FUTURES

Western’s reputation for undertaking world-class research further highlights the University’s commitment to produce high-impact, future-focused research that will address current global challenges.
– Professor Deborah Sweeney, Deputy Vice-Chancellor (Research, Enterprise and International)

CHILL THE HEAT: GLOBAL TEACHING ARTISTS FOR CLIMATE ACTION

The arts and cultural sector have a critical role to play in leading the community towards climate action. The International Teaching Artist Collaborative global climate flagship initiative aims to positively impact the climate crisis using teaching artistry. In 2021 Dr Rachael Jacobs, School of Education was one of five teaching artists globally commissioned to participate in this project. Working with community artists in music, dance, drama, visual arts and poetry and connecting with community organisations including schools, early learning centres, youth services, aged care providers and refugee communities ‘Chill the heat’ created arts experiences that responded to the urban heat in South-West Sydney. A core aim was to centre First Nations knowledge to decolonise thinking about climate justice and environmental protection.

“The arts offer hopeful, empowering and inspiring avenues for action required at systemic levels. Arts education also has a key role in helping all people understand the science of climate change and its ramifications, as well as engaging the creative thinking required to address its challenge.” – Dr Rachael Jacobs, School of Education

BURNING QUESTIONS: DROUGHT DETECTIVES EXAMINE HOW AUSTRALIAN FORESTS WILL COPE WITH A HOT, DRY AND FIREY FUTURE

“We’re really interested in gaining a more quantitative understanding of fire regimes and how they emerge from environmental conditions, and socioeconomic conditions as well. We can use that understanding to support fire managers in their decision-making and achieve better outcomes.” – Associate Professor Matthias Boer, Hawkesbury Institute for the Environment

Extreme bushfire events such as the Black Summer fires of 2019/20 are likely to be more common in eastern Australia if drought conditions occur more often in a warmer world. Western’s bushfire research is helping to understand the conditions that lead to fires and guide management and responses to them. A current project has found that trees’ circulatory systems under drought effectively collapse due to hydraulic failure. The fact that this knowledge was so late in coming, in a country as drought-prone as Australia, reveals the paucity of understanding of how native vegetation responds to extremes of heat, drought and fire.

FIREPROOFING CONSTRUCTION: SAFE, GREEN BUILDING MATERIALS

The recent strong climatic alteration and fierce bushfire hazards worldwide, especially in Australia, are becoming a more frequent risk for the housing and building industry, endangering life and properties. Multi-storey and residential buildings are most prone and vulnerable to fire due to commonly used highly combustible materials such as metal composite panels, insulated cladding systems and high-pressure laminates. The School of Engineering, Design and Built Environment received an ARC Discovery Project grant to develop an innovative, sustainable, durable and green construction and building material with enhanced fire resistance capability. The research will enhance integrity and safety of buildings and increases the energy efficiency for buildings.

“This project will significantly advance the research and application of green cement and find a solution for recycling and reuse of a large amount of waste by-products in construction towards a circular economy, bringing significant environment, social, commercial and economic benefits to Australia and the world.” – Professor Sarah Zhang, School of Engineering, Design and Built Environment and Research Theme Champion



Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

WESTERN'S SDG RESEARCH CONTRIBUTIONS



3.63

the world average field-weighted citation impact (FWCI) for SDG 2



4.15

the world average field-weighted citation impact (FWCI) for SDG 10



12.18

the world average field-weighted citation impact (FWCI) for SDG 16

DIVERSE RESPONSES TO THE CLIMATE CRISIS

COOL RESPONSES FOR WESTERN SYDNEY

Significant funding was received by HIE to investigate how a diverse range of trees use water to respond to increasingly high temperatures in experimental and natural conditions.

“Established trees can reduce local average temperatures significantly, but tree water use varies a lot by species, geographic origin and other factors. If we can better understand which species tolerate heat and drought through effective water use, we can select species that offer higher cooling potential and resilience in future climates.” – Dr Renee Prokopavicius, Hawkesbury Institute for the Environment

Western Sydney Cool Roads Trial researched how effectively we could reduce the amount of heat being absorbed by asphalt roads across three Councils (Blacktown, Campbelltown and Parramatta). As part of this trial, the road's asphalt colour is lightened from black to light grey by applying two coats of 'GuardTop CoolSeal'. It was found that CoolSeal reduced surface temperature of asphalt by an average 6°C during the daytime.



Target 11.B: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change and resilience to disasters

CURATING MUSEUM COLLECTIONS FOR CLIMATE CHANGE MITIGATION

“The benefits of this exciting cross disciplinary collaboration include developing new collections-based climate research which incorporate the perspectives of multi-stakeholders, including Indigenous Australians, and builds museums' capacity to grow public climate literacy.” – Dr Fiona Cameron, Institute for Culture and Society

Dr Fiona Cameron from ICS and Professor David Ellsworth from HIE are leading an ARC Linkage project that aims to investigate how museum collections, many of which have histories entangled in Australia's high emission sectors that supported the nation's economic growth, can be curated to support climate change mitigation. Drawing together the disciplines of biogeochemistry, museology, environmental humanities, Indigenous knowledge and education, the project anticipates enhancing the Museum of Applied Arts and Sciences' capacity for climate action through innovative programs.

RESEARCHER SNAPSHOT: WORKING FOR RIVERS

“One of these changes is improved water quality and aquatic life in the Georges River. The improvements in aquatic life include signs that sensitive freshwater macroinvertebrates are returning to the Georges River to reaches that were previously contaminated by mining wastewater. Public reporting of contamination testing required under EPA licence conditions shows substantial reductions in contaminants such as salinity, cobalt, copper, lead, zinc and manganese.” – Dr Ian Wright, School of Science

Dr Ian Wright has advocated for clean water across Australia over his career at Western. Coal mines have an impact on the waterways that surround them, but until recently, the government only regulated a handful of these impacts. In the Sydney Basin, this has led to hazardous levels of heavy metals in waterways including waterways flowing through the Blue Mountains Heritage Area. Ian’s work on the impact of coal mining on the Georges and Wollongambe Rivers has led to better regulation of wastewater discharge from coal mining. To make this change, Ian worked with government, industry and concerned community stakeholders. By focusing on consensus and evidence, Ian and his team have made breakthrough changes to the health of rivers in Sydney. Ian’s latest collaboration has been with Dr Leo Robba in a community-based arts and science partnership, ‘The Painted River’.



15 years

of research by Dr Ian Wright, students and colleagues, has helped keep coal mine pollution out of Sydney waterways and rivers



SCAN ME

Scan the QR code to watch “The Painted River Project” narrated by Dr Leo Robba, School of Humanities and Communication Arts.

This clip was showcased as an exemplar of sustainability in action at the *Sustainability and Resilience 2030* launch.

WESTERN'S IMPACT RANKINGS



1st

in the world for SDG 6 in recognition of our research, outreach and stewardship in this space



Target 6.3: By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally



Target 14.1: By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

RESEARCHING BETTER WORLDS LOCAL TO GLOBAL

INVESTIGATING INNOVATIVE WASTE ECONOMIES: REDRAWING THE CIRCULAR ECONOMY DISCOVERY PROJECT

“A key benefit of this research is that it will provide evidence of how different waste practices enable more sustainable ways of living.” – Professor Gay Hawkins, Institute for Culture and Society

Australia is facing a waste crisis and government and industry are promoting the Circular Economy as a solution. Professor Gay Hawkins and Dr Stephen Healy from the Institute of Culture and Society are leading a Discovery research project that investigates innovative cultural and economic practices in three waste streams: single use plastics, organics and bulky household waste, to understand how they realise or redraw the circle. The project develops empirical evidence to advance thinking about how novel waste economies are organised and the cultural and social innovations they generate. Outcomes include national and international case studies of innovative waste economies, social learning events with industry stakeholders and academic publications.

NATIONAL COMMUNITY CONSERVATION PROGRAM

With significant funding through the Australian Government’s Citizen Science grant program, the ‘1 Million Turtles Program’ has become the largest initiative of its kind undertaken across Australia. Communities, management agencies and biologists are connected through 1 Million Turtles and working together to help conserve our freshwater turtles. From reporting turtles through the TurtleSAT app, to participating in a nationwide experiment for the National Nest Predation Survey, and constructing Turtle Islands, community conservationists are trained and enabled through the program. The Turtles in the Schools program is connecting children with their local biodiversity and training the next generation of citizen scientists.

“Not only are turtles iconic in Australia, but they are also of major importance in river ecosystems and a loss of abundant scavengers will have serious effects on general river health. Through our national program we’re calling on citizen scientists to help us turn this problem around by reporting turtle sightings, as well as engage with and co-create community conservation strategies throughout Australia. Citizen science isn’t just great for collecting data; it actually makes science personal.” – Associate Professor Ricky Spencer, School of Science

FIX MY FOOD: CHILDREN’S VIEWS ON TRANSFORMING FOOD SYSTEMS

“Outcomes directly contributed to the 2021 UN Food Systems Summit and have been presented as part of UNICEF’s global Food Systems Dialogue with children to accelerate international efforts to achieve the SDGs.” – Dr Catharine Fleming, Young and Resilient Research Centre

UNICEF and the Young and Resilient Research Centre at Western Sydney University consulted children and young people about food, food environments and food practices. The report details children’s experiences and perspectives on food systems, and their ideas and recommendations about what they want families, communities, organisations, governments and young people themselves to do, to rethink and rework food systems for the 21st century.

Over 700 children and young people from 18 countries shared their views on food systems and key challenges to eating nutritious, safe, desirable and sustainable food, and the improvements necessary for the 21st century. The study guides nation-states, NGOs and other organisations to help shape action to transform food systems to be more effective and sustainable and deliver on children’s rights.



REIMAGINING ENGAGEMENT MEANINGFUL CONNECTIONS

Engagement is viewed as a partnership for mutual benefit between Western and its communities, be they regional, national or global. Engagement is also a distinctive way of carrying out research, teaching, learning and service, the core business of the University.

NEW INDIGENOUS LEADERSHIP APPOINTMENTS

Western Sydney has the largest Indigenous population in Australia, and the University plays a vital role to ensure this population is reflected across our own student and staff community. In 2021 Western announced two new senior leadership appointments, with Professor Susan Page joining the University as its Director of Indigenous Learning and Teaching, and Professor Gawaian Bodkin-Andrews appointed as the Director of Indigenous Research. In collaboration with the Deputy Vice-Chancellor Indigenous Leadership, these appointments will lead the implementation of our University's Indigenous Strategy by working to strengthen Indigenous research, teaching and learning across the University.

"I warmly congratulate these outstanding higher education leaders, who are passionate about expanding our knowledge and understanding of Indigenous matters and increasing Indigenous peoples' participation in higher education." – Professor Michelle Trudgett, Deputy Vice-Chancellor (Indigenous Leadership)

ANNUAL YARRAMUNDI LECTURE: HEAL COUNTRY

"This year's Yarramundi Lecture highlighted the voices of some of our most prominent leaders and Elders who shared their insights. The compelling discussions focused on a shared vision for embracing Indigenous knowledge and understanding of Country." – Professor Michelle Trudgett, Deputy Vice-Chancellor (Indigenous Leadership)

Western's 24th annual Yarramundi Lecture exploring the 2021 NAIDOC theme 'Heal Country' was held virtually in December. A celebration of Indigenous history, culture and achievements, the online event brought together students, staff and members of the community. The Yarramundi Lecture is part of Western Sydney University's longstanding commitment to supporting Indigenous people's aspirations, including across education, research and as future leaders. The forum provides space for critical discussion of issues of local and national importance and was established out of respect and recognition of First Nations people. It has become central to the University's longstanding commitment to its Aboriginal and Torres Strait Islander communities.

REIMAGINING CLIMATE ADAPTATION NATIONAL SUMMIT 2021

Future Earth Australia, in partnership with the Sydney Environment Institute, University of Sydney and the Institute for Culture and Society, Western Sydney University hosted the Reimagining Climate Adaptation Summit in April. The Summit attracted over 440 attendees with 36 speakers and four keynotes including a number of Indigenous scholars from Australia and the Pacific, bringing together people from research, business, climate, community and government.

TECHNOLOGY LEADERSHIP EVENT

Frontier Technologies for Sustainable Development: Opportunities and Challenges was held in September 2021 as a thought leadership event to explore how emerging and transformational computing technologies such as artificial intelligence, smart sensing, knowledge discovery and data analytics can support sustainable development in health, wellbeing and equality. The event featured contributions of leading experts from Western, Flinders University, CSIRO, Amazon Web Services, CoviU Global and the Australian Computer Society. Technical sponsorship was by the International Federation for Information Processing.



MALDHAN NGURR NGURRA

In April 2021, the Maldhan Ngurr Ngurra Lithgow Transformation Hub officially opened. In Wiradjuri language, Maldhan Ngurr Ngurra broadly translates as ‘working together, side by side’. The Hub is a collaborative space for community, business, government, education and industry to come together to explore a wealth of possibilities for just transitions for the Lithgow region. Following community consultation, the Hub has six priority areas:

- **Gateway to Wiradjuri:** a space for local Traditional Owners and the Aboriginal community to yarn, learn and share knowledge with the broader community.
- **CHEERS:** a holistic health and wellbeing program including pop up safe space.
- **Activate: Incubate:** an activator and incubator for emerging and regenerative industries.
- **Education for Life:** an education program focusing on school students, the unemployed and older residents.
- **Lithgow Sprint:** immediate, powerful recoding of Lithgow’s narratives through youth voices, building to an integrated program of writing residencies, events and mentorships.
- **The Core:** acting as the coordination and governance spine of the Hub.

In late 2021 the Hub was successful in attracting external funding of over \$820k to support this vital work to build community resilience.

The aim of the Lithgow Transformation Hub is to ensure a vibrant and thriving future consistent with the United Nations’ Sustainable Development Goals. – Associate Professor Louise Crabtree-Hayes, Institute for Culture and Society



IMPACT SNAPSHOT: MICROPLASTIC COMMUNITY TRAINING DAY

Under the reinvigorated Hawkesbury-Nepean Waterkeeper Alliance, Western Sydney University researchers and trained student facilitators, in collaboration with Streamwatch and Greater Sydney Landcare Network, joined citizen scientists to assess the presence of microplastics in the Hawkesbury-Nepean River. Volunteers were provided with hands-on training on the methods of collecting sediment samples and identifying different types of microplastics on campus.

“Much of the current research into microplastics is focused on oceans – there is a need to explore the impacts on freshwater systems like the Hawkesbury-Nepean. We were delighted to see a number of community members from a variety of backgrounds attend this workshop. Some volunteer regularly and others were just interested community members who care about improving the health of the waterway.” – Dr Michelle Ryan, School of Science and Waterkeeper

This citizen science data formed a key river health indicator on the Alliance’s first Hawkesbury-Nepean River Report Card.



Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

CITIZEN SCIENCE DATA



4

pieces of microplastics on average were found per teaspoon* of riverbank sediment

(* in a 3 gram sample)



21

volunteers, academics and students undertook the microplastic count

WESTERN’S IMPACT RANKINGS



1st

in the world for SDG 6 in recognition of our research, outreach and stewardship in this space

THINK GLOBAL, ACT LOCAL

RCE GREATER WESTERN SYDNEY

The Regional Centre of Expertise (RCE) Greater Western Sydney network (RCE-GWS) – auspiced by Western Sydney University – has been building collaborative and innovative place-based Education for Sustainable Development (ESD) initiatives for ten years to deliver local impact.

HAWKESBURY RESILIENCE PROJECT

“Whether it’s how to prepare for fire, plant trees, cope with stress, recover from flood, go solar, respond to emergencies, connect with your neighbours or lobby government, we all have something useful to teach and to learn about living well in these challenging times. We wanted to appeal to hearts, not heads. We started by asking people to tell us how climate change makes them feel. Having heartfelt community conversations doesn’t point the finger but it is very powerful.” – Tanya Ritchie, Hawkesbury Resilience Project Manager

Funded by AdaptNSW, the Hawkesbury Resilience Project delivered a series of forums, workshops and community climate training to over 150 residents through education, engagement and empowerment, bringing together all types of people that are passionate about their place. Digital engagement was also focused on – which included a ‘one-stop-shop’ website, an interactive map, social media messaging and digital marketing – and attracted more than 100,000 digital impressions. Western drew upon three student interns to develop interactive digital resources and key messaging.



HAWKESBURY-NEPEAN WATERKEEPER ALLIANCE

The Hawkesbury-Nepean Waterkeeper Alliance achieved re-endorsement under the international Waterkeeper Alliance this year. The original Waterkeeper initiative, set up in 2011, was renewed with a new collaborative RCE-GWS working group from Western Sydney University (comprising Sustainability Education and School of Science), Greater Sydney Local Land Services, Greater Sydney Landcare Network (GSLN) with Streamwatch and GSLN member groups: Cattai Hills Environment Network, Hawkesbury-Nepean Landcare Network and Hawkesbury Environment Network. In 2021, the Alliance:

- Endorsed a new Waterkeeper, Dr Michelle Ryan, river advocate and aquatic ecologist;
- Hosted two hands-on community citizen science training days on the river;
- Developed a Terms of Reference for a ‘Friends of the Alliance’ network;
- Refreshed their website to include updated river resources; and
- Received a \$10k community grant from Sydney Water to extend their work.



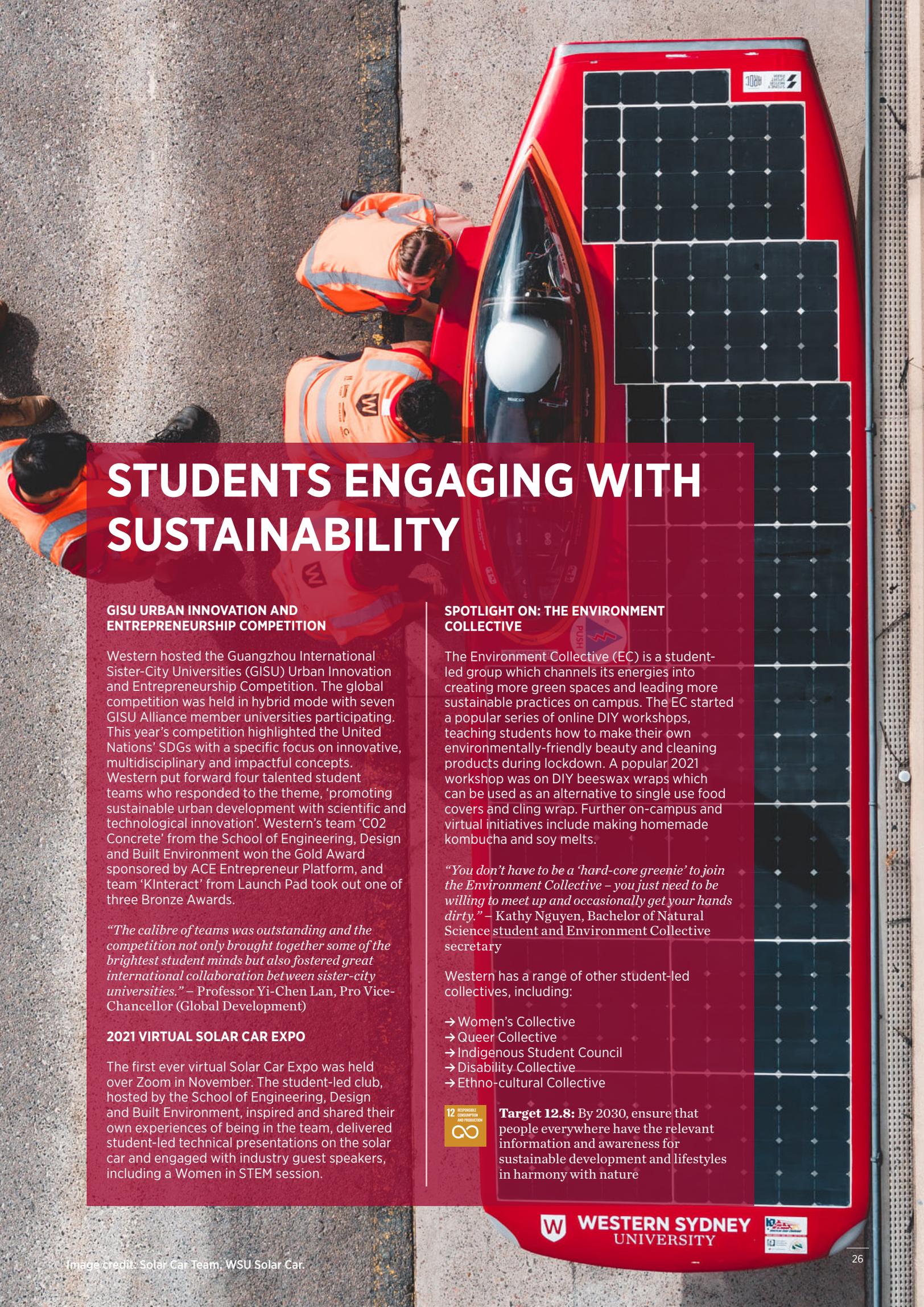
YOUTH FOR THE GOALS 2021: RESILIENT PLANET AND COMMUNITIES

“We as young people have made a significant contribution over the last four years, taking hopeful action for our own uncertain futures.” – Brittany Vermeulen, RCE Asia-Pacific Regional Youth Focal Point, RCE Greater Western Sydney

The RCE SDG Youth Challenge models how to mobilise existing sustainability networks to engage youth in a meaningful and empowering way. It addressed the 2030 Agenda through education and partnerships to localise action for the SDGs. The global youth-led initiative targeted young people at all levels of formal and informal learning and from a wide range of social contexts and cultural backgrounds. Led by RCE-GWS since its inception in 2018, the initiative has connected directly with over 27,000 individuals across 12 countries delivering 57 place-based projects. The fourth, and final, SDG Youth Challenge in 2021 focused on action for SDG 11, 12 and 15 with youth-led sustainability projects including awareness campaigns, youth empowerment training, conservation efforts and social enterprises.



Target 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



STUDENTS ENGAGING WITH SUSTAINABILITY

GISU URBAN INNOVATION AND ENTREPRENEURSHIP COMPETITION

Western hosted the Guangzhou International Sister-City Universities (GISU) Urban Innovation and Entrepreneurship Competition. The global competition was held in hybrid mode with seven GISU Alliance member universities participating. This year's competition highlighted the United Nations' SDGs with a specific focus on innovative, multidisciplinary and impactful concepts. Western put forward four talented student teams who responded to the theme, 'promoting sustainable urban development with scientific and technological innovation'. Western's team 'CO2 Concrete' from the School of Engineering, Design and Built Environment won the Gold Award sponsored by ACE Entrepreneur Platform, and team 'KInteract' from Launch Pad took out one of three Bronze Awards.

"The calibre of teams was outstanding and the competition not only brought together some of the brightest student minds but also fostered great international collaboration between sister-city universities." – Professor Yi-Chen Lan, Pro Vice-Chancellor (Global Development)

2021 VIRTUAL SOLAR CAR EXPO

The first ever virtual Solar Car Expo was held over Zoom in November. The student-led club, hosted by the School of Engineering, Design and Built Environment, inspired and shared their own experiences of being in the team, delivered student-led technical presentations on the solar car and engaged with industry guest speakers, including a Women in STEM session.

SPOTLIGHT ON: THE ENVIRONMENT COLLECTIVE

The Environment Collective (EC) is a student-led group which channels its energies into creating more green spaces and leading more sustainable practices on campus. The EC started a popular series of online DIY workshops, teaching students how to make their own environmentally-friendly beauty and cleaning products during lockdown. A popular 2021 workshop was on DIY beeswax wraps which can be used as an alternative to single use food covers and cling wrap. Further on-campus and virtual initiatives include making homemade kombucha and soy melts.

"You don't have to be a 'hard-core greenie' to join the Environment Collective – you just need to be willing to meet up and occasionally get your hands dirty." – Kathy Nguyen, Bachelor of Natural Science student and Environment Collective secretary

Western has a range of other student-led collectives, including:

- Women's Collective
- Queer Collective
- Indigenous Student Council
- Disability Collective
- Ethno-cultural Collective



Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

LOOKING FORWARD

COMMITTED TO

JUST TRANSITIONS

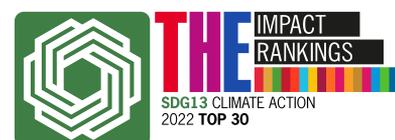
Many of our Western students and staff live in Western Sydney, and climate impacts are increasingly becoming a major liveability issue for our region's future. As Western Sydney gets hotter, significant urban heat impacts on our health, infrastructure, economy and the environment are being experienced.

Our decadal strategy *Sustainability and Resilience 2030* signals our serious commitment to climate action, adaptation and mitigation. Key operational initiatives are underway making rapid progress towards these targets, including the Race to Zero pledge, and our Sustainable Energy Strategy, Environmental Sustainability Action Plan, and Carbon Neutrality Implementation Plan. Our educational offerings provide students with the opportunity to study climate specialisations such as Global Climate Change Adaptation and Mitigation, Urban Planning for Cool Green Cities, and Climate Justice.

Western will also play a lead role in the NSW Government's goal of achieving net zero emissions by 2050, following the announcement of a \$15 million investment in the NSW Decarbonisation Innovation Hub. The University – one of a few core partners in the Hub – will work to fast track research, development and adoption of decarbonisation technology and practices across NSW. Led by the Hawkesbury Institute for the Environment with expertise across the University, Western will collaborate with government, industry and the community.

OUR CLIMATE TARGETS

2021 100% RENEWABLES IN ELECTRICITY SUPPLY CONTRACT (**ACHIEVED**)
2023 CARBON NEUTRAL ACCREDITATION FROM CLIMATE ACTIVE
2029 CLIMATE POSITIVE BY 2029 (AND PILOT ON HAWKESBURY BY 2025)



Western's sustainability reports were recognised by the Times Higher Education (THE) as global best practice at the 2021 THE Masterclass. Sustainability Education compiles these reports annually in collaboration and consultation with the many colleagues across our C.O.R.E. areas that are featured each year.

GRAPHICS

Photos: Courtesy of Sally Tsoutas (2022), Western Sydney University photographer, unless otherwise indicated.

Icons: Flaticon (2022). [online] Available at: <https://www.flaticon.com/>

SDG Icons: United Nations Sustainable Development (2016). [online] Available at: https://www.un.org_news_communications-material

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**INTERNATIONAL ART PRIZE:
WESTERN STUDENTS WINS YOUTH
CLIMATE ART CHALLENGE**

Western's student, Cathy Liu, won Outstanding Artwork at this year's RCE Youth Climate Art Challenge. Youth brought awareness to the challenges faced due to climate change from their own perception, but also convey what a vision for the future can entail, and why it is important for action to be taken.

"I have been interested in sustainability in the last few years after a big paradigm shift... I was moving house and realising that I owned a lot of 'stuff', I became more conscious about what I used and bought and threw away. My artwork depicts living a climate-friendly life by consciously choosing a smaller footprint... mend your sock holes, re-attach fallen buttons, and build a habit of using what you already have around you instead of replacing what already works." – Cathy Liu, Bachelor of Computer Science



Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

*Use the Hills Hoist
instead of a dryer. –
Cathy Liu, Bachelor
of Computer Science*

Youth from across the world created works of art focusing on SDG 13 to engage with 'hearts, hands, heads'. This award was announced at the 12th RCE Global Conference held in Scotland, as a side event at COP 26.



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