



SUSTAINABILITY AND RESILIENCE 2030

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"Over generations we observed and experienced those conditions on This Land, recording in story and song what we had learned, how the times of day were important for certain duties, how the changes in the weather were rhythmic, recurring year after year, and how other, longer cycles either lengthened or shortened the pulse of the rhythms. We learned that the availability and sustainability of those resources upon which our life depended could be extended if we respected the Land rather than used it."

Aunty Fran Bodkin, Dharawal Elder, 2017. ¹

"...to help the great and continuing work of building a more equal, open, tolerant and independent Australia"

Gough Whitlam, 12 November 2010.

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.

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¹ Aunty Fran Bodkin (2017) in Karen Malone, Son Truong, Tonia Gray, editors 'Reimagining Sustainability in Precarious Times'. Springer.



Part I:

Sustainability and Resilience 2030

This Decadal Strategy '*Sustainability and Resilience 2030*' emerged in 2020; a time of cascading global crises. One in ten people globally are now living in an area declared a climate emergency and no part of the world is untouched by the global coronavirus pandemic. The rapid spread of the COVID-19 pandemic has fuelled further 'slow' crises of inequality such as increased poverty and homelessness. Working with our communities and partners, it is clear we need to anticipate and prepare for a disrupted, indeterminate and uncertain future in a post COVID-19 world as well as adapt to the predicaments of global environmental change. It is in our collective interest to challenge current unsustainable trajectories and be ambitious for a future on a planet that is not only habitable, but for a world that is inclusive and equitable.

Our strategy details the reasons why, as a leading anchor educational institution deeply embedded in Greater Western Sydney, we must envision a more resilient, sustainable and prosperous future. *Sustainability and Resilience 2030* is a call to come together as a community around key aspirations that frame a vision for just transitions to sustainable ways of living that leave no one behind. We do not start from an empty space. There has been a long and rich tradition of sustainability and resilience research, teaching and learning at this University since its inception. Western Sydney University is recognised internationally for our commitment to providing access and opportunity to higher education; for undertaking research and teaching that makes a difference; for developing a multi-use, connected, innovative and campus network; and for facilitating impactful partnerships across the region and the world. We believe that we are well placed to provide a platform for acceleration of, and transitions towards, sustainable and resilient praxis at multiple levels – within our local communities, as well as nationally and globally.

Local particularities are not only the other side of the coin of global processes – they carry stories, a history. Our University is physically emplaced in the lands of the Darug Nation, the Bidjigal People of the Dharawal Nation, the Wiradjuri Nation and the Gadigal and Wangal People of the Eora Nation. We acknowledge their traditional ownership of those lands and 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 recognise that Greater Western Sydney has the second-largest population of Aboriginal and Torres Strait Islander peoples in Australia and is one of the most diverse cultural communities in the world. This situates the University in a unique position, providing opportunities to explore and embed a rich cultural dimension across all aspects of the University's activity.

We are ambitious for how we as an institution engage respectfully and with impact with local communities and local places. *Sustainability and Resilience 2030* starts by embracing the diversity of peoples and places in Greater Western Sydney, leveraging the ethnicity and global perspectives of our community, our students and staff's global perspectives, from where a multiplicity of futures are made.

This Decadal Strategy has a broad aspiration to consider the symptoms of what is in effect a crisis of habitability on this planet. It asks us all to proactively recognise and reimagine the interdependence of life, starting within our region Greater Western Sydney, and also to recognise the contribution that we have in a wider global context. *Sustainability and Resilience 2030* asks us to reimagine the transitions that are urgently needed to tackle the challenges of the 21st century that are so profoundly redefining human social life.



To chart these possible paths forward, this strategy sets out our Nine Interconnected Priority Statements for sustainability and resilience that guide our overall decadal action planning and can be enacted across our Curriculum, Operations, Research and Engagement (CORE) portfolios of activity. These open up an opportunity to work together on the urgency of adapting to the conditions of the 21st Century, not only by reducing our carbon footprint and consuming and wasting less, but also rethinking how we manage resources, positively respond to threats from natural and human-induced environmental change, and how to embrace the opportunities for reducing ongoing inequalities across our region. This has significant implications for how we focus on our emerging priorities and extend our research, transform our campuses into beacons of sustainable innovative communities, develop new curricula for the global citizens and leaders of the future, and create strong, impactful and resilient partnerships.

Sustainability and Resilience 2030 is purposely aspirational and ambitious – it is grounded in proactivity and hope and focuses our commitment to areas where we will deliver real change. We believe that with dedication and commitment it will contribute to the resilience of our University, our staff and students, and the region we serve, and will provide a platform for demonstrating globally applicable initiatives for achieving sustainability and resilience.

Nine Interconnected Priority Statements for Sustainability and Resilience 2030

Our Nine Interconnected Priority Statements have been developed to focus our actions for the decade to 2030. These statements are both a challenge and an opportunity for the University. The United Nations Sustainable Development Goals 2030 (SDGs 2030) blueprint has informed the development of these statements. One of the most innovative and far-reaching aspects of the SDG 2030 Agenda is that it recognises the interlinkages between the goals, and the need for them to be addressed as an indivisible and integrated whole. Similarly, our statements are not a group of siloed priorities – progress and action on one of these themes must balance and support progress on the others. *Sustainability and Resilience 2030* complements our other decadal initiatives such as Flight Path, Western Health and Western Creative. It also builds on directions set in our strategic plan, *Sustaining Success 2021 – 2026*, which articulates sustainability as a key guiding principle. *Sustainability and Resilience 2030* also leverages our other institutional strategies – our Indigenous Strategy, our Education Strategy and our Research Strategy – as well as supporting our local operational plans such as the Environmental Sustainability Action Plan.

Our **Nine Interconnected Priority Statements²** are:



- **Aboriginal and Torres Strait Islander Knowledges Priority Statement:** Embrace Indigenous knowledges for pathways to sustainability and Caring for Country (planet)
- **Regenerative Systems Priority Statement:** Value biodiversity linking human wellbeing to environmental health (planet)
- **Resilient Cities Priority Statement:** Enable urban resilience and adaptive capacity in our region (people)
- **Climate Action Priority Statement:** Step up efforts to support climate action in our region (people)

² Refer Part IV for context regarding the development of the Nine Interconnected Priority Statements



- **Economic Transitions Priority Statement:** Enact new visions for economic transitions through ethical economic and ecological relationships (prosperity)
- **Ethical AI Priority Statement:** Harness the benefits of AI and automation in planning for sustainability (prosperity)
- **Food Security and Sustainable Agriculture Priority Statement:** Promote agroecological principles for just food systems (peace)
- **Justice Priority Statement:** Activate environmental justice and social inclusion to tackle inequality in our region (peace)
- **Partnerships Priority Statement:** Collaborate with regional, national and international organisations across all sectors to deliver impact across these priority statements (partnerships).

Sustainability and Resilience 2030 is structured as a living strategy in four distinct yet connected parts that will generate responses and initiatives beyond what is currently envisaged. It is designed to be an ongoing discussion and initiative, to be open to interrogation and renewal over time. An interactive digital platform based on ecological design thinking will support the implementation of the strategy. The platform has been designed to be a vehicle for genuine engagement and to enable renewal of the Decadal Strategy ensuring it is itself sustainable. We envisage each school, institute and division will identify their own activities to contribute to this strategy as well as their own five year milestones for delivery.

Part I: **Sustainability and Resilience 2030** outlines our vision with Nine Interconnected Priority Statements.

Part II: **Our Challenges and Opportunities** explores the University's potential to leverage its Curriculum, Operations, Research and Engagement to chart a more sustainable future.

Part III: **Creating CORE Impact Together:** Planet, People, Prosperity, Peace and Partnerships includes a series of 53 suggested strategic actions.

Part IV: **Building Collective Local Engagement** includes a set of resources to move this forward and our collective local engagement digital platform.

Western has instituted a distributed governance framework for coordinating and monitoring the implementation of sustainability strategic and priority actions. This framework is known as CORE: Curriculum, Operations, Research and Engagement. From these strategic actions, four key priority actions emerge:

- **Curriculum:** Deliver 21C Curriculum Challenges and work to embed and identify SDG capacity in our curriculum.
- **Operations:** Achieve carbon neutrality by 2030.
- **Research:** Demonstrate SDG impact of our research profile and consolidate Western's position in the Times Higher Education Impact Rankings.
- **Engagement:** Develop an SDG 2030 schools' strategy for the leaders of tomorrow leveraging our CORE expertise to develop pathways to study sustainability at Western and work meaningfully with community partners.

Together we can focus staff and students and connect with the Greater Western Sydney community and our partners to learn, enable, adapt, transition and harness our collective knowledge to deliver meaningful impact.



Part II:

Our Challenges and Opportunities

We have matured as a University founded to serve the region of Western Sydney. This strategy is underpinned by the University's key strategic initiatives that are well progressed and are constantly developing and evolving. It builds on our commitment to sustainability as a central principle in our new strategic plan Sustaining Success 2021 – 2026. We will need to further develop resilience and just responses to climate change, future pandemics and inequality at a number of levels – by creating resilient graduates and supporting staff to do so, developing a resilient, innovative campus network, and by ensuring economic resilience to enable us to invest in impactful learning and research activities.

Our Nine Interconnected Priority Statements provide the strategic platform through which the University can focus our staff and students, connect with the Greater Western Sydney community, and engage with our partners to learn, enable, adapt, transition and harness our collective knowledge to deliver meaningful impact. Focus and investment in sustainability, resilience, equity and justice is critical throughout the next decade. Strategic and operational platforms are crucial to ensuring the principles outlined in this Decadal Strategy will be strengthened within our organisation. The impact of COVID-19 will continue to be significant in relation to the capacity for investment, so planning strategies need to be cognisant of sensitivity for staging of investment to address both key resilience and sustainability risks, such as those for climate change in Western Sydney, and provide pathways towards deepening our institutional responsibility and contribution to pragmatic and effective progress over the next decade.

Curriculum

Education is an important force for the promotion of equity, equality, fairness and social justice in our wider society. For a 21st century facing cascading crises including pandemics and climate change, as well as social and economic disruption, the University of the future will need to be agile, responsive and prepared. We have developed internationally recognised teaching and research programs based on pushing academic boundaries – from the early days of the “Hawkesbury Experiment” and systems agriculture, to social ecology, to the establishment of the Institute of Culture and Society recognising the critical importance that culture and cultural theory plays in social development. Our sustainability and resilience work sits across disciplines and demands creative arts and humanities responses as well as science, technology, engineering and mathematics (STEM) focus. We advocate a STEAM approach – STEM inclusive of Arts/Humanities that will generate new responses to sustainability and resilience challenges.

For our students the 21st Century Curriculum (21C) Project is a key initiative of the University's response to a disrupted future of work that offers graduates new opportunities and demands that universities equip our students with new knowledge and abilities for their future success. The University's commitment to anchor the growing cities of Western Sydney means we seek to ensure the social benefits of projected economic growth address the significant social disadvantage in the region. Western will ensure that our curriculum not only works well as a system, providing students with the skills they need for a rapidly evolving future of work, but that it works as part of the wider Greater Western Sydney region and beyond.

Operations

For our campus infrastructure and operations, a key aspect of resilience planning has been the focus on systemic connectivity, and strategies to mitigate 'cascading failures'. A Preliminary Resilience Assessment was undertaken in 2019/2020, focusing on climate change risks for our campus infrastructure and campus communities of practice. This scope informs broader social, infrastructure and landscape imperatives due to the ongoing



development and role of Western within the region. Embedding resilience in strategy and planning is through the following key initiatives:

- Enhancing capacities across the CORE domains (Curriculum, Operations, Research and Engagement), promoting citizen scholarship and Living Labs, and developing resilient precincts through Green Star Communities;
- Enhancing integrative infrastructure strategies (including sustainable energy and water strategies), strategic asset planning, and design for thermal tolerance and protection and;
- Implementing adaptation strategies for design and operations, such as HVAC demands and passive thermal design, thermal comfort through shading and refuges, and readiness for increasing bushfire risk and storm damage.

The Environmental Sustainability Action Plan 2020 has been developed as a guide to the development of campus infrastructure and other operational areas. It covers initiatives focused on resilience and climate change, biodiversity conservation, regenerative and sustainable peri-urban agriculture, sustainable energy, water cycle management, waste and circular economy and social and corporate responsibility. Through the Living Labs agenda these campus operations are closely linked to learning and teaching across disciplines.

Our Western Growth Strategy has at its core the development of economic resilience for the University through rethinking our campus footprint and converting underutilised assets to future income streams. The design and construction of Western Growth initiatives is sector-leading in adopting resilience and sustainability strategies. The Penrith Sustainable Innovation Community initiative will provide a platform for academic, research, community, industry, government and University collaboration of world-leading place-making strategies for a better world – enabling the University to leverage this precinct as a showcase for sustainability and resilience strategies, and obtain learnings to further develop our thinking on how to best support into the future.

Research

Our research addresses issues of immediate and long-term significance for sustainability. During the summer of 2019/20 extreme urban heat was experienced across the region where on 4 January 2020, Penrith recorded 48.9 degrees Celsius, and becoming the hottest record in the Sydney Basin. World-leading research at Western has highlighted the critical relationship between rapid urban development and extreme heat. Our Research Theme Champions initiative was established in 2016 by appointing Western Sydney University academics tasked with creating flexible team structures for collaborative research; developing an overarching vision for their research theme connected to society's grand challenges; increasing research output and impact in complex and interdisciplinary research areas; mapping of research focus in the University; servicing those areas of research strengths; and increasing awareness of, capacity within, and alignment with the designated University research themes.

Eight Theme Champions from a range of disciplines are leading our research agenda across the four Research Themes:

- [Education and Work: Access, Equity and Pathways](#)
- [Environment and Sustainability: Climate, Agriculture and Liveability](#)
- [Health and Wellbeing: Translation, Integration and Innovation](#)
- [Urban Living Futures and Society: People, Culture, Economy and the Built Environment](#)

Engagement

Engagement is viewed as a partnership for mutual benefit between the University and its communities, be they regional, national or global. It is also seen as a distinctive way of carrying out research, teaching, learning and service. Through these activities, working in



partnership with our many and varied communities, we aim to contribute to the development, wellbeing and prosperity of the communities and regions we serve, starting with Western Sydney.

At Western, we believe in lifelong learning and have established a series of ongoing programs to engage and inspire primary and secondary school students to see the exciting possibilities that await them in higher education. Ongoing programs such as our Widening Participation initiative encourages students from non-traditional and low socioeconomic backgrounds to see their participation in higher education as not only achievable, but a setting in which they can thrive in. By developing an SDG 2030 schools' strategy we can encourage the leaders of tomorrow to engage with sustainability challenges and opportunities today.

Learning to live in a post COVID-19 world

We are faced by the immediate challenge of learning to live in a post COVID-19 world. The COVID-19 global pandemic³ was declared by the World Health Organisation (WHO) in March 2020. In the Western Sydney region this was preceded by a historical bushfire crisis across south-eastern Australia that was followed by widespread regional flooding. During the summer of 2019/20 extreme urban heat was experienced across the region where on 4 January 2020, Penrith recorded 48.9 degrees Celsius, and becoming the hottest record in the Sydney Basin. World-leading research has highlighted the critical relationship between rapid urban development and extreme heat. These unprecedented 'events' took place as Australia's annual environmental report recognised that 2019 was 'probably the worst in a century or more'.⁴ With 40 additions to the threatened species list in 2019, this annual report clearly demonstrates how ecosystems are falling apart and struggling to recover before the next major disturbance.

During the first half of 2020 COVID-19 had taken the world by storm, deeply affecting the social and economic fabric of both cities and rural areas on a global scale. In less than 90 days since the first identified case in Wuhan, China, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was already recorded in over 215 countries and territories.⁵ The interconnectedness of our globalised world has facilitated the spread of this virus. The disruption that emerging new pandemics could continue to cause is exacerbated by our societal dependence on global production systems. It has compounded existing social inequities: a person's risk of infection, and the quality of their access to health services, is subject to national, racial and socioeconomic realities predating the virus' spread.

The questions this Decadal Strategy asks are many. The most critical one is:

How can we invest in a healthy, green and just recovery that tackles inequality, contributes both to the urgent global task as well as a much needed Western Sydney context of addressing climate change adaptation, and ensures health and wellbeing of both humans and the planet?

³ Refer to Appendix 2 for more detailed information on the COVID impact and considerations.

⁴ Albert Van Dij, Luigi Renzullo, Marta Yebra and Shoshana Rapley. (2020) Australia's Environment in 2019. Australian National University <https://fennerschool.anu.edu.au/news-events/events/australias-environment-report>

⁵ WHO. (2020) Timeline of COVID-19 <https://www.who.int/news-room/detail/29-06-2020-covidtimeline>



Part III:

Creating CORE Impact Together

Planet, People, Prosperity, Peace and Partnerships

For the purposes of defining our actions and initiatives in implementing *Sustainability and Resilience 2030* over the next decade, we have outlined the context of the Nine Interconnected Priority Statements in more detail. We have structured our actions for these statements across five key thematic: planet, people, prosperity, peace and partnerships. This connects to the United Nations framing of the SDGs as well as provides a platform for extension of these concepts across Indigenous knowledges and Planetary Health ([refer to Part IV](#)).

Further engagement and consultation are required across the University in order to further develop and finalise the key focus and actions across our Nine Interconnected Priority Statements for our decadal horizon. We will do this using our CORE (Curriculum, Operations, Research and Engagement) framework which will allow deep connection across the University's key areas of responsibility. It is proposed that focus groups will be formed for each thematic – planet, people, prosperity, peace and partnerships – in order to further define and develop the specific focus areas and key targets for related priority statements over the next decade. These focus groups will also remain in place to monitor progress toward realisation of our strategy and report on progress to an executive sponsor group. This will provide clear accountability for progressing and monitoring the achievement of our strategic intent of the *Sustainability and Resilience 2030*.

Some suggested actions have been included for each thematic as a starting point. The actions and targets to be further developed should outline how we will make a difference to our community, staff and students in a regional and global context by mobilising activities related to each priority statement.

PLANET

- **Aboriginal and Torres Strait Islander Priority Statement: Embrace Indigenous knowledges for pathways to sustainability and Caring for Country.**
- **Regenerative Systems Priority Statement: Value biodiversity linking human wellbeing to environmental health.**

'If I could wave a magic wand at this really pivotal time in Western Sydney when we're competing against road corridors, rail corridors, airports, immigration of 200,000 people, a burgeoning industry – you name it, we've got it and it's all happening here on this particular corridor called the Cumberland Conservation Corridor. There are a couple of links that aren't protected and if I had a few million bucks and the government had the wherewithal you'd be acquiring those really key sites to make sure this Cumberland Conservation Corridor formed a permanent link. And it's just – I can't tell you – we need these links between these core biodiversity areas ... We just



need to make sure that those links right now are protected because five, ten years from now, they'll be gone for sure ..."

Private landholder, Cumberland Stepping Stones Project⁶

Snapshot: Biodiversity and riparian zones in Western Sydney

- Cumberland Plain Woodland (CPW) in the Sydney Bioregion is listed as a critically ecological community with less than 6% of original bushland remaining.⁷
- The Western Parkland City is projected to grow from 740,000 people in 2016 to 1.1 million by 2036, and to well over 1.5 million by 2056, and the Western Sydney region will need to include dedicated areas for green spaces.
- Along the waterways of Western Sydney, regulated wastewater and sewerage treatment plants discharge into our rivers adding to environmental flows.⁸

This priority statement recognises the interdependence of humans and the environment. Australia has a highly variable climate with a naturally occurring cycle of wet and dry periods. Droughts and fires are an expected product of this variability, although their severity and frequency are changing due to climate change. Our lack of resilience is evidenced by the current crisis in the Murray-Darling Basin. This region is not just a food bowl, but a living ecosystem that depends on interconnected natural systems, which underpins the livelihoods of 2.6 million people and agricultural production worth more than A\$24 billion⁹. Over-extraction risks the health of the entire basin, and its capacity to sustain productive regional economies for future generations. The impacts of drought are all-encompassing: the damage to crops, pastures and environment; the uncontrollable fires that can take hold in dried-up forests and grasslands; the lack of water in dams and rivers that stops them from functioning; and consequent societal and economic disaster.

Climate scientists and ecologists have demonstrated that climate change influences the frequency, seasonality and inter-annual variability of suitable, prescribed, burning weather conditions in south-eastern Australia. The bushfires from late 2019 to February 2020 unfortunately demonstrate the interconnectedness of our natural and social systems. According to the CSIRO bushfires burnt an estimated 10 million hectares in southern Australia – roughly a fifth of Australia's temperate forest biome – following an extended period of drought amplified by climate change. An estimated one billion animals were killed, and some endangered species may be driven to extinction. At its peak, air quality dropped to hazardous levels across many Australian cities and NASA estimated that 306 million tonnes of CO₂ had been emitted. During the crisis 34 people died and as of April 2020, close to 18,000 Australians remain internally displaced. An estimated 5,900 buildings were destroyed, and the response

⁶ Dollin, J; Somerville, M; and Hardiman, B (2017). Cumberland Stepping Stones Community Evaluation. https://www.westernsydney.edu.au/_data/assets/pdf_file/0007/1285360/CSS_Final_Report_Final.pdf

⁷ NSW Threatened Species Scientific Committee. <https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2008-2010/cumberland-plain-woodland-critically-endangered-ecological-community-listing>

⁸ Sydney Water: <https://www.sydneywater.com.au/SW/water-the-environment/how-we-manage-sydney-s-water/wastewater-network/wastewater-treatment-plants/index.htm>

⁹ Professor James Pittock (2020), ANU Fenner School of the Environment. <https://science.anu.edu.au/news-events/news/damning-royal-commission-report-leaves-no-doubt-we-all-lose-if-murray-darling-basin>



and recovery effort exceeded A\$4.5 billion, with tourism sector revenues falling more than A\$1 billion. Aboriginal people were among those most affected.¹⁰

The University's main campus network is situated on traditional Aboriginal lands across the Cumberland Plain Basin and bounded by the major river systems of Sydney – the Hawkesbury, Nepean, Parramatta and Georges Rivers. Cumberland Plain Woodland (CPW) communities are endemic to Western Sydney and are classified as critically endangered by state and commonwealth legislation. This bushland has been reduced to less than 6% of their original extent due to extensive clearing for agriculture and urban development. Remnant patches are present but are small and scattered, degraded by human disturbances and weed invasion. Outside of protected areas, urban development is squeezing and restricting remnant bushland to low-lying areas in Western Sydney – often located along the region's riparian zones and flood prone. We are fortunate to have the third largest stand of CPW on our Hawkesbury Campus and access to rivers and waterways for our teaching and learning.

Recognising the importance of learning from Indigenous knowledges, this priority statement builds on Western Sydney University's Indigenous Strategy. Western's Indigenous Strategy is a conduit for progress in a region that is home to one of the largest urban Indigenous populations in the country. Australian Aboriginal peoples' concept of and relational connections to 'Country' have been documented by Aboriginal Elders and Indigenous and non-Indigenous academic researchers.¹¹ The meaning of the English word 'country' has been transformed into a 'multidimensional, relational, connective, life-giving, flowing, recursive, consubstantial matrix' where Country is sentient and Aboriginal people sing, talk and grieve for Country (Rose, 1996, Somerville, 2014). There is much to learn from collaborative approaches and learning with the oldest continuing culture in the world. Through a 'Caring for Country' and 'Regenerative Systems' priority this Decadal Strategy can genuinely contribute to the building of Indigenous cultural viability and knowledge while supporting sustainability and resilience efforts.

Strategic Actions to 2030

Curriculum:

- Deliver 21C Curriculum Challenge 'Global Citizens' to develop graduates that are globally informed and locally engaged, culturally competent with a focus on First Nations knowledges, adept communicators, and stewards of our Western Sydney community; and
- Establish a transdisciplinary Planetary Health and SDG teaching hub for campuses drawing on each campus' assets and community connections such as the Hawkesbury Water Recycling Scheme, Wetlands Monitoring Centre and Parramatta River.

Operations:

- Incorporate Indigenous language and identifiers throughout all campuses;
- Seek to embed Indigenous knowledge in all operational initiatives; and
- Vegetation Management Plans for all campuses linked to active bushcare/landcare groups.

Research:

- Implement a CORE agenda on cultural burning and biodiversity management;

¹⁰ Professor Juan Salazar (2020) WSU. https://www.westernsydney.edu.au/home/events/bushfire_research

¹¹ Rose, 1996, Gammage 2013, Somerville and Perkins 2003, Somerville 2013, Somerville 2014, Bodkin 2017, Bhiemie Williamson, Jessica Weir and Vanessa Cavanagh (2020)

<https://theconversation.com/strength-from-perpetual-grief-how-aboriginal-people-experience-the-bushfire-crisis-129448>



- Partner in the establishment of a Planetary Health Leadership Centre in the Blue Mountains; and
- Establish a UNESCO Chair Planetary Health.

Engagement:

- Partner with Aboriginal and Torres Strait Islander people in inclusive collaborations;
- Support Hawkesbury River International Waterkeeper's Alliance, Parramatta, Georges and Cooks Riverkeeper's networks; and
- Increase connectivity with the Himalayan Universities Consortium (HUC) on Sustainable Mountain Development.

PEOPLE

- **Resilient Cities Priority Statement: Enable urban resilience and adaptive capacity in our region (people)**
- **Climate Action Priority Statement: Step up efforts to support climate action in our region (people)**

"We have the most students of any university in NSW from Aboriginal and Torres Strait Islander, Pasifika, refugee, and low SES backgrounds. We are therefore especially aware of the need to care for the country on which Western Sydney was built, to act urgently to protect those nations in the Pacific most immediately at risk of rising sea levels, to open our arms to those that the climate crisis inevitably will displace, and to ensure there is a secure and just transition of the workforce to a sustainable economy."

Climate Caucus Student Group 2019

Snapshot: Urban heat in Western Sydney

- 37 days above 35 degrees Celcius ('hot day') recorded in 2018-2019 in Penrith, 19 days recorded in Parramatta and 20 days in Bankstown. This is compared to 6 days in the Sydney CBD. (Greater Sydney Commission, 2019)
- 35 degrees Celcius is the threshold for a 'hot day' because the human body's ability to cool itself reduces, making it a common benchmark temperature. (HeatWatch, 2018)
- 100% higher energy consumption for cooling purposes in Western Sydney than in the eastern suburbs during hot days. (Sydney Water, 2018)

Climate change is not on pause. Weather patterns are changing, sea levels are rising, and weather events are becoming more extreme – 2019 marked the end of the warmest decade (2010-2019) ever recorded. Carbon dioxide (CO₂) levels and other greenhouse gases in the atmosphere rose to new records and while greenhouse gas emissions are projected to drop about 6% in 2020 due to travel bans and economic slowdowns resulting from the COVID-19 pandemic, this improvement is only temporary. Once the global economy begins to recover from the pandemic, emissions are expected to return to higher levels. A Preliminary Resilience Assessment (PRA) has been undertaken for all Western Sydney University campuses focusing on climate change risks for our campus infrastructure and campus communities of practice.

The Paris Agreement, adopted in 2015, aims to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels. The agreement also aims to strengthen the ability of countries to deal with the impacts of climate change, through appropriate financial flows, a new technology framework and an enhanced capacity building framework. However:



"Currently there is a significant gap between the aggregate effect of the global signatories' mitigation pledges under the Paris Agreement in terms of global annual emissions and attempts to keep the rate of warming below 2 degrees. Failure to achieve such a goal will make worldwide efforts to end poverty and reverse inequalities more difficult or impossible."

Knowledge, Culture, Climate Action Conference organisers, 2019

Western Sydney University is a Research and Independent Non-Governmental Organisation (RINGO) to the United Nations Framework Convention on Climate Change. RINGOs are organisations engaged in independent research and analysis aimed at developing sound strategies to address both the causes and consequences of global climate change. They form a constituency in their own right to contribute to the United Nations Framework Convention on Climate Change (UNFCCC), in a parallel way to ENGOs (Environment), BINGOs (Business and Industry), LGMAs (Local Governments and Municipal Authorities) and the IPOs (Indigenous Peoples' Organisations).

The ability of our communities and society to adapt to changing circumstances and economic conditions is fundamental to our future sustainability. We can contribute to the ability to learn and gain knowledge, creating flexible problem-solving strategies and techniques through application of our research and teaching frameworks. Through the development and implementation of Western Growth innovative place-making initiatives, we have a unique platform upon which to build circular economic frameworks and test beds for adaptive communities and places. Our plans for the Penrith Sustainable Innovation Community will provide a test bed for determining the wider role that we can play in the development of sustainable and resilience communities for the future through meshing place-making, research and educational initiatives and recognising and exemplifying that lifelong learning.

Strategic Actions 2030

Curriculum:

- Deliver 21C Curriculum Challenge 'Sustainability Advocates' to develop graduates that are committed to interrogating and advancing the UN Sustainable Development Goals.

Operations:

- Carbon neutrality by 2030;
- Develop resilient precincts through Green Star Communities and enhancing integrative infrastructure strategies including sustainable energy and water strategies, strategic asset planning, and design for thermal tolerance and protection;
- Implementation of the Penrith Sustainable Innovation Community Precinct as an integrated circular economic platform for lifelong learning; and
- Implement adaptation strategies for readiness for increasing bushfire risk and storm damage.

Research:

- Urban heat mitigation and adaptation research with WSROC councils; and
- Increasing our participation as a RINGO in the UNFCCC and other United Nations science and governance processes.

Engagement:

- Engagement with Local, State and Federal Government on initiatives to support the development of our campus infrastructure; and
- Partner with organisations that are equally committed to supporting climate resilience actions.



PROSPERITY

- **Economic Transitions Priority Statement: Enact new visions for economic transitions through ethical economic and ecological relationships (prosperity)**
- **Ethical AI Priority Statement: Harness the benefits of AI and automation in planning for sustainability (prosperity)**

"The 21st century calls for a far more ambitious and global economic goal: meeting the needs of all within the means of the planet. The challenge now is to create economies, local to global, that ensure no one falls short on life's essentials – from food and housing to healthcare and political voice – while safeguarding Earth's life-giving systems, from a stable climate and fertile soils to healthy oceans and a protective ozone layer."¹²

"Many businesses in the region are aware of the need to automate function in their businesses but not across the technology that exists and ways it could be implemented. Even more than this, most businesses don't know who can assist them in finding out this information."¹³

Snapshot: Manufacturing in NSW beyond business as usual

- Manufacturing remains a significant activity in Australia's economy and supports 1.27 million jobs.
- NSW contains nearly 30% of Australia's direct manufacturing workforce, with Food manufacturing far outstripping other product areas in terms of numbers employed (followed by Fabricated Metal Products and Other Machinery).
- Manufacturing plays a major role in the social inclusion of people from many different backgrounds and is where the productive capacity of the society is nurtured.
- Our research in the manufacturing sector has found that there is a move to a business culture that is 'more than smart' and 'more than green.'
- This culture of manufacturing situates technological advancements in the wider social context where concerns for good jobs are placed alongside the demand for greater productivity and financial returns. It also focuses on environmental sustainability at all stages of the production process and supply chain, as well as looking to the greenfield renewable energy sector and its associated new business opportunities.¹⁴

The United Nations 2030 Agenda is predicated on the basis that gross domestic product (GDP) can be decoupled from resource use and carbon emissions. However, an important number of scientific and economic studies warn that the planet can only safely sustain human consumption at or below 50 billion tons of 'stuff' each year. This includes everything from raw materials to livestock, minerals to metals: everything humans produce for consumption. At present the world is consuming 80 billion tons each year – roughly 60% more than the safe limit. Under business-as-usual conditions, economic growth will likely drive global resource use to an astounding 180 billion tons per year by 2050. That is more than three times the safe limit. Globally, the building and construction sector accounted for 36% of final energy use and 39% of energy and process-related carbon dioxide (CO₂) emissions in 2018, 11% of

¹² <https://www.resilience.org/stories/2017-04-06/doughnut-economics/>

¹³ "Making Western Sydney Greater: Edition 5 - H1 2017." Sydney: William Buck, 2017, 13.

¹⁴ Gibson, K., Cameron, J., Healy, S. and McNeill, J., 2019, Beyond Business as Usual: A 21st Century Culture of Manufacturing in Australia, Sydney, Australia: Institute for Culture and Society, Western Sydney University



which resulted from manufacturing building materials and products such as steel, cement and glass.¹⁵ Rebuilding sustainable and resilient communities and regions begins with rethinking this approach and acknowledging the land as pedagogy, where healing, mobilisation, decolonisation, healing and transformation are necessary steps towards the sustainability and resilience of our region.

Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. There is no internationally agreed definition of AI however it can include any software technology with at least one of the following capabilities: perception (including audio, visual, textual, and tactile); decision-making; prediction; automatic knowledge extraction and pattern recognition from data; interactive communication; and logical reasoning.¹⁶ The emergence of artificial intelligence (AI) is shaping an increasing range of sectors and AI is expected to affect global productivity, equality and inclusion and environmental outcomes. The capabilities of AI such as automating routine tasks, analysing big data, and bringing intelligence and learning to various processes, can enhance capacity to understand and solve complex, dynamic and interconnected global challenges such as the SDGs. There are also potential negative impacts of AI on sustainable development and there is currently a lack of research assessing the medium- and long-term impacts of AI. Research shows that AI may act as an enabler on 134 targets across all SDGs, generally through a technological improvement, however, 59 targets (35%, also across all SDGs) may experience a negative impact from the development of AI.¹⁷

Algorithms and AI currently shape all our lives and have the potential to renew longstanding inequalities when designed by a non-diverse workforce. We urgently need new digital platforms that are underpinned by different values and visions. The ethical and societal implications of algorithms, data and AI (ADA) is an area of critical data studies and emerging research at Western. With advances in the Internet of Things (IoT) and Communication Technology Systems (CTS) space, current initiatives at Western include enabling sustainable houses, precision agriculture and co-construction with agricultural landholders. These all require connections with critical data studies. We believe these tools hold great prospective development over the next decade and we are committed to ethical and careful developments through our CORE areas.

Strategic Actions

Curriculum:

- Deliver 21C Curriculum Challenge 'Innovative Entrepreneurs' to develop graduates that are resilient, technologically-savvy leaders with advanced knowledge and practical skills; and
- An inter-disciplinary teaching program across schools from Undergraduate to Masters that includes Science and Technology Studies, critical data studies, data and digital literacies, applied AI and ethics.

Operations:

- Enable accessibility through transport strategies that support the connectivity across the community and campus network;
- Sustainably manage space utilisation and increase flexibility across the campus network to support Hy-Flex teaching methods;

¹⁵ Global Status Report for Buildings and Construction 2019. Accessed online

<https://www.iea.org/reports/global-status-report-for-buildings-and-construction-2019>

¹⁶ <https://www.nature.com/articles/s41467-019-14108-y>

¹⁷ <https://www.2030vision.com/news/artificial-intelligence-the-potential-for-good>



- Enablement of AI through incorporating supporting infrastructure and tools into technology roadmap; and
- Leveraging the Penrith Innovative Sustainability Precinct as a demonstration site for leveraging ethical data to underpin research and teaching activities.

Research:

- Ethical and equitable technologies;
- Beyond business-as-usual manufacturing;
- Smart computing for agriculture research expansion;
- Sustainable construction and housing; and
- MARVI: Managing aquifer recharge and sustaining groundwater use through village-level intervention as an economic model for liveability and prosperity.

Engagement:

- Develop Western Growth – emerging CBD campuses providing the opportunity for important cross-sectoral collaboration, such as with UNSW at the Parramatta Engineering Hub;
- Incorporation of ethical economic and ecological relationship development objectives into the University's partnership strategies;
- Development of the Penrith Sustainable Innovation Community with embedded collaborative teaching, research and engagement with industry partners committed to the same vision; and
- Development of the Western Sydney AgriPark to leverage the concentration of industry, teaching and research innovation in agriculture and horticulture located at Hawkesbury Campus, with the focus on developing intensive, high-yield, sustainable, technology-interfaced, agricultural commercial practices to provide a continuum between teaching, research, innovation and commercial activation.

PEACE

- **Food Security and Sustainable Agriculture Priority Statement: Promote agroecological principles for just food systems (peace)**
- **Justice Priority Statement: Activate environmental justice and social inclusion to tackle inequality in our region**

Snapshot: Social inclusion, food and food security, Australia

- Almost all (90%) of our fresh fruit and vegetables, meat, milk and eggs sold in supermarkets are domestically produced.
- An estimated 2.9 million people (13.3% of Australia's population) are living below the internationally-accepted relative poverty line.
- Nearly one million Australian children go without breakfast or dinner every day and two million Australians rely on food relief every year.
- In Western Sydney 'food deserts' where healthy food is not easily available coincide with areas with higher rates of type 2 diabetes. Residents in Blacktown have a three times greater risk of developing diabetes than in more affluent coastal suburbs such as Mosman.¹⁸

¹⁸ <https://www.westernsydneydiabetes.com.au/western-sydney/food-deserts-and-mapping>



Environmental justice covers inadequate access to healthy food, inadequate transportation, air and water pollution and unsafe homes. For Western Sydney residents – according to ACOSS Australian Council of Social Security – postcode can also determine access to health and education services. Women are 10% more likely to experience poverty than men because women tend to have lower employment outcomes and wages, are more likely to be in unpaid caring roles, and have reduced access to financial resources in retirement (ACOSS 2016). Family, domestic and sexual violence is a major health and welfare issue in Australia where one in six (i.e. 1.6 million) women have experienced physical and/or sexual violence by a cohabiting partner since age 15 (Australian Institute of Health and Welfare 2018).

Food security, as defined by the United Nations Food and Agriculture Organization (FAO), is when 'all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life'. Food access is an emerging health and equity issue for residents in Western Sydney where 'food deserts' have been mapped indicating there is limited access to fresh, nutritious food. A higher prevalence of food insecurity has been reported among vulnerable and marginalised communities and, conversely, more than half of Western Sydney's population is overweight, which means an increased risk of disease and chronic health issues in our communities.¹⁹ People experience food insecurity due to: a lack of resources (including financial resources and other resources such as transport); lack of access to nutritious food at affordable prices; lack of access to food due to geographical isolation; and lack of motivation or knowledge about a nutritious diet.²⁰ This has significant implications for the way we plan communities and while jobs, transport and urban amenities are key features of urban planning health should also be a priority. By increasing access to green space and affordable fresh food, it will be possible to reduce the rates of lifestyle-related diseases like type 2 diabetes.

Linking consumption with production, environmental activist, cultural critic and farmer Wendell Berry argues that 'eating is an agricultural act'.²¹ All humans are connected either directly or indirectly to agriculture in that how we shop and eat shapes how our landscapes and environment is treated. Agriculture is the single largest employer in the world, providing livelihoods for 40% of today's global population with the majority of these via small, subsistence farming. The current, dominant agricultural practice in Australia since the 1950s is industrial agriculture that has high-external inputs and has caused deforestation, water scarcities, biodiversity loss, soil depletion and high levels of greenhouse gas emissions.²² Agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems. It seeks to optimise the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system.²³

Strategic Actions

Curriculum:

- Deliver 21C Curriculum Challenge 'Future thinkers' to develop graduates that are creative, inquiry-led, multidisciplinary, novel solution-oriented thinkers who can thrive in a digital world;

¹⁹ Lindberg et al, 2015

²⁰ <https://aifs.gov.au/cfca/publications/food-insecurity-australia-what-it-who-experiences-it-and-how-can-child>

²¹ Wendell Berry accessed online: <https://www.ecoliteracy.org/article/wendell-berry-pleasures-eating>

²² Roger Packham (2019); Systemic Community Development Agriculture as a Learning System

²³ FAO <http://www.fao.org/3/i9037en/i9037en.pdf>



- Master of Human Rights, Diversity and Gender Equity; and
- Graduate Certificate in SDG policy, prosperity and development.

Operations:

- Implement ethical and local food procurement policies and practices across all commercial food outlets;
- Incorporate inclusion spaces across the campus network; and
- Integration of the Hawkesbury Farm regenerative agriculture and holistic pasture management as a key Living Lab.

Research:

- UNESCO Chair for Human Rights, Diversity and Gender Equity; and
- Incorporate agroecological principles into the AgriPark at Hawkesbury campus with committed industry partners i.e. Australian Food Sovereignty Alliance.

Engagement:

- Connect and embed the Whitlam Institute across key institutional portfolios; and
- Centre of Excellence in Peri-Urban Futures for integrated agri-industry education with School of Science, TAFE and secondary schools.

PARTNERSHIPS

- **Priority Statement: Collaborate with regional, national and international organisations across all sectors to deliver impact across these priority statements (partnerships)**

"Today's global challenges are too great for any organisation to tackle alone."²⁴

Partnering provides a platform for the University to meet sustainability strategies and vision through leveraging off a large base of likeminded organisations, associations with community objectives at heart, and government agencies that are focused on embedding sustainability and resilience principles in place making and community resilience. There is strength in numbers and bringing together public and private organisations that have a common purpose can contribute a variety of expertise and knowledge to provide scale and harness knowledge.

By taking a partnership-based approach to sustainability, the University can foster a collaborative, innovative and productive environment where learnings are evolved and progress is magnified. With a record of success in establishing partnerships in Living Labs and place-making initiatives, we recognise that collaboration is fundamental to accelerating progress and realising results.

Opportunities to collaborate with organisations and people that can provide Indigenous knowledge perspectives, Planetary Health expertise, and commitment to our Nine Interconnected Priority Statements, is a grounding principle of our Sustainability and Resilience partnering strategy. This will provide a solid foundation to build our understanding of place and enables place-based approaches that respond to the need of local communities. The development of a partnership framework and strategy focused on sustainability goals,

²⁴ <https://unesdoc.unesco.org/ark:/48223/pf0000370506/PDF/370506eng.pdf.multi>, UNESCO 207 EX/11, Comprehensive Partnering Strategy, 2019, p2.



developing appropriate partnerships that foster collaboration, and the growth of our resilience and sustainability agenda is a priority for the University.

Strategic Actions

Curriculum:

- Leverage international strategic partnerships for curriculum renewal and 21C work.

Operations:

- Embed sustainable and resilient partnerships in our Penrith Sustainable Innovation Community Precinct that assist to progress the Nine Interconnected Priority Statements of our Sustainability and Resilience Strategy Research.

Research:

- Profile impactful research partnerships.

Engagement:

- Reach into our regional school and community networks to support local change makers.



Part IV

Building Collective Local Engagement

Sustainability and Resilience 2030 is designed to be a living initiative that is open for discussion, critique and renewal and for each area of the institution to engage with this in a way that is meaningful for them. To build collective engagement across the institution (and beyond) we have developed a suite of resources to support local conversations. This includes the following:

1. Formation of the Nine Interconnected Priority Statements
2. Aligning our priority statements for local action towards the SDG 2030 targets
3. COVID-19 pandemic considerations
4. Key definitions and terms
5. Our digital engagement platform

Formation of the Nine Interconnected Priority Statements

These global and regional priorities have been informed by the Regional Centre of Expertise on Education for Sustainable Development – Greater Western Sydney (RCE-GWS) network. RCEs are acknowledged by the United Nations University (UNU) in response to the United Nations Decade of Education for Sustainable Development (DESD 2005-2014) and are now mobilised to support grassroots implementation of the SDGs.

These statements are not a group of siloed priorities – progress and action on one of these themes must balance and support progress on the others. As an academic institution we do not take these as a given; the way forward should rightly be open to critical debate and discourse, although that should not prevent us from taking urgent action where the empirical evidence and our vision and values demand that we do so.

Whilst our thinking in developing the Nine Interconnected Priority Statements is wider than the SDGs, we have aligned them to the United Nations 5Ps framework: People, Planet, Prosperity, Peace and Partnerships to show where there is linkage:

- Planet:** We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.
- People:** We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.
- Prosperity:** We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.
- Peace:** We are determined to foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.
- Partnerships:** We are determined to mobilise the means required to implement this agenda through a revitalised Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity,



focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.²⁵

Key Inputs into the Nine Interconnected Priority Statements

There are three conceptual areas that were considered for input during the development of our Nine Interconnected Priority Statements:

- Aboriginal and Torres Strait Islander Indigenous knowledges;
- Planetary Health; and
- United Nations Sustainable Development Goals 2030 (SDGs).

Indigenous Knowledges

As an anchor institution in the Greater Western Sydney Region, the University is part of a region that is home to the largest First Nations Australians in the country. This strategy recognises the need to position local Indigenous knowledge centrally as an integral part of the way that we respond to sustainability and resilience objectives and how we focus our research, academic and operational programs. Deep learning and the development of rich socioecological local knowledges has occurred on this land for tens of thousands of years. Indigenous knowledges and storytelling serve as an historical record, as a form of teaching and learning, and as an expression of Indigenous culture and identity.

We focus on a 'Caring for Country' relational approach which acknowledges that, for Aboriginal people, there is no divide between nature and culture, that Country can also be sentient and Aboriginal people can sing, talk and grieve for Country.²⁶

Aboriginal and Torres Strait Islander knowledges have ways of knowing and being in Country that show us there is much to learn about better ways to protect and enhance biodiverse urban landscapes, riparian zones, biodiversity hotspots and green/blue corridors across Greater Sydney, nationally and globally. In the wake of the Australian bushfire catastrophe over summer 2019/20, aside from renewed public interest in cultural burning practices, Indigenous leaders have argued that Australia's bushfire crisis shows the modern approach to land management is failing and have called for a new workforce of 'fire practitioners' to implement traditional burning practices across Australia.²⁷ Our strategy responds to this call with our first priority statement.

Planetary Health

The second framing of this strategy draws on accounting for socioeconomic growth within the principles of Planetary Health. Planetary Health is an emerging academic discipline that is grounded in understanding of the interdependence of human and natural systems. Notably, understandings of connections between land, culture and health are not new for Indigenous people. Indeed, they are foundational in Indigenous spirituality and contemporary cultural

²⁵ United Nations Declaration; Transforming Our World the 2030 Agenda for Sustainable Development <https://sustainabledevelopment.un.org/post2015/transformingourworld>

²⁶ Bhiemie Williamson, Jessica Weir and Vanessa Cavanagh (2020) <https://theconversation.com/strength-from-perpetual-grief-how-aboriginal-people-experience-the-bushfire-crisis-129448> and Somerville, M. (2014) Developing relational understandings of water through collaboration with indigenous knowledges. *Wiley Interdisciplinary Review*. Volume 1, Issue 4 July/August 2014 Pages 401–411

²⁷ Bhiemie Williamson, Jessica Weir and Vanessa Cavanagh (2020) <https://theconversation.com/strength-from-perpetual-grief-how-aboriginal-people-experience-the-bushfire-crisis-129448>



practices. The subtle interaction of the tangible and intangible aspects of Ngurra (Country), and the profound role it plays in the lives of Traditional Owners, can offer wider insights into how human societies could better thrive.

The objective of a Planetary Health approach is to enable transitions to more sustainable patterns of urban development and management, to foster livelihoods, and more general ways of living, that are in harmony with nature. This approach safeguards the health and wellbeing of Western Sydney citizens through good stewardship of the region's unique natural systems, embracing more sustainable food systems, affordable energy and housing, and acting in more integrative ways to respond effectively to existing and new health challenges. A Planetary Health approach commits us to developing regenerating systems and processes for our landscapes and ecosystems.

United Nations Sustainable Development Goals 2030 (SDGs)

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, outlines 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries – developed and developing – in a global partnership. The SDGs supersede the Millennium Development Goals established in 2000 and build on decades of work since the 1970s by the United Nations.

The University's Sustainability and Resilience Decadal Strategy leverages the United Nations SDG 2030 Agenda to input into the definition of our Nine Interconnected Priority Statements. The University has achieved extraordinary results in the Times Higher Education Impact Rankings in 2019 and 2020 as a platform for delivering against this strategy.

One of the most innovative and far-reaching aspects of the SDG 2030 Agenda is that it recognises the interlinkages between and within the goals, and the need for them to be addressed as an indivisible and integrated whole. Given the complexity of interactions between the goals, and the siloed ways in which many actions are undertaken, this is also one of the hardest aspects of the SDGs for policy and decision-makers to implement.

Our strategy is an attempt to adapt these goals to the reality of our Western Sydney region and our University's purpose in supporting the development of sustainable and resilience practices within the region. We recognise the limits of the frameworks that we have outlined above, and the establishment of our priority statements has also been guided by the principles of:

- Criticality
- Contestability
- Uncertainty
- Connectivity
- Co-design, co-construction, and collaboration



Aligning our Priority Statements for Local Action towards the SDG 2030 Targets

Our Nine Interconnected Priority Statements have been linked to the SDGs and their targets. Where possible we will gather data to support our progress.

PLANET



- Embrace Indigenous knowledges for pathways to sustainability and Caring for Country (planet)
- Value biodiversity linking human wellbeing to environmental health (planet)

SDG 2.5: By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels; and promote access to and fair and equitable sharing of benefits arising from the utilisation of genetic resources and associated traditional knowledge, as internationally agreed.

SDG 3.b: Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries; provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health; and, in particular, provide access to medicines for all.

SDG 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

SDG 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.

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

SDG 12.4: By 2020, achieve the environmentally-sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.

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

SDG 15.1: By 2030, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.



SDG 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

SDG 15.8: By 2020, introduce measures to prevent the introduction, and significantly reduce the impact of, invasive alien species on land and water ecosystems and control or eradicate the priority species.

PEOPLE



- Enable urban resilience and adaptive capacity in our region (people)
- Step up efforts to support climate action in our region (people)

SDG 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services.

SDG 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.

SDG 11.a: Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

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

PROSPERITY



- Enact new visions for economic transitions through ethical economic and ecological relationships (prosperity)
- Harness the benefits of AI and automation in planning for sustainability (prosperity)

SDG 1.4: By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

SDG 5.b: Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.

SDG 8.2: Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.



SDG 8.3: Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation; and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

SDG 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

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.

PEACE



- Promote agroecological principles for just food systems (peace)
- Activate environmental justice and social inclusion to tackle inequality in our region (peace)

SDG 2.3: By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

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.

SDG 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

SDG 10.2: By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

SDG 10.3: Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.

SDG 16.7: Ensure responsive, inclusive, participatory and representative decision-making at all levels.



PARTNERSHIPS



- Collaborate with regional, national and international organisations across all sectors to deliver impact across these priority statements (partnerships)

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.

Cross-Cutting SDGs



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.



COVID-19 Pandemic Considerations

The global COVID-19 pandemic triggered in 2020 has opened a crevasse in our security and our sense of continuity and order. The cascading economic impacts have been severe with many countries 'suffering indirect consequences from value chain disruptions, historical unemployment, and lower international demand for goods due to widespread recession'.²⁸ The International Monetary Fund (IMF) has described this shrinkage in the global economy as the most severe since the Great Depression of the 1930s. In April 2020 the IMF called for increased investments in health care systems, financial support for workers and businesses, continued central bank support and a clear exit plan for the recovery.²⁹

Scientific studies have proven that like other pandemics in the past 20 years, COVID-19 is a consequence of how humans interact with animal worlds and natural habitats.³⁰ Unrestrained production and consumption patterns including human - wildlife conflicts and industrial farming systems expose humans to unknown pathogens. We must gauge the extraordinary seriousness of the social, ecological, political and economic effects of this pandemic and look for new ways forward that genuinely reshape institutional, regional, national and global systems that recognise the interdependence of all life. The link between pandemics, natural disasters, climate change, biodiversity extinction, racism and social justice has been made explicitly clear.

This confluence of local and global environmental, health, economic and social crises presents an opportunity for deep reflection and a commitment to meaningful change. In a context of COVID-19 recovery, this strategy proposes thinking collectively about how best to move beyond the narrative that Western Sydney is the nation's third largest economy and fastest growing region. This fast growth has brought immense benefit for some sectors, but it is not sustainable. CEDA (Committee for Economic Development Australia) has reported that 'despite 26 years of uninterrupted economic growth Australia still has large pockets of disadvantage with 13% of Australia's population living below the poverty line'.³¹

The Global Sustainable Development Solutions Network, of which the University is a member, in conjunction with Fairtrade Australia and New Zealand and the Global Compact Network Australia have released a 5-point plan for regional and global recovery from the COVID-19 crisis. This aims at reducing inequalities and building a more resilient economic future and calls for:

- Achievement of the SDGs by 2030;
- Coherent policies and market mechanisms that support innovation and move Australia to net-zero emissions by 2050;
- Multilateral and regional partnerships to drive economic recovery, build environmental resilience and enhance regional outcomes;
- Investment in fair, transparent and more inclusive trade; and
- Reduced structural inequalities to protect and support the most vulnerable.³²

²⁸ United Nations Industrial Development Organisation (2020) <https://www.unido.org/stories/coronavirus-economic-impact-10-july-2020>

²⁹ BBC April 2020 <https://www.bbc.com/news/business-52273988>

³⁰ Centre for Disease Control and Intervention accessed online: <https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html>

³¹ Committee for Economic Development Australia - CEDA (2018) How Unequal? Insights on inequality. https://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA-How-unequal-Insights-on-inequality-April-2018-FINAL_WEB.pdf

³² SDSN Australia Pacific <http://ap-unsdsn.org/covid-recovery-plan/>



Key Definitions and Terms

Sustainability, Sustainable Development and Education for Sustainability

At Western Sydney University we acknowledge that sustainability and sustainable development is an ethical philosophy as well as a practice and as such definitions are diverse and contestable. This should be considered a key strength, in that the concept and values can be discursively 'created' rather than authoritatively 'given'. All definitions of sustainability and sustainable development, however, do agree on the concept of limits in a finite world. The Club of Rome 1972 report 'The Limits to Growth' was a critical document that shaped ensuing debates and identified for the first time a global concern with three potential kinds of limits:

1. Ecological limits to the physical scale of economic activity;
2. Limits to the economic welfare to be derived from growth of economic activity; and
3. Social limits to economic growth.³³

These debates were also captured in the 1987 Brundtland Report 'Our Common Future', commissioned by the United Nations Commission on Environment and Development. This report has not only set the agenda for the 2030 Sustainable Development Goals (SDGs) almost 30 years later, but also outlined a vision of development based on allowing future generations to meet their own needs.

This was the first agreed definition of sustainable development:

*"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."*³⁴

This definition brought into global debate the concepts of needs, wants and inter-generational equity. A more recent definition that is widely used expands the term to 'just sustainability':

*"Just Sustainability' refers to the importance of ensuring "a better quality of life for all, now and into the future, in a just and equitable manner, while living within the limits of supporting ecosystems."*³⁵

The international field of 'Education for Sustainability' (EfS) or Education for Sustainable Development (ESD) has emerged in response to urgent requirements for critical global citizenship and the original framing came from the Brundtland Report. EfS and ESD puts emphasis on the necessary interrelationships between theory and practice, local and global scales, and present and future, and thus has a global citizenship component that requires a critical evaluation of environment and social justice issues. EfS/ESD curriculum requires an understanding of ontology, epistemology, axiology and ethics.³⁶

"EfS is a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, and

³³ Donella H. Meadows, Dennis L. Meadows, Jergen Randers, and William W. Behrens (1972) The limits to growth: A report for the club of rome's project on the predicament of mankind, III New York: Universe Books, 1972.

³⁴ World Commission on Environment and Development (1987). *Our Common Future*. Oxford: Oxford University Press.

³⁵ Agyeman, J., Bullard, R., Evans, B. (Eds), 2003. Just Sustainabilities: Development in an Unequal World. Massachusetts, USA: MIT Press

³⁶ <https://link.springer.com/article/10.1007/s13280-020-01322-y>



*commitment to engage in responsible individual and cooperative actions. These actions will help ensure an environmentally sound and economically prosperous future.*³⁷

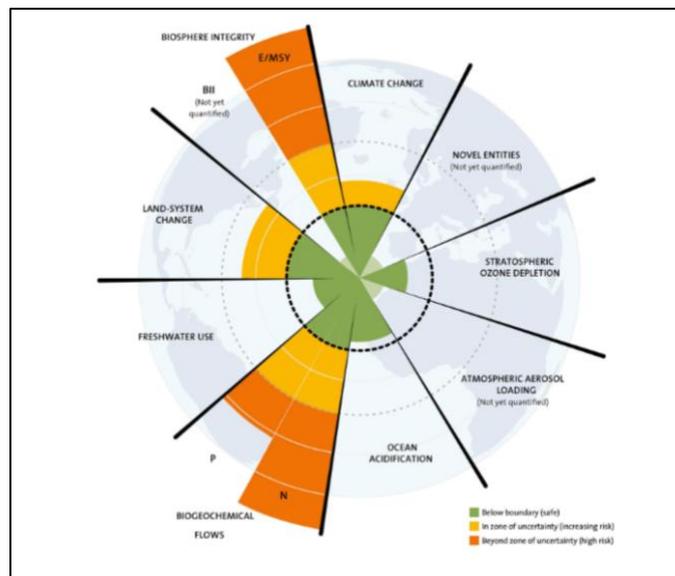
Resilience

Resilience thinking considers that culture and nature are strongly coupled as part of one social-ecological system and is based on the core understanding that humans are not inseparable from their environment. Similar to 'sustainability' definitions, resilience definitions have been subject to debate and are diverse. The Stockholm Resilience Centre, a non-profit, independent research institute specialising in sustainable development and environmental issues, has been leading this work since it was founded in 2007.

*"Resilience is the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop. It is about how humans and nature can use shocks and disturbances like a financial crisis or climate change to spur renewal and innovative thinking."*³⁸

In an attempt to define a scientifically-derived safe operating space for humanity that can assist decision makers, researchers have developed the concept of planetary boundaries. In 2009 a group of leading international scientists identified that there are nine planetary boundaries that humanity needs to stay within to develop and thrive for generations to come. Crossing these boundaries could generate abrupt or irreversible environmental changes. In 2015 updated research warned that four of the nine planetary boundaries have been crossed as a result of human activity: climate change, loss of biosphere integrity, land-system change, and altered biogeochemical cycles (phosphorus and nitrogen). Two of these, climate change and biosphere integrity, are what the scientists call 'core boundaries' and altering either of these would drive the Earth System into a new state.³⁹

The nine planetary boundaries are climate change, stratospheric ozone, ocean acidification, nitrogen and phosphorus cycles, biodiversity loss, land use change and freshwater use.



³⁷ Filho, W (2009) Towards the Promotion of Education for Sustainability

³⁸ Stockholm Resilience Centre <https://www.stockholmresilience.org/research/research-news/2015-02-19-what-is-resilience.html>

³⁹ Steffen et al. 2015. Planetary Boundaries: Guiding human development on a changing planet. Science Vol. 347 no. 6223



Figure 1: Planetary Boundaries

Just Transitions

"A just transition for all towards an environmentally sustainable economy...needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty."⁴⁰

The Just Transition Alliance defines 'just transitions' as a principle, a process and a practice.⁴¹

The concept is for a unifying, place-based set of principles, processes and practices that shift systems from an extractive economy to a regenerative economy. This means challenging traditional linear production and consumption cycles and moving towards holistic and circular economy models. A leading principle is that the transition itself must be just and equitable; acknowledging and repairing past harms and developing new relationships of power. Just Transition strategies originate from the labour unions and environmental justice groups. Low income communities and workers define a transition away from polluting industries that were harming workers, community health and the planet; and at the same time provide just pathways for workers to transition to other jobs.

⁴⁰ International Labor Organization (2015) 'Guidelines for a just transition towards environmentally sustainable economies and societies for all' <https://www.oecd.org/environment/cc/g20-climate/collapsecontents/Just-Transition-Centre-report-just-transition.pdf>

⁴¹ Climate Justice Alliance <https://climatejusticealliance.org/just-transition/>



Our Digital Engagement Platform

Collaborative Development of Strategic Actions – Progress & 5 Year Plan

It is intended that Sustainability and Resilience 2030 is a living document that will provide overarching direction-setting for the University community but also encourage local actions to realise its ambitions.

This Engagement Platform is part of the strategy that will be implemented to actively connect Western Sydney University staff and students in an iterative process of meaning-making and engagement with the Decadal Strategy.

Through a series of workshops and discussions led by the SRDS consultation group, schools, institutes and divisions will be engaged to read the Decadal Strategy and identify achievements to date, in their area, that are relevant to the strategic actions identified under the Nine Interconnected Priority Statements as well as local initiatives and targets for the 5-year horizon.

The documents will be set up as an interactive web form that will capture work happening across multiple schools and portfolios to progressively determine our 5-year milestones. This will build an ever-evolving digital repository and record of our actions.

The document below has some exemplars included for the first priority statements that could be used by the facilitators to introduce and lead the local activities.

PLANET

- **Aboriginal and Torres Strait Islander Knowledges Priority Statement: Embrace Indigenous knowledges for pathways to sustainability and Caring for Country.**
- **Regenerative Systems Priority Statement: Value biodiversity linking human wellbeing to environmental health.**

Strategic Actions 2030	Achievements to Date	Initiatives and Targets – 5-year Horizon
Curriculum: <ul style="list-style-type: none"> • Deliver 21C Curriculum Challenge 'Global Citizens' to develop graduates that are globally informed and locally engaged, culturally 	For example:	



<p>competent with a focus on First Nations knowledges, adept communicators, and stewards of our Western Sydney community; and</p> <ul style="list-style-type: none"> • Establish a transdisciplinary Planetary Health and SDG teaching hub for campuses drawing on each campus' assets such as the Hawkesbury Water Recycling Scheme, Wetlands Monitoring Centre and Parramatta River. 	<ul style="list-style-type: none"> • The Bachelor of Education (Primary) Aboriginal and Torres Strait Islander Education • Bachelor of Science: Aquatic Environments sub-major 	
<p>Operations:</p> <ul style="list-style-type: none"> • Incorporate Indigenous language and identifiers throughout all campuses; • Seek to embed Indigenous knowledge in all aspects of operations including consultations, the Environmental Sustainability Action Plan, and Living Labs; and • Vegetation Management Plans for all campuses linked to active bushcare/landcare groups. 	<p>For example:</p> <ul style="list-style-type: none"> • VMPs prepared and publicly available for all bushland on campuses 	
<p>Research:</p> <ul style="list-style-type: none"> • Implement a CORE agenda on cultural burning and biodiversity management; • Partner in the establishment of a Planetary Health Leadership Centre in the Blue Mountains; and • Establish a UNESCO Chair Planetary Health. 	<p>For example:</p> <ul style="list-style-type: none"> • UNESCO for Planetary Health partnerships in place 	
<p>Engagement:</p>	<p>For example:</p>	



<ul style="list-style-type: none">• Partner with Aboriginal and Torres Strait Islander people in inclusive collaborations;• Support Hawkesbury-Nepean Riverkeeper Waterkeeper's Alliance, Parramatta, Georges and Cooks Riverkeeper's networks; and• Increase connectivity with the Himalayan Universities Consortium (HUC) on Sustainable Mountain Development.	<ul style="list-style-type: none">• Hawkesbury Nepean Waterkeeper's Alliance• HUC working group reports	
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PEOPLE

- **Resilient Cities Priority Statement: Enable urban resilience and adaptive capacity in our region (people)**
- **Climate Action Priority Statement: Step up efforts to support climate action in our region (people)**

Strategic Actions	Achievements to Date	Initiatives and Targets – 5-year Horizon
Curriculum: •		
Operations: •		
Research: •		
Engagement: •		



PROSPERITY

- **Economic Transitions Priority Statement: Enact new visions for economic transitions through ethical economic and ecological relationships (prosperity)**
- **Ethical AI Priority Statement: Harness the benefits of AI and automation in planning for sustainability (prosperity)**

Strategic Actions	Achievements to Date	Initiatives and Targets – 5-year Horizon
Curriculum: •		
Operations: •		
Research: •		
Engagement: •		



PEACE

- **Food Access Priority Statement: Promote agroecological principles for just food systems (peace)**
- **Justice Priority Statement: Activate environmental justice and social inclusion to tackle inequality in our region**

Strategic Actions	Achievements to Date	Initiatives and Targets – 5-year Horizon
Curriculum: •		
Operations: •		
Research: •		
Engagement: •		



PARTNERSHIPS

- **Priority Statement: Collaborate with regional, national and international organisations across all sectors to deliver impact across these priority statements (partnerships)**

Strategic Actions	Achievements to Date	Initiatives and Targets – 5-year Horizon
Curriculum: •		
Operations: •		
Research: •		
Engagement: •		