Sustainability Report 2023

‘Our staff and students continue to deliver practical and significant solutions to the challenge of creating a sustainable future.’

Andrew Parfitt,
Vice-Chancellor and President

Acknowledgement of Country

UTS acknowledges the Gadigal People of the Eora Nation, the Boorooberongal people of the Dharug Nation, the Bidiagal people and the Gamaygal people upon whose ancestral lands our university stands. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.

Image left: Professor Fraser Torpy in a UTS research facility.
Photo: Anna Zhu

Statement from the Vice-Chancellor

Andrew Parfitt
Vice-Chancellor and President

I am pleased to present the 2023 Sustainability Report.

As a leading public university of technology recognised for our global impact, our work is underpinned by our commitment to sustainability, driving positive change within and beyond our campus.

We conduct research that informs public policy and our collaboration with industry leads to innovation that shapes a sustainable future. Our transdisciplinary approach to teaching and learning equips graduates with the knowledge and critical thinking skills needed to spark transformative change in the world.

In 2023, we launched the Centre for Climate Risk and Resilience to help businesses address the risks posed by climate change. We also launched the UTS Robotics Institute, where our experts develop robotics solutions that enhance safety, efficiency, and sustainability in complex environments. Our Institute for Sustainable Futures continues to receive recognition for its remarkable contributions to climate adaptation, landscapes and ecosystems and international development.

UTS rose 47 places to 90th globally in the QS World University Rankings, which now includes recognition of sustainability outcomes. We also ranked 43rd globally and 8th in Australia in the 2024 QS Sustainability Rankings. In the 2023 THE Impact rankings, which assesses universities against the United Nations Sustainable Development Goals (SDGs), UTS was named equal 14th best-performing university in the world and 4th in Australia. We were particularly ranked highly for SDG 17 Partnerships for the Goals, achieving 11th in the world, and SDG 12 Responsible Consumption and Production, achieving 18th in the world.

Our researchers are delivering life-changing research. Distinguished Professor Jie Lu AO earned the prestigious NSW Premier's Prize for Excellence for her innovative data solutions that will improve the agriculture industry, while Dr Jiao Jiao Li's pioneering research in stem cells for the treatment of osteoarthritis garnered her the esteemed Metcalf Prize.

Associate Professor Linda Steele's sustained efforts in disability research and reform earned her the title of Legal Academic of the Year, while Dr Marian Andrei Rizoiu was recognised as the Academic of the Year at the Australian Defence Industry Awards for his impactful work countering online misinformation.

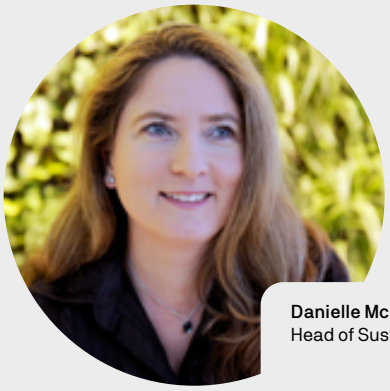
Dr Jen Matthews and Associate Professor Alex Solntsev were honoured with NSW Young Tall Poppy awards for their outstanding contributions in coral nutrition and greener internet technology, respectively. These accolades underscore how UTS's ground-breaking work is shaping industries and driving positive change.

These are some of the many examples of ways in which our staff and students continue to deliver practical and significant solutions to the challenge of creating a sustainable future.

Pleasingly, UTS was one of two Australian universities to be awarded the prestigious Carnegie Community Engagement Classification for the Advancement of Teaching. This classification recognises our university-wide commitment to community engagement, from our curriculum and how we prepare our students to engage with the world to how we contribute to the public good.

Thank you to our UTS community for your efforts, leadership and passion for sustaining and improving our communities and the environment. I look forward to working on many more impactful projects in the year ahead.

Statement from the Head of Sustainability



Danielle McCartney
Head of Sustainability

The campus was back in full swing in 2023 with operations running at pre-pandemic levels. Whilst we continued implementing sustainability initiatives, we undertook an extensive consultation process with key stakeholders from across the university and developed a new Sustainability Strategy and updated the Sustainability Policy both of which were endorsed by the University Leadership Team in October 2023. The Sustainability Policy and Strategy represent two of the key components of UTS's Sustainability Framework, with the Strategy outlining the way in which sustainability will be embedded into the university's operations, teaching and learning, research and community engagement activities over the next 5 years with specific goals and targets.

We continued our implementation of the Climate Positive Plan including the procurement of a renewable electricity retail Power Purchase Agreement which will assist us to achieve our 100% renewable electricity by 2025 target. A Sustainable Campus Travel Plan and Sustainability Impact Dashboard were developed and a Climate Change Risk Assessment and Adaptation Action Plan undertaken.

Sustainability engagement continued to grow with over 2,070 staff and students attending 51 sustainability events throughout the year. Over 50,000 people downloaded the Think Sustainability podcast, run in collaboration with radio station 2SER, and subscribers to the UTS Sustainability newsletter rose 12% to just over 4,400 subscribers.

UTS had finalists in the Australasian Green Gown Awards in the Diversity, Equity and Inclusion, Creating Impact and Staff Excellence categories. The Building 2 plastic-free food court was awarded Highly Commended in the Government Leadership category of the Property Council of Australia Awards. Whilst our own Green Hero Awards, which recognise and celebrate students, staff and alumni making a personal contribution to progress sustainability went to Lolita Carson at the UTS Magic Pudding Childcare Centre, learning designers Christina Brauer and Sally Creagh, and student Xiang Hong Ong who volunteers at the Bluebird Pantry.

We continued our commitment to embedding the UN Sustainable Development Goals (SDGs) across all levels of the organisation, and it was great to see so many staff and students at the launch of Global Goals Month in September. The event was a great success and provides a great opportunity to raise awareness of the SDGs and showcase the great contribution that the university is making to address them.

Finally, thank you to staff and volunteers in the Sustainability team, members of the UTS Sustainability Steering Committee, the SDGs and Climate Action Working Groups, the senior executive, and all staff and students who helped champion sustainability throughout the year. Thank you again for your ongoing and valuable contributions.

About UTS

The University of Technology Sydney (UTS) is a dynamic and innovative university in central Sydney. UTS has a distinct model of learning, strong research performance and a leading reputation for engagement with industry.

With almost 48,000 students (35,684 EFTSL) and 4,098 staff, UTS offers over 510 undergraduate and postgraduate courses across disciplines such as architecture, built environment, business, communication, design, education, engineering, information technology, international studies, law, midwifery, nursing, pharmacy and science.

Core to UTS 2027 is sustaining our local and global environment, organisational health and our ability to create a positive, viable future. The university is committed to integrating sustainability principles into its key functional areas of teaching and learning, research, operations, and community engagement.

‘Universities are transformational; education is powerful. Sustainability helps us to rethink and gain the expertise required to tackle the big issues.’

Professor Kylie Readman,
Deputy Vice-Chancellor Education and Students

United Nations Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) are an organisational framework for action on and progress towards sustainability and provide the framework for this Sustainability Report.

The 17 SDGs have been designed to help guide governments, businesses, organisations and the community towards creating a more just and sustainable world. Below the 17 high-level goals sit 169 targets and 232 indicators to guide and evaluate progress.

In 2016 UTS was one of the first universities in the Asia Pacific region to become a signatory to the University Commitment to the SDGs. In 2017 the UTS Institute for Sustainable Futures, in collaboration with Australasian Campuses Towards Sustainability produced a Guide for Universities Getting Started with the SDGs. The same year, our academics began to incorporate the SDGs into their research and teaching. In 2019 UTS signed the UN Global Compact, the world's largest corporate sustainability initiative, with a mission to support action on the SDGs. As a signatory and member of the Global Compact Network Australia, the UTS Business School is working to deepen engagement with future business leaders on the SDGs and responsible and sustainable management.

In 2020 we established the SDGs Working Group to guide our work embedding the SDGs across the organisation, and the Climate Change Cluster Research Centre began mapping and aligning their work against the SDGs.

In 2021 our Sustainability Report adopted the SDGs framework for the first time and in 2022 we hosted our first SDGs week on campus. This was expanded in 2023 to Global Goals Month, a great opportunity to raise awareness about the SDGs and the great work being done across the university in research, teaching, campus operations and community engagement to address the 17 SDGs.

1 NO POVERTY

End poverty in all its forms everywhere

FWCI of university's research outputs	1.76
International Collaborations	65.5%
Proportion of pubs in the top 10% of journals according to Citescore	36.7%
Number of publications produced	203
Number of citations produced	2,857

Staff Giving Program

For nearly two decades, UTS staff have donated more than $2 million through the UTS Staff Giving Program. Thanks to their incredible generosity and the university matching these funds dollar for dollar, thousands of UTS students have received support by way of financial assistance and pastoral care.

And despite 2023 being a particularly challenging year, staff and the university continued to give generously with the program raising over $150K to support students facing financial hardship, the Jumbunna Institute for Indigenous Education and Research, and Equity Grants for students for thesis completion.

2024 will see the Program revitalised under new management and taking on the VC's challenge to raise $1 million annually. More here

$150K

raised to support students facing financial hardship

CASE STUDY

Scaling Finance for Green Retrofit Housing

Despite the introduction of sustainability standards for the construction of new homes, there still exist millions of homes in Australia that aren't subject to improvements in energy efficiency, with almost four times as many home loans being issued to existing homes as new ones. As energy prices increase, those that already can't afford to invest in the energy efficiency of their homes are subject to a 'net zero poverty premium'.

Research from the Institute for Sustainable Futures (ISF) has explored the potential for regulatory 'nudges' to allow for low income earning households to access loan extensions and deferrals for the purpose of green retrofitting their homes. ISF proposes that regulatory bodies build a Green Retrofit Finance Housing Model to test the effectiveness of these extensions on credit risk.

The study highlighted the ways in which, with support from regulatory bodies, green retrofits have the potential to simultaneously reduce household cost for homeowners, as well as improve the credit risk of those homes for banks. Improving the energy efficiency of homes could lead to significant savings and reduce greenhouse gas emissions. Cost savings improve the serviceability ratio for banks as well as increasing property values, contributing to improving a bank's credit risk through the loan to valuation ratio.
Full report here

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

FWCI of university's research outputs	3.09
International Collaborations	75.9%
Proportion of pubs in the top 10% of journals according to Citescore	48.4%
Number of publications produced	253
Number of citations produced	8,840

Bluebird Pantry

Financial and economic hardship continued throughout 2023 and the UTS Students' Association (UTSSA) saw firsthand the struggles faced by students, especially international students, to survive. Not only were students time poor but they also had to juggle study with paid work and often resorted to making cheap unhealthy food choices or not eating at all. The Bluebird Pantry was open (during Semester) in 2023 on Wednesdays and Thursdays from 12:00-2:00pm and was visited by 3,273 students with an average of approximately 140 students per day open - the majority of whom were either postgraduate international students or undergraduate international students.

It is run by student volunteers and occasionally paid staff from the UTSSA and has proven very popular. The Bluebird Pantry continued to focus on providing a fair distribution of perishable and non-perishable items including pasta, rice, cereals, tinned vegetables, tuna, eggs, fresh fruit and vegetables to students in need and looks forward to partnering with food charities and companies to continue to provide this valuable service.

Night-owl Noodle Bar

Run by students for students, the Night-owl Noodle Bar provides free healthy sustainable food for students twice a week. While healthy affordable food is essential for everyone, financial pressures mean some students go hungry.

The Night-owl Noodle Bar provides free healthy sustainable food to students on-campus two evenings per week. The large-scale pop-up café provides free, hot, healthy Asian noodle soups with multiple mix and match options. The aim is to improve student welfare while at the same time laying the foundation for positive long-term healthy and sustainable eating habits. In 2023, approximately 3,000 free meals per week were provided during semester.

And the good news is that in 2024 we will see the return of Bluebird Brekkie Bar which will provide free, nutritious breakfast twice per week - muesli, natural yoghurt, local sourdough with avocado and spreads, fresh organic fruit and fair-trade tea and coffee.

CASE STUDY

Improving Food Security and Community Resilience in the Northern Rivers

As recurrent disasters continue to increase in frequency, the supply chain for food is disrupted and continues to become more vulnerable in Australia. As a result, there is a growing need to build more resilient and responsive systems, infrastructure and governance into our food supply chain, with areas such as the Northern Rivers being particularly susceptible to these shocks and stresses. The 2023 Foodbank Hunger Report highlighted that last year, the cost of living crisis has affected food security, with three million households in Australia going from being food secure to food insecure.

Institute for Sustainable Futures researchers conducted a scoping study to understand the extent of the problem in the Northern Rivers region using systems thinking approaches to explore the impacts of reoccurring disasters from bushfires to COVID-19 to severe flooding on food security. Researchers interviewed actors from across the food system and identified the three key 'states' for analysis: an everyday state, a disaster state, and a recovery state. These states were analysed to identify how food security was impacted across the pillars of availability, accessibility, utilisation, and stability and a set of recommendations for stakeholders and policymakers in the region was provided.

The recommendations provide short and long term pathways for rethinking how the region approaches food production, manufacturing, distribution, sale, consumption and disposal. Find out more

3 GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

FWCI of university's research outputs	2.43
International Collaborations	67.4%
Proportion of pubs in the top 10% of journals according to Citescore	34.8%
Number of publications produced	3,710
Number of citations produced	87,067

UTS Medical Service

To facilitate accessible, affordable high quality health care for all staff, students and their families, UTS provides an on-campus medical service. This service offers full general practitioner doctor and nursing services. In 2023, the Medical Service provided 17,821 GP consultations and administered 796 COVID-19 vaccinations.

UTS Counselling

The UTS Counselling Service offers free and confidential counselling to help with personal, psychological, study-related and administrative difficulties. In 2023, the Counselling Service provided 5,967 occasions of service to UTS community.

Dr Jiao Jiao Li won the prestigious **Metcalf Prize** from the National Stem Cell Foundation of Australia in November 2023

CASE STUDY

Fighting Osteoarthritis with Stem Cells

Osteoarthritis affects more than 500 million people worldwide, causing irreversible degradation of cartilage and bone in joints that leads to debilitating pain and often lifelong disability. Current treatments can only provide pain relief, until end-stage disease when joint replacement surgery is prescribed, but this procedure brings increased complication risks and the implant lifetime is limited.

Stem cell injections have been tested as an emerging treatment for osteoarthritis, with some ability to improve symptoms in the short-term. However, injecting live cells brings certain risks, and the functions of the stem cells are not specific to the disease being treated. UTS researchers are aiming to manipulate stem cells such that they produce nanoscale packages of bioactive molecules, as off-the-shelf, disease-specific therapeutics for osteoarthritis. In parallel, we are developing new biomaterial platforms for delivering these into patients.

Award winning biomedical engineer Dr Jiao Jiao Li notes that "this research would not be possible without the cross-disciplinary expertise of our team and collaborators across stem cell biology, materials science, nanotechnology, computer science, biomanufacturing, and more. We are proud of the diversity of our team, bringing together people of different backgrounds as well as gender and cultural identities, which we believe is the key to achieving big dreams. We are also thankful to a culture that supports innovation and the translation of our discoveries into a product that hopefully can benefit patients."
Find out more

Ensure healthy lives and promote well-being for all at all ages

UTS Healthy Body Healthy Mind

Healthy Body, Healthy Mind explores the world-changing research undertaken at the Faculty of Health exploring topics such as how can we live better, longer and without pain? Listen here

UTS Wellbeing Program

It is understood that wellbeing is not a static state or an endpoint but is experienced along a continuum moving towards an optimal state of health. As a result, the UTS Health Safety & Wellbeing team has developed a wellbeing program across five components: Physical, Emotional, Financial, Career and Community. The program provides staff with a range of wellbeing offerings that are easily accessible and provide a holistic approach to staff wellbeing.

A Wellbeing page on SharePoint has been established where wellbeing activities and resources can be accessed. With the support of local wellbeing champions, positive outcomes will include staff engagement in activities and an enhanced sense of community and belonging.

'Creating a workplace that cultivates a balanced and thriving staff community through physical health, emotional support, financial empowerment, a connected community and opportunities for professional growth.'

Plants Remove Carcinogenic Indoor Air Pollutants

Globally, poor air quality is responsible for 6.7 million premature deaths, and indoor air quality can be considerably worse than the air outside. In particular, air in offices and apartments is often polluted with harmful vehicle fumes. UTS researchers partnered with plant scaping solutions company Ambius to investigate the impact of indoor plants and green walls on the amount of vehicle pollutants in the air.

This research built on previous work done into indoor plants' ability to remove air pollution in office and living spaces, tailoring their work specifically to the removal of toxic petrol vapours, with the results far exceeding their expectations. Indoor plants removed 97% of the most toxic carcinogenic compounds from the air in 8 hours, with less harmful substances being removed more gradually.

This makes indoor plants a highly cost-effective and sustainable method by which to combat harmful chemicals in workplaces and high-density living areas. This study reinforces the idea that plants can act as more than decoration in professional and residential spaces and hold a genuine place for the wellness of people who work and live in these spaces. Find out more

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

FWCI of university's research outputs	1.83
International Collaborations	42.3%
Proportion of pubs in the top 10% of journals according to Citescore	31.3%
Number of publications produced	475
Number of citations produced	6,865

UTS BUILD

The UTS BUILD extra-curricular global leadership program is designed to develop student mindsets, skills and capabilities as global citizens and leaders, preparing them to make a meaningful contribution to their communities locally and globally.

Building on a foundation of lessons about leadership, global citizenship and intercultural understanding, the complementary program aims to explore and raise awareness about issues aligned with the United Nations Sustainable Development Goals, social justice, responsible and ethical behaviour, equipping students with practical ideas to apply in their daily lives.

Students attend workshops, field trips and speaker events to learn skills such as civic leadership and design thinking and to hear diverse perspectives on ethical international development, urban agriculture, coral nurture programs, refugee issues at the Refugee Camp in My Neighbourhood, and the Humanitarian Affairs Asia Global Peace Summit. Find out more

Sustainability Podcast and Radio

For the sixth year the Think Sustainability podcast and radio program was produced in collaboration with community radio station 2SER. The program has a weekday broadcast audience of around 66,000 with approximately 50,000 podcast downloads in 2023. Listen here

66,000
broadcast audience

CASE STUDY

Murrin Bridge Preschool Community Hub

After five years of planning and development, the Murrin Bridge Preschool Community Hub opened its doors in October 2023, heralding a new era for the town. The project is a collaboration between the Murrin Bridge Local Aboriginal Land Council, the Murrin Bridge Preschool Association, UTS and Multiplex Construction.

The project is an extension to the existing Murrin Bridge Preschool, creating a broader community cultural and services hub that acts as a 'one-stop-shop' for residents to access services, participate in community events and reconnect with culture and provides positive social and economic outcomes that foster and facilitate community development.

Since completion, all current community services are now delivered from the Hub including Employment Services, Centrelink, Family, Youth, Housing and Health Services. The Hub is also used to deliver a range of outreached services, cultural activities and a space for community events and activities.

The Murrin Bridge Preschool Community Hub contributes to well-being by focusing on cultural strengths and connection and improved access to relevant services that result in increased education, employment, and community safety outcomes. The design of the Murrin Bridge Preschool Community Hub emerged from a series of participatory workshops with residents, community and service providers of Murrin Bridge and allowed for the knowledge, opinions and aspirations of community members to be at the forefront of the design process.
Find out more

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Education Ranking

UTS has entered the top 100 universities in the world, rising 47 places to 90th in the QS World University Rankings which now includes a component on sustainability performance. UTS ranked 148th in the Times Higher Education (THE) World University Rankings and 9th in the world and 1st in Australia in THE Young University Rankings 2023 for universities under 50 years old.

UTS also rose one place to 14th in the world and 4th in Australia in the 2023 THE Impact Rankings which assesses universities against the United Nations Sustainable Development Goals. UTS ranked 43rd in the world and 8th in Australia in the 2024 QS Sustainability Rankings.

Sustainability Module

The Sustainability Module is available on Canvas Commons and was initiated by learning designers from PGLD who collaborated across the university to create an introductory resource suite for self-paced online learning that builds knowledge and capabilities crucial for work ready graduates.

The Sustainability Module has since been extended and added to the LX.lab Resource Collection: “Integrating sustainability into your subjects” and provides lesson plans and content for lecturers to easily weave into their subjects.

The success of this initiative has been due to its many contributors and partnerships formed across UTS. The Sustainability Module has been downloaded almost 100 times and won a Green Heroes Award in 2023.

UTS ranked

14th
in the world
Times Higher Education
Impact Rankings

4th
in Australia
Times Higher Education
Impact Rankings

43rd
in the world
QS Sustainability
Rankings

8th
in Australia
QS Sustainability
Rankings

5 GENDER EQUALITY

Achieve gender equality and empower all women and girls

FWCI of university's research outputs	1.36
International Collaborations	60.8%
Proportion of pubs in the top 10% of journals according to Citescore	25.8%
Number of publications produced	452
Number of citations produced	3,943

Finalists
in the 2023 AFR Higher Education Awards

Respect.Now.Always

UTS is a proud and active member of the national Respect. Now. Always. (RNA) campaign dedicated to the elimination of sexual harm on Australian campuses. In 2023, the team finalised the research project, Community Voice, which released four strategic recommendations for the RNA program in 2024 and beyond, and launched the RNA Theory of Change, which provides a clear blueprint on how UTS can collectively address sexual harm within our community. We also completed our sixth year of using ice-cream to talk about consent to an average of 6,000 first year and incoming students annually and were proud to be recognised externally for our work as a finalist in the 2023 AFR Higher Education Awards, Community Engagement category.

CASE STUDY

Promoting Gender Equality in Climate Action in the Pacific

The increasing impacts of climate change have gendered implications. Men, women, and people of diverse genders experience climate change impacts differently - partly because gender is a critical factor in exposure to climate disasters. Climate crises occur in socioeconomic and political contexts where women's rights and autonomy may already be constrained. As a result, women and girls are disproportionately affected by climate disasters.

The Pacific region is prone to different types of disasters, with climate change often being a key driver of disaster frequency and intensity. Researchers from the Institute for Sustainable Futures undertook a project to gather and analyse data on progress being made, and ongoing challenges towards, gender equality in climate change and disaster risk reduction in the Pacific. This project was part of the mid-term review of the Sendai Framework for Disaster Risk Reduction in the Pacific. The Sendai Framework was endorsed by the UN General Assembly in 2015, with the primary objective being the substantial reduction of disaster risk and losses in lives, livelihoods and health.

Findings revealed four key pathways that promote gender equality in climate action in the Pacific. These pathways provide guidance to governments, civil society and development partners to support ongoing progress for women and girls' participation and leadership in climate action.

The pathways include women led partnerships and coalitions; women's economic empowerment for disaster risk reduction; diverse and long-term partnerships; and upskilling women as change agents to directly influence individuals, policy and environment.
Find out more

Women in Wala Island, Vanuatu, participating in a focus group discussion on climate change. Photo: Anna Gero

Achieve gender equality and empower all women and girls

Multicultural Women's Network

The Multicultural Women's Network (MWN) is a welcome space created to enable multicultural women to realise their full potential and experience equity and justice at UTS. The strategic approach in 2023 was driven by supporting multicultural women at UTS to feel empowered, visible, and connected, influencing cultural and systemic change and celebrating cultural diversity. Network events have included monthly coffee catchups supporting the community.

Particular advocacy focused activities have included the Say My Name initiative to decolonise the ways in which we understand and recognise names within Anglo-Australian contexts; the How I Celebrate project, showcasing significant cultural events acknowledging campus diversity; the EmpowerHer@Work workshop exploring intersectional gender issues in the workplace; a speaker session at the inaugural SXSW Sydney, entitled Walking in two worlds: The space between cultures; film screening of The Leadership and discussion about the underrepresentation of women in key decision-making roles across almost all industries in the Australian workforce.

The MWN's work was recognised with a Vice-Chancellor's Group Professional Staff Excellence Award selected for helping UTS achieve excellence across community engagement. Find out more

Staff Excellence Award

Awarded by the Vice-Chancellor's Group

WiSR Program

The WiSR Program connects women and gender diverse people studying a Higher Degree by Research in the UTS Faculty of Engineering and IT to academic or industry professionals for one-on-one mentoring, professional development workshops and training sessions. The program aims to guide students in their transition from education to career paths whilst building career confidence and providing careers opportunities and professional development.
Find out more

Mentee and mentors from WiSR Graduation. Photo: Kwa Nguyen

6 CLEAN WATER AND SANITATION

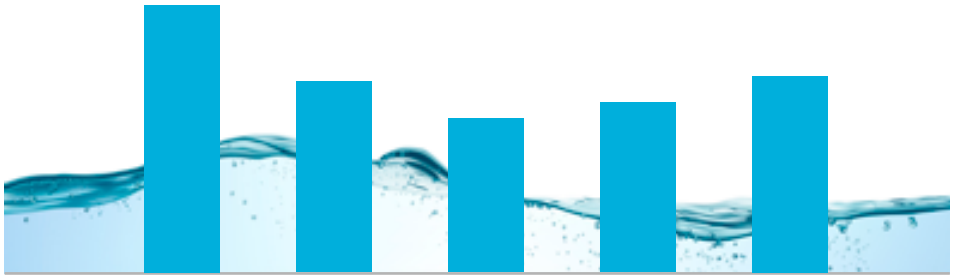
Ensure availability and sustainable management of water and sanitation for all

FWCI of university's research outputs	2.26
International Collaborations	84.8%
Proportion of pubs in the top 10% of journals according to Citescore	62.7%
Number of publications produced	1,126
Number of citations produced	36,155

Water consumption

Water consumption on campus increased 15% in 2023 compared to 2022 to 148,000kL due to increasing campus reactivation post pandemic and because 2022 was a particularly wet year. Our long-term year on year trend of improved water efficiency and lower consumption however has continued, with our 2023 total of 148,000kL 29% lower than pre-pandemic levels. This reduction is due to UTS's water reduction strategies which include, water efficient fixtures and fittings as well as the use of non-potable water supplies such as recycled water from Central Park and rainwater for irrigation and toilet flushing.

Water consumption



Year	2019	2020	2021	2022	2023
Water [kL]	203,000	145,000	117,000	128,000	148,000

In 2023, water consumption was

29%

lower than pre-pandemic levels

CASE STUDY

Best Practice Water Efficiency Programs

Improving water efficiency is crucial to managing the pressure on natural water supplies. Both in residential and commercial contexts, water efficiency programs need to be able to be implemented in ways that match the varying demand from the water supply, as well as the resources available for such programs. In collaboration with several Melbourne water businesses, the Institute for Sustainable Futures set out to develop a 'menu' of water efficiency program outlines that could inform future water efficiency initiatives.

Researchers analysed programs based on the intended target for water savings, defining end users that would be impacted and how, followed by an exploration of the mechanisms that enable these savings and their effectiveness. Researchers combined this with an unpacking of the relative potential for the programs to effectively scale, flagging key risks. This allows a concise narrative to be built around how and why programs can achieve their outcomes.

The study then collected these insights into a set of 10 outlines for Melbourne water businesses, establishing a framework from which future initiatives can draw on. These outlines provide key guidance on factors like delivery, scalability, and resourcing to support future decision making, allowing businesses to better manage resources and demand for water efficiency programs, as well as improving the potential for these programs' success in a fluctuating market.

6 CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

Water for All by Diana Gonzalez Botero. Winning photo from the Global Goals Month Photo Competition.

Rose's Story by Diana Gonzalez Botero, Institute for Sustainable Futures

In Taloa village, on Nguna island in Vanuatu, people with disabilities struggle to access water to meet their daily needs, especially in the dry season. People rely on rainwater, and on groundwater supplied through handpumps and occasionally through public standpipes. However, not everyone can afford a private rainwater tank, there are no public standpipes in half the village, and some of the handpumps require a lot of physical strength to operate. Almost everyone has to collect water outside their homes and carry it back, and when the dry season arrives, many people struggle procure enough water.

During our visit to Taloa in August 2023, we met Rose Sisi, a woman with a physical disability, and an outstanding community leader and disability advocate. Rose's preferred water source is rainwater from her tank because it is closer to the kitchen and is more accessible. However, when they enter the dry season, they face a lot of hardship as they need to resort to using groundwater or pay for people to fill up her storage tank. Rose dreams of getting groundwater supplied through taps to the houses of every person with a disability.

An understanding of the intersectionality of disability and increasing weather variability due to climate change is vital for delivering climate-resilient WASH services and policies that leave no one behind.

CASE STUDY

Resilience in a Changing Climate

Groundwater is often assumed to be a solution to improve the climate-resilience of water, sanitation, and hygiene (WASH) services. Yet, it remains a poorly understood, minimally managed resource with significant evidence gaps concerning its use and management in Asia and the Pacific. Furthermore, the climate crisis is known to disproportionately affect women and vulnerable people, exacerbating inequalities in access to resources and services.

There is an urgent need to better understand the potential of groundwater and how it can be sustainably managed to help combat the climate crisis and ensure equitable access to safe water for all.

In response, UTS's Institute for Sustainable Futures and partners are leading a research project aiming to provide governments, water service providers, and development partners with new evidence to guide groundwater-based solutions to climate-resilient inclusive WASH services in the region – RECHARGE.

RECHARGE is a transdisciplinary research project examining key groundwater issues in three climate-vulnerable contexts common in Asia and the Pacific: cities (Indonesia), islands (Vanuatu and the Blue Pacific), and deltas (Vietnam's Mekong Delta).

Research on groundwater issues in the region have largely been focused on hydrogeology. This project takes a broader perspective, bringing together expertise on environmental and social sciences, practical expertise on WASH implementation and governance, and local knowledge to provide actionable advice on reducing climate risks to urban and rural water services. This new knowledge will help policymakers, practitioners and communities maximise opportunities and overcome barriers.

7 AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

FWCI of university's research outputs	2.47
International Collaborations	82.3%
Proportion of pubs in the top 10% of journals according to Citescore	59.6%
Number of publications produced	1,781
Number of citations produced	57,271

UTS Energy Supply

In 2023, UTS signed a long-term renewable electricity supply agreement that will see UTS's electricity consumption coming from wind and solar farms. Typically, organisations sign Power Purchase Agreements (PPA) with renewable energy generators as a financial arrangement where the electricity is sold into the market and the organisation commits to purchasing this electricity at a fixed price. The downside to these PPAs is that the organisation must enter into a parallel retail supply electricity agreement to their premises, with these typically being short term agreements where the price is underwritten by fossil fuel generators.

The agreement UTS has entered is called a Retail PPA and this combines a typical PPA with a retail supply agreement ensuring that UTS's electricity consumption is matched to renewable electricity generation.

The Retail PPA will encourage the university to use more electricity when the sun is shining or when the wind is blowing and conserve electricity when the grid is predominantly being supplied by fossil fuels. This agreement will assist UTS to meet its target of 100% renewable electricity by 2025 as part of the Climate Positive Plan.

CASE STUDY

Electrifying Australia's Domestic Hot Water

Domestic hot water use contributes significantly to residential carbon emissions and energy consumption. Electric water heating technologies, such as heat pumps and flexible electric storage heaters, are vital for reaching net zero emission targets by displacing gas and supporting renewable energy integration. However, a balanced approach is required that provides for a mix of heat pumps and smart resistance storage technologies. While the former offer significant energy savings, they are not suitable for all homes. Resistance heaters, though less efficient, can support renewables through increased demand flexibility.

ARENA commissioned the Institute for Sustainable Futures to investigate hot water's potential role in achieving net-zero goals. We modelled several scenarios, including a business-as-usual baseline, and scenarios involving rapid replacement of gas domestic water heaters with a varying mix of heat pumps and resistance units. Our work found that electrifying domestic water heating would save consumers billions annually, substantially reduce carbon emissions, and support more renewable energy through better matching of demand and supply across Australia's electricity networks.

Our work also examined transition pathways towards more flexible and efficient domestic electric water heating. These pathways involve reducing gas water heater installations, increasing heat pump uptake, optimising existing systems, and increasing demand flexibility. Our work concludes with recommendations for a coherent policy approach to residential water heating that addresses a range of market, technical and policy challenges. Find out more

7 AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all

Energy Ready: Empowering Energy-Resilient Communities

Climate change is increasing the risk of extreme weather events in frequency and intensity in Australia. Regional areas are at risk of losing power due to environmental disasters, such as bushfires, floods and cyclones. Without electricity there is no way to communicate, cook or cool down.

Communities must prepare in advance. UTS's Institute for Sustainable Futures (ISF), in collaboration with community engagement specialist Community Power Agency and design agency Parallel Lines, developed resources to help communities plan and ensure essential energy needs are met in an emergency. The Energy Ready toolkit is easy to use. It contains seven simple steps for communities to examine the risks they face, identify shared priorities and develop a tailored plan of action.

Being prepared for energy outages is crucial to disaster recovery. ISF's research found that community energy resilience can be achieved through social learning, knowledge-sharing and developing local partnerships. Coming together helps communities to prepare for, respond to and recover faster from environmental disasters.

The toolkit has been designed by communities, for communities. At workshops with regional and rural communities across Australia, lived experience and concerns about future climate impacts were shared, and inspired a genuine design which simultaneously encourages community-led action.

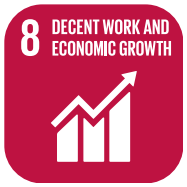
Social capital is essential for community-led recovery, managing trauma, and encourages decision-making for the greater good. Often trust-based social connections have been compromised. The toolkit is designed to help communities come together and learn about their community before beginning the resilience planning.

Communities are not alone; partnerships and trust-building are key to success. To build strong energy resilience strategies, communities must connect to other volunteer organisations, service providers, including emergency services, SES and grid operators, councils and organisations that can support, elevate and fund their vision. The Energy-Ready toolkit activates communities to make those crucial connections and think ahead.

Energy Ready Toolkit. Photo: Sarah Niklas

Building Community Connection

to help communities plan and ensure essential energy needs are met in an emergency



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

FWCI of university's research outputs	2.59
International Collaborations	65.3%
Proportion of pubs in the top 10% of journals according to Citescore	48.2%
Number of publications produced	662
Number of citations produced	17,245

Student Employment Services

UTS Careers helps connect UTS students with employment and workplace training opportunities through a wide range of initiatives, events, and workshops. There were over 4,300 student attendances at more than 100 events in 2023. The CareerHub online portal received 34,958 distinct student and alumni logins and promoted a total of 5,298 job advertisements, many of which covered multiple job and career opportunities for UTS students and recent graduates. A total of 19,737 employers are registered on the portal, of which 1,370 were new registrations this year.

UTS Careers has a strategic focus to scaffold career education in the curriculum. UTS Careers co-design and facilitate career education content that is aligned to Course Intended Learning Outcomes and cover topics such as Job Search and Work-Integrated Learning. In 2023, there were over 20,599 instances of student engagement across all faculties.

Careers in Sustainability event. Photo: Alexandra Fransen

Careers in Sustainability

As part of Global Goals Month, UTS Business School academic, Dr Rosemary Sainty, moderated a panel discussion with sustainability professionals at various stages in their careers and across a variety of roles and industries. It was fascinating to hear their individual journeys and their experiences provided inspiration and insights to the students and staff that attended the event.

CASE STUDY

Breaking the silence

Exploitation of migrant workers is endemic in certain industries in Australia. Unlawful employer conduct goes unchecked, in part, because many migrant workers stay silent – they fear that if they come forward, they will put their visa and stay in the country at risk. Exploitation can only be detected if migrant workers can report exploitation and access justice without jeopardising their immigration status – a challenge that has eluded migrant workers in every country, until now.

In February 2023, Associate Professor Berg a from the Faculty of Law, along with her colleague Associate Professor Farbenblum (UNSW), in collaboration with the Migrant Justice Institute and Human Rights Law Centre, published *Breaking the Silence:* A Proposal for Whistleblower Protections to Enable Migrant Workers to Address Exploitation. The proposal urged the government to establish two robust new visa protections to enable migrant workers to hold employer exploitation to account. These include a guaranteed protection against visa cancellation for migrant workers who bring labour claims, and a short-term visa to enable migrant workers to pursue labour claims at the end of their stay. A national coalition of over 40 legal service providers, unions, ethnic community peak bodies, churches, and welfare agencies endorsed the proposal.

In 2024 the Federal government committed to introduce these two new measures, adopting the bulk of the framework proposed by the researchers. Berg and her colleagues were invited to participate in a 'co-design' process with the Department of Home Affairs to refine the details of the scheme.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

FWCI of university's research outputs	2.45
International Collaborations	66.8%
Proportion of pubs in the top 10% of journals according to Citescore	52.4%
Number of publications produced	1,203
Number of citations produced	29,866

Greenaway Architects, Warren and Mahoney, and OCULUS.

National First Nations College

Progress on the National First Nations College is well underway with Greenaway Architects, Warren and Mahoney and OCULUS being chosen as the winning design team. Their design was lauded for its thoughtful connection to Country, and for the design's potential to create an exceptional student experience. Find out more

Supporting the Next Generation

With a growing cohort of inspiring technology-enabled startups, including many in the sustainability space, UTS Startups has increasingly shifted focus towards leveraging startups to inspire younger students. In 2023 workshops were run in 100 schools addressing year 9 and 10 students and the inaugural UTS Startups Summit for 1,500 year 9 and 10 students was launched, all designed to make technology-enabled impactful entrepreneurship normal, desirable and accessible. Urban Plant Growers is a great example of a sustainability startup that has been nurtured and continues to grow.

CASE STUDY

Wastewater treatment facilities could provide a way to tackle food waste

The energy, water and waste sectors share a common policy objective of achieving net-zero emissions by 2050 and a commitment to the Global Methane Pledge of cutting at least 30% of anthropogenic methane emissions by 2030 from 2020 levels.

To help achieve these targets, Australian households and businesses will be required to dispose of organic garden and food waste separately in the next few years. Hence the need to quickly develop organics processing infrastructure to process the separated organic waste materials. This project explored the opportunity to process urban organic waste at wastewater treatment facilities that currently have spare capacity due to inbuilt long-term planning for population growth. These facilities could accept external organic waste streams in the short term. This could help defer capital expenditure on new organics processing facilities, enable a fast rollout of collection and processing of urban organic wastes, and allow for a decrease in generation of food waste as per the National Food Waste Strategy.

Researchers from the Institute for Sustainable Futures assessed three existing Sydney Water wastewater treatment facilities (Malabar, St Marys and Riverstone) to illustrate and quantify the opportunities of diverting the urban organic wastes generated in the adjacent local government areas from landfill. Anaerobic digestion technology at these wastewater treatment facilities could be used to process these wastes, generating renewable biogas as well as digestate rich in soil nutrients.

This approach aligns with circular economy principles, reduces greenhouse gas emissions, and brings together the siloed energy, water and waste sectors enabling knowledge sharing.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Robot Workforce of the Future

In 2023, the UTS Robotics Institute was launched, bringing together more than 80 researchers in a cutting-edge facility at the forefront of robotics research and innovation. Our experts develop customised robotics solutions to maximise productivity, improve quality and safety, and generate efficiencies for our commercial, government and not-for-profit partners. More here

UTS Robotics Institute research project Professor. Sarath Kodagoda at UTS Tech Lab. Photo: Toby Burrows

Reshaping Society through AI

In 2023, the GrapheneX-UTS Humancentric AI Centre was launched; a cutting-edge research and innovation hub that prioritises ethics, values and humanity at the core of the AI revolution. Teaming human intelligence with AI maximises adaptiveness and spontaneous cooperation between human and machine for applications where reliability, precision, safety and speed are paramount. Find out more

NSW Premier's Prize for Excellence

Distinguished Professor Jie Lu AO was awarded a NSW Premier's Prize for Excellence, for her ground-breaking theoretical and problem-solving research in training AI models where there's either too much or too little data.

From transport and health through to agriculture, Distinguished Professor Jie Lu's pioneering artificial intelligence (AI) is improving decision-making across a range of Australian industries.

Distinguished Professor Jie Lu AO won the **NSW Premier's Prize** for Excellence

Young Tall Poppy Award

Optical physicist Associate Professor Alex Solntsev from the School of Mathematical and Physical Sciences was recognised as a NSW Young Tall Poppy for his research on building the next generation internet – aiming to be faster, more efficient and greener.

"We are aiming to use light to power our communication and computing systems, to keep up with the growing demand for speed and data bandwidth while also being eco-friendly."

Reduce inequality within and among countries

FWCI of university's research outputs	1.71
International Collaborations	50.0%
Proportion of pubs in the top 10% of journals according to Citescore	30.5%
Number of publications produced	554
Number of citations produced	6,380

Distinguished Professor Martin Loosemoore

UTS academic Distinguished Professor Martin Loosemore from the Faculty of Design, Architecture and Building is the most highly cited academic in the world in social procurement and UTS is pioneering the use of social procurement internationally to ensure that the construction and infrastructure industry leaves a positive legacy in the many communities in which it builds. UTS research led by Professor Loosemore is having a major impact on industry and policy practice in this area in Australia and internationally.

Out of this and other research going back over 25 years, Martin has developed a Social Procurement Community of Practice (CoP) to disseminate UTS's leading research into industry and government policy circles. The CoP provides short plain English summaries of UTS research and other important policy and industry developments in this area, including best practice case studies from its members produced by UTS. The CoP has grown to over 75 members in two years, with members representing the largest and influential organisations leading the social procurement debate from the business, government, not-for-profit, minority business and social enterprise sectors with members from other countries such as Canada, UK and Asia-Pacific. Find out more

Staff Volunteers

UTS staff can choose to take social justice leave and volunteer their skills and time to support and build the capacity of community organisations. This year 26 staff from across the university contributed 213 hours to community organisations using social justice leave.

Widening Student Access and Participation

UTS runs a number of financial assistance and support programs designed to widen the participation of students from low socioeconomic backgrounds at university. Support is in the form of grants, free computers, textbooks, and zero interest loans. In 2023 support totalled $700,500 (excluding loans) with assistance provided to approximately 1,000 students.

CASE STUDY

Social procurement in the construction and infrastructure industry

With a $230 billion infrastructure pipeline from Australian government entities over the next 5 years there is an estimated $767 million in untapped social value for governments to leverage from their construction and infrastructure spending at no extra cost.

Through social procurement we can:

- Build our much-needed infrastructure;
- Address the critical skills shortage facing the construction industry;
- Diversify our workforce;
- Address growing disadvantage and inequity in society; and
- Contribute significantly to economic growth, productivity, and social harmony.

Distinguished Professor Martin Loosemoore from the School of the Built Environment has enabled many companies in the construction industry to benefit from social procurement including a unique 20-year partnership with Multiplex Construction. This partnership has resulted in three Australian Research Council Linkage Grants which has contributed significantly to the development on Multiplex's international leadership in equity and diversity and social procurement. Implementation of their Connectivity Centres which have secured sustainable and meaningful employment opportunities for over a thousand of Australia's most disadvantaged job seekers. This includes Indigenous peoples, refugees and migrants, people with a disability, ex-offenders and young people at risk of incarceration.

These partnerships have included government organisations such as the Human Rights Council of Australia; community based organisations such as yourtown and Aboriginal Employment Services; and partners in Multiplex's supply chains such as The Heyday Group.

Reduce inequality within and among countries

SOULie Spotlight - Kevin Au

Kevin Au is a second-year nursing student and SOUL Award graduate, recording a massive 380 hours of volunteering alongside his study and unpaid nursing placements.

Kevin first began volunteering at school in Hong Kong with the Red Cross, and when he moved to Australia for university, he looked for volunteering opportunities here. Now Kevin is an active volunteer with St John Ambulance, while still finding time to volunteer at fundraising events and with his high school Red Cross group.

60

students achieved the UTS SOUL Award, committing at least 90 hours of their time and skills to social good

UTS SOUL

The UTS SOUL program supports students to venture beyond their degree and into the community, to skill up, give back and make change. In 2023, 321 students logged 15,257 volunteer hours with 205 organisations including Glebe Computer Room, Sydney Children's Hospital Foundation and the Bluebird Pantry.

60 students achieved the UTS SOUL Award, committing at least 90 hours of their time and skills to social good, and upskilling in ethical leadership, understanding social issues and skills for social change. 158 students also completed Stage 1.

The Victorian Healthy Homes Program

Despite new homes in Australia being required to be built to a 7-star energy rating, almost half of current Australian homes are currently rated under 2 stars. The gap in the energy efficiency of our housing contributes towards the cost of living in homes and to the health of our planet; it can also be detrimental to the health of residents. These issues disproportionately impact lower income households, especially older residents or those with chronic health conditions.

Under direction of Sustainability Victoria, UTS researchers collaborated with the Australian Energy Foundation to conduct a study in which minor energy upgrades were installed to measure the impact on the energy use, health and wellbeing of Victorian residents on lower incomes with existing health conditions. Upgrades averaged a cost of $2,800 and included improvements to insulation and sealing out cold draughts. The research found that participating households spent 43 less minutes each day in harmful 'cold indoor temperatures' (below 18°C).

The study noted improved health and well-being of participants being recorded and significantly reduced healthcare related costs per person over the course of the winter and that investment in upgrades would become cost-savings within 3 years.

Make cities and human settlements inclusive, safe, resilient and sustainable

FWCI of university's research outputs	2.2
International Collaborations	66.9%
Proportion of pubs in the top 10% of journals according to Citescore	46.1%
Number of publications produced	1,023
Number of citations produced	22,532

Campus Engagement Activities

The sustainability team runs a program of events and initiatives throughout the year to engage staff and students. This year 2,070 people attended 51 sustainability events. The annual Green Week Photography Competition received 116 entries and over 900 comments and likes on social media. Subscriptions to the UTS Sustainability newsletter grew by 12% to over 4,400 subscribers.

The annual UTS Green Hero Awards recognise staff and student sustainability champions. This year first prize went to Lolita Carson from the UTS Magic Pudding Childcare Centre, who helps inspire the children's interest in nature. The Centre has a vegetable garden, native beehive, and chickens. Second prize went to joint winners Christina Brauer and Sally Creagh, learning designers nominated for their work developing a sustainability module for subject coordinators wanting to incorporate sustainability into their subject. Third place went to student Xiang Hong Ong who volunteers at the Bluebird Pantry, helping provide free food and household items to students doing it tough.

Global Goals Month Chats for the Goals session.
Photo: Cindy Hang

Green Impact Program

For the fifth year we ran Green Impact, an engagement and behaviour change program where teams of staff and students undertake sustainability activities. This year's top achieving team was the Magic Pudding Childcare Centre, closely followed by the student EcoLaw team. In total, Green Impact supported 4 teams this year to complete 99 sustainability actions.

UTS Housing Initiatives

UTS Housing has established several initiatives to promote sustainable living and foster a sense of community among their residents. Initiatives include the establishment of a Free Store where household items such as crockery, cutlery, pots, and coat hangers can be reused by residents. Textile donations are also sorted and redistributed through give aways, recycling and repurposing efforts as well as food donations from the UTS Students' Association and surplus food from UTS events. Other waste initiatives include battery, mattress, and furniture recycling as well as approximately 200 tonnes of materials from residents recycled through their yellow bin program.

Make cities and human settlements inclusive, safe, resilient and sustainable

Travel

UTS conducted a travel survey to capture the existing travel behaviours of staff and students and provide a basis to manage future travel demand and promote the use of sustainable transport through the development of a new Sustainable Campus Travel Plan. The survey indicated that public transport was the key mode of transport with 82% of students and 70% of staff using public transport, a notable increase of 4-5% compared to 2018. Cycling encompassed a mode share of 5.8% for staff and 1.6% for students which was generally consistent with the 2018 data whilst car usage has seen a slight increase for staff at 12% and 5% for students with 10% of staff stating they travel more by car as a result of COVID-19.

82%
of students took public transport to campus

Recommendations in the Travel Plan to encourage a continued behavioural shift towards sustainable travel modes include:

- Promoting the health and environmental benefits of choosing sustainable transport modes;
- Improving end of trip facilities for electric vehicles, namely e-bikes including secure horizontal parking and charging facilities;
- Encouraging walking and cycling groups; and
- Continuing to support remote work and study

Flood and Storm Intelligence Sensing

Storms and floods impact services and cause damage to property and infrastructure like roads. They also affect the health and wellbeing of NSW communities by causing emotional distress, injury and loss of life.

UTS is collaborating with the NSW State Emergency Service on a pilot project to improve their responses to floods and storms to better protect people and properties. The project will deliver an energy efficient, secure and reliable flood and storm sensing solution for the Hawkesbury and Wagga Wagga region which if successful will be deployed statewide.

Shared Space for Sustainable Communities

Student Amy Tran from the School of Civil and Environmental Engineering won the prestigious Institute of Transportation Engineers Australia and New Zealand (ITE-ANZ) Trafficworks Undergraduate Student Award, for her project exploring the movement metrics of shared space between vehicles and pedestrians.

CASE STUDY

Sydney Olympic Park Pilot Irrigation System

Smart Irrigation Management for Parks and Cool Towns (SIMPaCT) tackles three challenges facing Australian cities: urban heat; water scarcity; and providing the community with high quality urban green spaces. As the climate crisis deepens, and cities are densifying, these challenges are becoming more pronounced. SIMPaCT is a smart irrigation management solution that directly addresses these challenges.

Through a combination of smart low-cost sensing, real-time IoT (Internet of Things) data management and advanced analytics, SIMPaCT helps to maximise urban cooling, optimise water efficiency, and maintain thriving green infrastructure. A pilot project was established at Sydney Olympic Park featured 260 smart IoT sensors that deliver live environmental data from the park, capturing a diversity of highly localised microclimates. Over 200 individual irrigation ‘stations’, distinct areas for targeted water delivery, could then be optimised based on this data.

SIMPaCT has won multiple high-profile awards, including: IoT Alliance ‘IoT for good’ award 2023; IoT Alliance ‘Research’ award 2023; InnovationAus ‘Govtech’ award 2023; InnovationAus ‘People’s Choice’ award 2023; and the NSW Banksia Award for ‘Climate Technology Impact’. SIMPaCT is a finalist in the national Banksia Awards and was a 2023 finalist in the prestigious World Smart City Awards.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

FWCI of university's research outputs	2.68
International Collaborations	72.8%
Proportion of pubs in the top 10% of journals according to Citescore	55.2%
Number of publications produced	646
Number of citations produced	21,519

Recycled
11.5
tonnes of E-waste

Campus Waste and Recycling

The total volume of general waste on campus was up 17%, rising from 629,782 tonnes in 2022 to 739,931 in 2023. This was mainly a reflection of the campus returning to normal post pandemic. Our diversion from landfill rate improved from 70% in 2022 to 86% in 2023.

The improvement in the diversion from landfill rate is due to UTS transitioning to a new waste contractor in June 2023 and the different way that the waste streams are separated. The new waste contractor separates the waste into the following streams, paper and cardboard, metals, plastics, refuse derived fuels and residual waste. UTS will now report on 'diversion from landfill' as this more accurately reflects the use of some material as refuse derived fuels. In 2023 the organic waste dehydrators began operating again after being shut down during the pandemic increasing the amount of organics recycling.

Most IT equipment and computers at UTS are leased, under 'take-back-at-end-of-life' lease conditions for recycling. These items are not included in the university's waste figures. Nevertheless, UTS purchases small quantities of one-off IT items and equipment which are recycled at end of life. This year we recycled 11.5 tonnes of E-waste.

UTS uses the online Warp-it platform to facilitate furniture re-use within the university. In 2023 we reused a total of 827 pieces of furniture, diverting approximately 8.524 tonnes of material from landfill. We also participate in the National Fluorocycle program, recycling 100% of our lamp waste which was 0.671 tonnes in 2023. We recycled 0.735 tonnes of batteries.

GENERAL WASTE FIGURES

Year	Total tonnes per annum
2018	958,586
2019	1,310,000
2020	832,245
2021	600,177
2022	629,782
2023	739,931

Ensure sustainable consumption and production patterns

How to Encourage Sustainable Behaviour

When we are confronted with an ethical issue, we form evaluations that govern our responses. These evaluations are influenced by a combination of either, the rules that govern a behaviour or context and the consequences associated with the alternative courses of action available to us. Whilst researchers have long sought to understand the fine balance and individual impact that rules versus consequences have on our ethical decision making, they often find mixed results across an array of ethical issues.

Researchers from the UTS Business School conducted a meta-analytical review of all these empirical studies and found a relatively stable effect of consequences on ethical decision making across contexts. However, they found a really strong effect when the issue involved the environment. Specifically, in consumer contexts such as bringing your own bag to the supermarket and green public transport options, consumers rely more on their evaluations of the consequences than in any other context. The main implication of these results suggests that institutions that are concerned with the environmental issues such as the non-profit and public sector may have more success using consequential information in their communications to individuals to encourage ethical responses.

One of the key factors that enabled this research was a strong team morale and interest in the topic area and methodology. This research project was the first paper in UTS doctoral student Aimee Smith's PhD thesis, and it has given Aimee and her co-authors various other research paths to explore in connection that relate to other sustainable and prosocial outcomes in line with the UN SDGs. This research has been presented at UTS and national conferences as well as further projects that resulted from this meta-analysis, often receiving positive responses. Aimee notes, "It has been amazing to be able to share this research and help it reach the people it can help to make a difference."

Material recovery facility in Agra. Photo: Sherine Thandu Parakkal

CASE STUDY

India's Revolutionary Roadmap to Tackle Plastic Pollution

India is experiencing heightened severity of plastic pollution due to a rapidly growing wealthy middle class and the sheer volumes of plastic waste generation associated with a growth economy. Twenty-six thousand tonnes of plastic waste is generated in India each day, with only eight per cent of the plastic waste being recycled. India has a substantial challenge ahead to tackle its domestic plastic pollution problem.

A research collaboration between six Indian and Australian partners, including the Institute for Sustainable Futures, produced a roadmap report 'National Circular Economy Roadmap for Reducing Plastic Waste in India' as a pioneering effort aimed at reducing plastic waste destined for landfills or polluting the environment.

The research took a whole-of-system approach and was informed by multi-stakeholder perspectives over the three-year period.

The roadmap aims to catalyse a more inclusive circular economy for plastics in India by driving innovation and creating value from plastic waste. Therefore, contributing to the achievement of the UN SDGs, and helping to reach global net-zero targets.

It provides a living framework addressing the entire plastics value chain and the recommendations address both the socio-political and technological interventions needed to accelerate a circular economy for plastics. The solutions are embedded in India's unique ecosystem, which thrives on a massive informal waste infrastructure, supplemented by local and municipal initiatives to drive community education and engagement.

Take urgent action to combat climate change and its impacts

FWCI of university's research outputs	2.32
International Collaborations	75.4%
Proportion of pubs in the top 10% of journals according to Citescore	53.0%
Number of publications produced	840
Number of citations produced	22,342

Climate Positive Plan

In 2022, following extensive consultation with staff and students we launched the UTS Climate Positive Plan and we are continuing with implementation. The Plan provides a roadmap with initiatives, targets and timelines to transition UTS to Net Zero and beyond, targeting 100% renewable electricity by 2025 and achieving Net Zero and Climate Positive by 2029.

Total scope 1 and 2 greenhouse gas emissions fell slightly this year, from 34,055 tonnes in 2022 to 33,751 tonnes in 2023. This is partially due to a decrease in gas consumption and an increasingly green electricity grid, but our result was moderated by slightly higher electricity consumption. Despite this, we still exceeded our emissions intensity target of 105 kg CO^2-e/m^2 GFA by a significant margin, achieving an impressive 75.8 kg CO^2-e/m^2 GFA. Scope 3 emissions for 2023 totalled 56,234 tonnes forming 66% of UTS's overall emissions. 2023 is the first year that UTS has included our scope 3 emissions in the annual Sustainability Report.

ELECTRICITY		
Year	Gj	Gross Floor Area (m^2)
2019	159,236	434,688
2020	161,784	437,756
2021	135,041	434,517
2022	140,085	412,285
2023	152,881	418,407

GAS		
Year	Gj	Gross Floor Area (m^2)
2019	49,921	434,688
2020	52,598	437,756
2021	48,646	434,517
2022	64,478	412,285
2023	57,903	418,407

UTS exceeded our emissions intensity target of 105 kg CO^2-e/m^2 GFA, achieving 75.8 kg

Gas and Electricity Usage

Electricity usage increased 6%, compared to 2022 due to increasing campus reactivation post pandemic, while gas usage decreased 11% partially as a result of 2023 being a warmer winter than the particularly cold 2022. Ongoing energy management and efficiency initiatives helped reduce consumption including building analytics projects in Buildings 1, 2, 3, 4, 6, 7, 8, 10 and 11, as well as campus-wide building management system tuning. Thermal energy imports through a precinct energy sharing program with our neighbours at Central Park helped to reduce electricity used for air-conditioning.

Take urgent action to combat climate change and its impacts

Climate Connect Forum

The second annual Climate Connect Forum was held with staff and students from across the university collaborating on climate action. The event aims to facilitate connections across research, teaching and learning, campus operations, partnerships and strategic initiatives, and to leverage and accelerate our climate change related work.

UTS launches Centre for Climate Risk and Resilience

In September 2023, UTS's Business School launched The Centre for Climate Risk and Resilience, led by internationally recognised Professor of Environmental Finance Martina Linnenluecke.

Dean of UTS Business School Professor Carl Rhodes said the new research centre aims to help businesses address the physical and transition risks brought on by climate change – safeguarding the ecosystems and local communities in which businesses operate.

Naming & taming our climate change emotions workshop

Christina Brauer from PGLD hosted the workshop during Global Goals Month in September to empower participants to take action against climate change by first addressing the underlying emotions that often fuel denial and paralysis.

The workshop reinterpreted the 1960s consciousness-raising model to create a space for participants to reflect on their personal relationship to the crisis. Exploring and voicing the painful truths of the crisis empowered participants to confront the problem and foster collective agency for a sustainable future. The workshop required participants to commit to listening and kindness, whilst maintaining an open and curious mindset. These ground rules provided the foundation for a safe and welcoming space that encouraged connections and community. Participants were provided with a platform to express and share their difficult climate emotions, which are often dismissed as normal, healthy responses. This acknowledgment created a sense of solidarity and relief and worked toward a more open and informed dialogue about the climate crisis as well as improving health and well-being. Find out more

CASE STUDY

Flexible Demand needed for Successful Energy Transition

Whilst solar and wind are the cheapest, cleanest electricity sources a key challenge remains; what is the best way to maintain affordable, secure power in a grid dominated by variable energy sources? Increasing electricity demand flexibility to use power when there is abundant wind and solar power is a greener and more cost-effective way to keep the electricity grid stable than extending the life of coal fired power stations.

Institute for Sustainable Futures (ISF) researchers reviewed projects funded by the Australian Renewable Energy Agency to increase flexible demand. There are a range of options to achieve flexible demand including shifting hot water use into the daytime, chilling freezers in the middle of the day or remote controlling air-conditioners to turn them down slightly when demand is high.

ISF is now working with businesses such as AGL and Sydney Water to review and identify the range of technologies and solutions that will identify how flexible demand can be increased. If proven, these solutions can be scaled up across a range of other businesses to save energy costs and reduce greenhouse gas emissions by matching energy demand to renewable energy supply.

Take urgent action to combat climate change and its impacts

UTS Microcredential unites Industry and High-school students to tackle Net-zero

Key figures from across Australia's sustainability and innovation ecosystem have collaborated with UTS to share their knowledge and industry experience with high-school students as part of a TD School pilot program enriching the conversation on how to reach net zero.

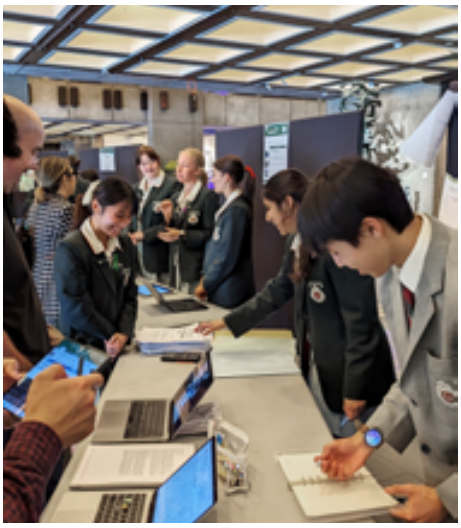
As the urgency of addressing climate change intensifies, expertise in industry-specific practices becomes paramount in teaching courses focused on achieving net-zero goals. With rapid advancements and evolving methodologies within various sectors, collaboration with industry experts ensures that learning remains at the forefront of innovation, a principle exemplified by the TD School's 'Innovation in Complex Systems' course.

The microcredential is led by Dr Brown, a national and international award-winning scholar, alongside all-rounder Albert Ong - a hybrid mechatronics engineer, biotechnologist, and interaction designer. The course is designed to equip students to be change-makers, enabling them to develop general skills about creativity and innovation, problem-solving, understanding, empathy, visualisation and how to use play as a tool to break-down complexity, all while practicing their team-working skills.

Industry engagement in the program plays a critical role in supporting the development of these skills. Dr Brown and Ong's deep understandings of innovation and complexity are supplemented by a constellation of industry partners.

"For students, working with industry introduces a higher level of critical thinking and understanding of complexity as opposed to just working with academics or the information available online," shared Ong.

To round out the students' learning experience, the microcredential includes a green tour of the UTS, offering insights into the sustainable innovation and infrastructure on campus, including the International Green Gown Award winning Plastic Free Food Court and ground-breaking algae bioreactor, Green Genie. Students are then able to review and make informed observations about their own high-school campus.



Hills Grammar students at the TD School's 'Innovation in Complex Systems' microcredential. Photo: TD School

"For students, working with industry introduces a higher level of critical thinking and understanding of complexity as opposed to just working with academics or the information available online."

Albert Ong

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

FWCI of university's research outputs	2.0
International Collaborations	67.8%
Proportion of pubs in the top 10% of journals according to Citescore	47.5%
Number of publications produced	484
Number of citations produced	11,194

Young Tall Poppy Award

Coral biologist Dr Jen Matthews from the Climate Change Cluster was recognised as a 2023 NSW Young Tall Poppy in recognition of her work on coral nutrition.

Coral Boost with Funding Injection

As coral reef populations continue to be threatened by human activity, the Coral Nurture Program has served as a landmark collaboration between UTS researchers from the Future Reefs Team and the Great Barrier Reef tourism industry, contributing to the regrowth and replanting of coral at two regions on the Great Barrier Reef. Over 100,000 corals have been planted off the coast of Queensland. In 2023, the program was named an official Actor for the United Nations Decade of Ecosystem Restoration and was awarded the Society of Ecological restoration's Regional Award. Coral reefs are some of the most biodiverse marine ecosystems on Earth and are integral to the wellbeing of our oceans. While coral propagation is showing promise to boost coral abundance, new solutions are urgently needed to ensure the future survival of coral reefs.

The Future Reefs Team are exploring how new technology can enhance active restoration of coral reefs. In 2023, in collaboration with other researchers, industry and local communities, members of the Future Reefs Team were awarded a $2.1 million grant from the Coral Research and Development Accelerator Platform (CORDAP) to develop a nutritional supplement for tropical and cold/deep water coral to help boost resilience during restoration and periods of heat stress counteracting the relative lack of nutrients in the water. This acts as another facet to build coral resilience, work towards restoring coral populations and continue supporting the wider marine ecosystem.

Super seahorse release Photo: Jayne Jenkins

CASE STUDY

Super Seahorses' Signal Hope for Survival of Iconic Species

White's Seahorses are native to the Australian East coast and were the second species of seahorse globally to be listed as endangered. Their population decline has largely been due to habitat loss and pollution of the waters they live in. This has made them the focus of conservation efforts, and while there have been instances of White's Seahorses being nurtured to release, successfully rearing them has remained a significant barrier.

Starting in 2023, the Sydney Seahorse Project, a collaboration between the Sydney Institute of Marine Science, UTS, and the New South Wales Department of Primary Industries, saw researchers collect pregnant male seahorses and experiment with husbandry techniques to find the optimal rearing environment. The ideal temperatures and food requirements resulted in seahorses bigger and stronger than they otherwise would be, called super seahorses. 380 of these were then released into Chowder Bay, on to existing swimming nets and newly installed 'seahorse hotels', artificial habitats that emulate the disrupted habitats of seahorses, giving them the best possible chance of survival.

The project also represents an innovation in the collection of data on these seahorses by encouraging local divers in the bay to upload photos of the seahorses to an online portal to help track their progress through release. Find out more

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

FWCI of university's research outputs	2.05
International Collaborations	70.9%
Proportion of pubs in the top 10% of journals according to Citescore	48.5%
Number of publications produced	371
Number of citations produced	8,337

Ecologically Responsible Pathways to a Green Energy Transition

The large-scale deployment of renewable energy is one of the key strategies to reach net zero greenhouse gas emissions. In Australia, the Federal Government has set a target of 82% renewable energy by 2030, which will require the construction of 60 million solar panels and the installation of 40 wind turbines each month.

While renewable energy has lower overall impacts on human and environmental health than fossil fuel, the scale and speed at which renewable energy will need to be implemented carries significant risks for ecosystems. A team at the Institute for Sustainable Futures is conducting a review of the scientific and grey literature to identify the impacts of solar energy, wind energy, battery energy storage systems, bioenergy, hydropower and green hydrogen on habitat, wildlife, soil and water.

The project team compiled information on the strategies that can be adopted to mitigate impacts along the supply chain from raw material sourcing all the way to end of life. They identified six areas of best practice – or better practice - to minimise the impacts of renewable energy:

- implementing strategic planning to minimise habitat loss;
- improving site selection to minimise land use-impacts and designing nature positive projects;
- increasing the uptake of circular economy practices during the construction phase of renewable energy infrastructure;
- using smart operating technologies and practices to minimise biodiversity impacts during construction and operation;
- minimising waste and land impacts at end-of-life, by extending the life of renewable energy infrastructures and facilitating their recycling; and
- reducing impacts from mining and manufacturing in renewable energy supply chains.

CASE STUDY

Scoping the Governance and Co-benefits of Circular Food-Energy Systems in Fiji

Circular food economies can support food security and sustainable energy use in rural areas of Fiji. Biodigester systems are a type of technology that can deliver multiple benefits concerning food, energy, climate, economic, environmental, gender equality and health issues. However, scaling this innovative technology has proven difficult in the past in Fiji and other Pacific Island countries due to the unique island geography, diverse cultural contexts and perhaps most importantly, fragmented governance systems and business models to support sustained adoption of technology.

This project seeks to better understand how co-benefits can be governed by the multiple government, business, and community groups involved in circular food economies. Researchers from the Institute for Sustainable Futures have worked with stakeholders on scaling biodigester systems and building the evidence base for multi-sector governance.

When implemented effectively biodigester technology can help realise a wide range of positive socio-ecological impacts including reducing greenhouse gas emissions, reducing reliance on synthetic fertilisers and increasing energy independence as well as contribute to a safe, nutritious and affordable food supply.

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Second prize winner from the Global Goals Month photo competition.
Photo: Hazard Gaze by Mia Chiara Ellenberger

Institute for Sustainable Futures

The Institute for Sustainable Futures (ISF) conducts leading sustainability research, hosts and participates in national and international events, and collaborates with industry and government partners. Highlights of initiatives this year include:

- ISF is part of a new Commonwealth Government-funded Solving Plastics Waste Cooperative Research Centre and will lead a program on Plastics and Circular Economy.
- The SIMPaCT project (Smart Irrigation Management for Parks and Cool Towns) project won a NSW Banksia Foundation Climate Impact Technology Award, two national Innovation Australia Awards, and was a finalist in the 2023 World Smart Cities Award.
- Climate-KIC Australia (the sister organisation of EIT Climate-KIC), joined ISF boosting ISF's expertise in systems innovation.
- A small team from ISF met with the incoming Australian Head of Mission to Iraq, providing an overview of what the institute does, particularly related to water and energy research and consultancy, discussed the work ISF has done in Egypt on Integrated Resource Planning for Alexandria, and in Oman, and Associate Professor Sven Teske spoke about the One Earth Climate Model.
- ISF researcher Gordon Noble presented on sustainable finance at the United Nations Conference on Trade and Development's 8th World Investment Forum 2023.
- Australia's Prime Minister Anthony Albanese cited ISF energy jobs research in his address and media release for the Future Energy Forum.
- Boundless Earth Limited charity awarded UTS and ISF a grant of $75,000 for 'Renewable Energy on Aboriginal Land.' This project involves a collaboration with the Aboriginal Land Council network to identify opportunities for renewable energy development on the Aboriginal Land Estate.
- ISF recently hosted the international Transformations Conference.
- Researchers from ISF presented at four different sessions at the Stockholm International Water Institute's World Water Week conference; exploring a range of topics from the intrinsic link between climate change and sanitation, to water and food security in the Pacific.
- The Organisation for Economic Co-operation and Development (OECD) will include ISF Energy Futures program's One Earth Climate Model (OECM) work, led by Sven Teske, in their scenario analysis as one of a few others globally in addition to those of the International Energy Agency.

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

FWCI of university's research outputs	2.4
International Collaborations	32.3%
Proportion of pubs in the top 10% of journals according to Citescore	47.0%
Number of publications produced	585
Number of citations produced	13,280

Institute for Public Policy & Governance

The Institute for Public Policy and Governance (IPPG) at UTS brings experienced, senior leaders together with UTS subject matter expertise to create public good. The IPPG is an independent institute focused on driving excellence in public policy and decision-making through advisory services, research, professional learning and capacity building solutions for clients in all tiers of government, the not-for-profit sector and industry. Find out more

Legal Academic of the Year

Dr Linda Steele, an Associate Professor in the Faculty of Law, has been awarded one of the highest legal industry accolades by the Women Lawyers Association of New South Wales: Legal Academic of the Year.

The 2023 NSW Women Lawyers Achievement Awards recognised Dr Steele for her sustained and impactful work in research, advocacy, and reform in the area of disability, particular women with disability. Her reform work includes commissioned reports and submissions to the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability.

Changing the Narrative

Dr Marian-Andrei Rizoiu, who leads the Behavioural Data Science Lab, was honoured with the prestigious Excellence Award and named Academic of the Year at the Australian Defence Industry Awards for his groundbreaking work in countering the proliferation of misinformation and disinformation in the online realm. Find out more

Building Indigenous Knowledge

Dr Nicole Watson, Associate Professor of Law, was awarded an ARC Indigenous Discovery Grant for the first in-depth study of Indigenous lawyers, creating a better understanding of cultural safety in the legal profession. Dr Watson was also awarded First Nations Legal Researcher of the Year by Ngalaya, the NSW/ACT peak body for Indigenous lawyers and law students.

CASE STUDY

Creating Trust in our Digital Services

In April 2022, the NSW Government committed to establishing a digital identification system (Digital ID) for the people of NSW. Digital ID systems use biometric technologies to verify an individual for the purposes of accessing goods and services. These systems promise convenience and better privacy protections for individuals, and greater efficiency and cybersecurity for government and business. However, their use of facial verification technology and liveness detection can pose risks for human rights, such as privacy and non-discrimination.

With the support of a James Martin Institute Policy Challenge Grant, UTS's Human Technology Institute (HTI) worked collaboratively with Service NSW to provide independent expert advice to ensure the rollout of NSW Digital ID is safe, accountable and trustworthy.

HTI's project team, comprising Professor Edward Santow, Sophie Farthing and Lauren Perry, developed a governance framework and training strategy to improve user protections, system performance and oversight mechanisms for Digital ID. A summary of key insights and recommendations can be found in their policy insights paper.

"The NSW Government's Digital ID initiative is groundbreaking, because it seeks to 'bake in' protections that make the system more robust, while simultaneously building public trust," Professor Santow said.

NSW Minister for Customer Service and Digital Government, the Hon Jihad Dib, said security and privacy considerations are central to the new technology being developed and input from the UTS work will further enhance the way these services are delivered. Find out more

Strengthen the means of implementation and revitalize the global partnership for sustainable development

Global Goals Month Launch. Photo: Tori Hyland

Global Goals Month on campus

UN Global Goals month ran during September to raise awareness of the SDGs and to showcase the great work being done across UTS to advance the SDGs in teaching, research and operations. The event was officially launched by Professor Kylie Readman, Deputy Vice-Chancellor Education and Students, and was coordinated by the Sustainability team and UTS BUILD.

The month-long event included an interactive exhibition in the foyer, a photo competition, and a series of Chats for the Goals whereby UTS academics talked about their work and impact on progressing towards achieving the SDGs as well as workshops, presentations and a weekend forum for UTS BUILD students.
Find out more

Carnegie Community Engagement Classification

UTS is one of two Australian universities to be awarded the prestigious Carnegie Community Engagement Classification for the Advancement of Teaching. The award recognises the university's commitment to community engagement, not just through outreach but in core academic work and through reciprocal involvement of the community with the university.

'UTS is, and always has been, an outward-looking university. As a public institution, working with and for community across our research, education and practice is fundamental to our purpose. We can only realise our mission for public good through robust, collaborative two-way partnerships.'
Professor Andrew Parfitt,
UTS Vice-Chancellor and President

Strengthen the means of implementation and revitalize the global partnership for sustainable development

Widening Participation in Regional Communities

The Federal Government has pledged more funding for an initiative which inspires young people from regional and remote Australia to attend university. The $6.5 million in funding to the Eastern Australia Regional University Centre Partnership is being co-led by UTS and the Country Universities Centre and represents a collaboration with 19 universities and 15 Regional University Centres (RUCs). The RUCs are leading the co-design of innovative programs to address their unique community challenges, while drawing on the knowledge and experience of their university partners.

Tackling the Digital Skills Demand

In 2023 the NSW Government officially opened the Institute of Applied Technology – Digital (IAT-D) at TAFE NSW Meadowbank. The IAT-D is focused on big data, cybersecurity, software development and AI, and is delivered in partnership with UTS, TAFE NSW, Microsoft and Macquarie University. Find out more

Better Building Partnership

We continued our membership of the City of Sydney Council's Better Buildings Partnership (BBP), a network of owners and managers of large commercial and public buildings in the Sydney CBD collaborating to improve the sustainability of city buildings. Members of the Sustainability team participate on the Leadership Panel and are co-chair of the Climate Positive Working Group, and a Central Services representative participates in the Circular Economy Working Group. Visit the BBP

Decarbonising Australia Business Summit

UTS was proud to host the inaugural Decarbonising Australia Business Summit: Partnering with Japan on the Transition to Net Zero. The summit was organised by the Australian Trade and Investment Commission (Austrade) and brought together 90 Japanese business leaders and hundreds of Australian industry, government and research representatives aiming to promote partnerships to create a more sustainable planet.

CASE STUDY

Tackling Air Pollution at the Local Level

There is no safe level of air pollution. Air quality is increasingly recognised as a threat to the health and wellbeing of communities, in Australia and around the world. Emerging smart technologies are enabling local governments to monitor and respond to local air quality issues in new ways. Until recently, there was no clear support or guidance relating to the use of these technologies. To address this gap, the NSW Department of Planning and Environment, commissioned the Operational Network of Air Quality Impact Resources (OPENAIR) project, with support from the NSW Smart Places Acceleration Fund.

OPENAIR brought together a coalition of five universities (led by UTS Institute for Sustainable Futures), six NSW local governments (Tweed Shire; Muswellbrook; Newcastle; Lake Macquarie; Parramatta; and Sutherland Shire), and the NSW Smart Sensing Network. The project developed a comprehensive suite of best practice resources on all aspects of smart low-cost air quality monitoring.

All resources are now available on the OPENAIR website and we believe them to be world-leading in their scope and content, and a foundation for widespread impact on air quality and urban heat issues across Australia.

In addition, OPENAIR trialled the sharing and harmonisation of near-real-time air quality data from multiple local government monitoring networks into a single state government-managed platform. This highly innovative proof of concept can be understood as a blueprint for scalable intergovernmental smart city data sharing in the coming years – something that is vital for effective collective action on the most pressing environmental and social urban challenges of our time.

Leadership and Governance

Sustainability Policy and Strategy

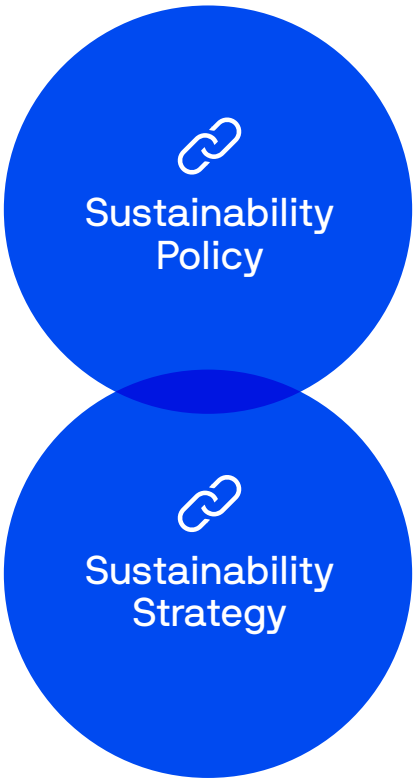
The university's Sustainability Framework consists of the Sustainability Policy, Sustainability Strategy and annual Sustainability Report.

The Sustainability Policy is a high-level governance document which articulates ownership, oversight and accountabilities. The Policy is regularly updated to reflect ongoing best practice.

The Sustainability Strategy implements and operationalises the Policy and reflects our commitment to see sustainability embedded into our core activities: Education, Research and Operations. For each of these Domains priority actions are outlined with timeframes for delivery, expected outcomes and success measures.

Six Cross-cutting Themes flow through our core activities and represent our distinctive identity and sustainable partnerships model: Connecting with Country, Social Justice & Inclusion, Demonstrating Leadership, Partnerships & Networks, Engagement and Communication. Four Enablers form the foundation of the Strategy allowing us to deliver our sustainability vision: our people and culture, campus infrastructure, systems and processes and governance.

The Sustainability Report is produced annually and highlights sustainability activities, progress, performance and achievements.



Sustainability Steering Committee

The Sustainability Steering Committee oversees implementation of the *UTS Sustainability Strategy* and provides high-level guidance for sustainability activities across the university. The Committee meets quarterly. Throughout the year membership was made up of the following:

- **Glen Babington**
  Chief Operating Officer (Chair)
- **Nigel Oliver**
  Director, Property Unit
- **Danielle McCartney**
  Head of Sustainability
- **Celia Hurley**
  Vice President Advancement
- **Professor Chris Turney**
  Pro-Vice Chancellor Research
- **Professor Stuart White**
  Director, Institute for Sustainable Futures
- **Verity Firth**
  Pro Vice-Chancellor (Social Justice and Inclusion)
- **Dr Melissa Edwards**
  Senior Lecturer, Business School
- **Dr Emma Camp**
  Post-Doctoral Research Fellow, Science
- **Amy Persson**
  Director Government Relations
- **Tracy Chalk**
  Chief Marketing and Communication Officer
- **Associate Professor Jan McLean**
  Director Interactive Media and Learning
- **Associate Professor Paul Brown**
  Senior Lecturer, School of Transdisciplinary Innovation
- **Professor Asif Gill**
  Head of Software Engineering, School of Computer Science
- **Professor Jason De Santolo**
  Associate Dean Indigenous Research
- **Professor Jo McKenzie**
  Teaching, Learning and Curriculum Unit
- **Nour Al Hammouri**
  President UTS Students Association
- **Murray Hurps**
  Director, Entrepreneurship
- **John Bonnici**
  Facilities Manager, UTS College

Sustainability Development Goals Working Group

The SDGs Working Group aims to assist with the development of UTS's institutional response to the UN SDGs with the aim of embedding them across the university's academic, operational and engagement activities. Working Group membership this year included:

- **Professor Stuart White**
  Director, Institute for Sustainable Futures (Chair)
- **Alison Atherton**
  Program Lead, Economy & Governance, Institute for Sustainable Futures
- **Danielle McCartney**
  Head of Sustainability
- **Mitra Gusheh**
  Executive Manager Social Impact Centre for Social Impact and Inclusion
- **Alexandra Fransen**
  SDGs Project Manager
- **Elvira Fonacier**
  Head of Performance Evaluation
- **Dr Rosemary Sainty**
  Lecturer, Business School
- **Jen Mansell**
  Internal Communications Manager, Marketing and Communication Unit
- **Professor Roger Hadgraft**
  Director, Educational Innovation and Research
- **Professor Robynne Quiggin**
  Pro Vice-Chancellor (Indigenous Leadership and Engagement)
- **Professor Kees Dorst**
  School of Transdisciplinary Innovation
- **Emil Oquist**
  Acting Head of Learning Design, LX Lab
- **Associate Professor Jacqui McManus**
  Institute for Interactive Media and Learning
- **Dr Kristine Aquino**
  Senior Lecturer International Studies and Global Studies
- **Professor David Leary**
  Faculty of Law
- **Associate Professor Katherina Petrou**
  School of Life Sciences
- **Professor Sara Wilkinson**
  School of Built Environment
- **Associate Professor Timo Rissanen**
  School of Design
- **Associate Professor Lynn Sinclair**
  Associate Dean (Teaching & Learning) Faculty of Health

About this report

Methodology

This Sustainability Report uses the SDGs framework, reflecting our ongoing journey working towards integrating the SDGs across all areas of UTS's research, teaching and learning, operations, engagement and governance. The report has a section on each of the 17 SDGs, with highlights of relevant initiatives, activities and UTS people contributing to the SDGs. Case studies provide qualitative information and demonstrate how projects relate to specific SDGs and deliver global impact. Data for these was drawn from internal sources including websites and reports as well as interviews with relevant staff and students.

Research metrics and some graphs throughout the report provide quantitative data. The graphs relate to campus operations and data was drawn from our operational reporting systems and processes. Data for the research metrics is from external sources, mostly through Elsevier's SciVal, and relate to the 2019-2023 period. The Elsevier reporting is based on Scopus mapping information for each SDG. Metrics in this report were based on this Scopus data source updated in April 2024. We have not included metrics for SDG 17 because Elsevier does not provide data for SDG 17 as this SDG relates to each of the other SDGs (i.e. partnerships).

The UTS Sustainability team

The UTS Sustainability team (left to right) Vasilios Giotis: Consultant Engineer, Alexandra Fransen: SDGs Project Manager, Danielle McCartney: Head of Sustainability, Joe Dullard: Sustainability Assistant, Daniel Harris: Carbon & Sustainability Engineer, Seb Crawford: Sustainability Engagement Manager, (inset left) Jonathan Prendergast: Green Infrastructure Manager, (inset right) Sonia Seneviratne: Green Impact Administrator.

Contact us

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Image above: Global Goals Month Launch.
Photo: Tori Hyland

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Images credit: Anna Zhu, Florian Groehn, Kwa Nguyen, Toby Burrows, Adobe Stock.