

# UNSW Sustainable Development Goals

2023 Report



#### Acknowledgement of Country



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### Forewords



**UNSW Sydney produces real-world solutions** to wicked problems, striving always to drive sustainable progress for all in Australia and around the world.

After 75 years of impact, our university is developing its first Societal Impact Framework, to advance the unique strengths of our institution, underpinned by our commitment to advancing sustainable development and serving our community. Through this framework, we are collectively strengthening our culture of solutionsfocused research, teaching and collaboration.

As a leading global university, UNSW has impact across all 17 of the United Nations' Sustainable **Development Goals (SDGs).** 

Responding to the UN's urgent call to action, we have identified the areas in which we directly tackle these challenges, communicated this work across our community and beyond, built on existing collaborations, and sought and developed new research, teaching methods, and partnerships.

As part of our efforts to develop and provide transformative education, innovative research and bolster our commitment to a just society, we monitor our progress against the SDGs, which provide a blueprint and timeline for us all to work towards achieving a better future for the global community. The 17 interconnected goals address the most pressing challenges that stand in the way of our future, including climate change, poverty, inequality, environmental degradation, peace and justice.

Participation in the Times Higher Education (THE) University Impact Rankings, coordinated by the Office of the Pro Vice-Chancellor Inclusion, has been instrumental in amplifying and connecting our efforts across the SDGs in a systematic and impactful way. This initiative reflects the broader commitment across the university to fostering inclusion and addressing global challenges.

I am proud to have joined UNSW in 2024 - a year in which we celebrated an advancement to 7th in the world and reached the top 10 for the first time, showcasing our collective dedication to these important goals. This excellent result reflects the important work UNSW is doing to make the 2030 SDG targets a reality, as part of our commitment to progress for all.

I am delighted to introduce the UNSW Sustainable **Development Goals 2023 Report, our third annual** report of UNSW's progress towards achieving the SDGs. This report illustrates the ambition for positive change that permeates and drives our university.

**Professor the Hon Verity Firth AM,** Vice-President Societal Impact, **Equity and Engagement** 



Ensuring there is a widespread and thorough awareness of the many research projects, teaching, operational and engagement work, which support achieving the SDGs at a large university such as ours, is a considerable challenge. Efforts to ensure that our community is engaged with the range of the innovative work being undertaken at UNSW, and that our students and staff understand the importance of achieving the SDGs, are ongoing. Tools have been developed and made available to enable them to contribute directly towards this work. More than ever, UNSW community members are aligning their work to the SDGs and embedding the goals within their areas.

The UNSW SDGs Steering Committee plays an important role in promoting these collaborations, fostering cross-disciplinary work across the University. Established in 2020, the Steering Committee provides explicit accountability for developing, coordinating, monitoring, evaluating, and communicating the University's engagement

with the SDGs, including our submission to the THE Impact Rankings. As Chair of the Committee, I am pleased to say that it has also functioned as a cross-University network which facilitates connections, particularly around the development of new research and education projects related to the SDGs and other initiatives. We focus on developing significant partnerships, both internally and externally, pooling ideas and resources, for greater impact.

As the SDGs and 'SDG thinking' become more embedded in University culture and practice, I have observed an increasing momentum in activities that are designed to move us closer to achieving the goals. Through this report we provide transparency against our activities and hold ourselves publicly accountable for our performance in meeting the targets enshrined in the goals.

Shaped around the four pillars we use to structure our SDG-related work: Research & Enterprise; Education & Student Experience; External Leadership & Engagement; and Operations & Governance, this report is a window into UNSW's activities for other institutions and, indeed, the global community.

#### **Professor Rita Henderson,**

Deputy Dean (Societal Impact and Translation), Faculty of Engineering and Chair of the UNSW SDGs Steering Committee

## 2023 Key facts



#### **#5** in the world for Social Impact

UNSW Sydney ranked 5th in the world for Social Impact in the QS World University Sustainability Rankings 2024 and equal 11th overall.



#### **Times Higher Education Impact Rankings 7**<sup>th</sup> in the world 2024





#### 2023 results

#1 in Australia for SDG 9

#2 in the world for SDG 13

#3 in Australia for SDG 1 and SDG 2

#3 in Australia and #10 in the world for SDG 15

#3 in Australia for SDG 12

#4 in Australia and #9 in the world for SDG 11



#### Most employable graduates

UNSW was named 'AFR Most Employable University' at the 2023 Top100 Future Leaders Awards for the fourth consecutive year. 33 UNSW students were named the most employable, the highest of any university.



#### Indigenous leaders changing the world

As part of National NAIDOC Week 2023, three members of the UNSW community were named among 52 leading Aboriginal and Torres Strait Islander people who are changing the world. Professor Megan Davis, Professor Jason Sharples and PhD candidate Kirsten Banks exemplify UNSW's commitment to supporting the development of Indigenous leaders and role models.



#### **International partnerships to progress** the goals

Including:

- Contributing to COP28
- Continuing a regional knowledge partnership with the UN Development Coordination Offices Asia Pacific
- Hosting the secretariats of sustainable development powerhouses International Universities Climate Alliance (IUCA) and Global Oceans Accounts Partnership (GOAP)
- Leading the conversation for operational sustainability at Australia's leading universities.



#### **Engaging the UNSW community with** equity, diversity and inclusion and the SDGs

Coinciding with Global Goals Week, the 5th annual Diversity Festival highlighted the importance of partnerships to advance work against the SDGs.



#### **3rd** in research funding in the Go8 and Australia

With A\$67 million in Australian Research Council (ARC), A\$106.2 million in National Health and Medical Research Council (NHMRC), and A\$35.7 million in Medical Research Future Fund (MRFF) funding, UNSW placed 3rd in the Group of Eight (Go8) and Australia in both ARC and NHMRC outcomes.



#### A\$29.3M for renewable energy research

UNSW was awarded more than A\$29.3 million for renewable energy research and development from the Australian Renewable Energy Agency (ARENA) Research and Development (R&D) Program, supporting activities that aim to significantly reduce the cost of solar.



#### **45** LEAF sustainable labs

UNSW was the first Australasian university to receive international sustainability accreditation from the Laboratory Efficiency Assessment Framework (LEAF) and the first to receive a LEAF Gold award.



#### **Nature positive campus planning**

UNSW developed a methodology to track nature value at its main campus as part of its Environmental Sustainability Plan, an activity essential to human health and wellbeing.





## SDG 1: No Poverty

Australia's poverty rate is higher than the OECD average. To help reduce this rate, UNSW's Poverty and Inequality partnership published research about growing wealth inequality and public support for increasing welfare benefits, it hosted a hackathon on solutions to the poverty problem, and the University supported students and staff in need.

#### Research & enterprise

#### Advocating for people living in poverty

The Poverty and Inequality partnership, between UNSW and the Australian Council of Social Service (ACOSS), seeks to reduce poverty and inequality in Australia. In 2023, the partnership published research on public support for increasing welfare benefits for people living in poverty. Its Poverty in Australia report highlighted the failure of welfare payments to meet essential costs, and demonstrated wealth inequality is increasing in Australia.

#### **Supporting housing for** vulnerable people

St Vincent de Paul Housing, which provides social housing to people in need across three locations, asked UNSW's Social Policy Research Centre (SPRC) to assess the wellbeing of its residents. The SPRC found tenants valued longterm affordable housing very highly, and that safety, rent affordability and housing quality improve quality of life for people who would otherwise be excluded from stable housing. UNSW findings highlighted areas where housing support can improve and the challenges and benefits of social housing.

#### **Managing forests in Nepal**

A third of Nepal's forests are managed by community groups whose approach can deprive locals of food security. To improve forest management outcomes in the Middle Hills region, home to 44% of Nepal's population, UNSW partnered on a project that used social science research and inclusive planning with locals to <u>reform forest governance</u>. The reform is projected to deliver better food security, health and wealth for locals.

#### **Education & Student** Experience

#### **Helping students living in poverty**

One in eight Australians live in poverty and university students are often impacted the hardest. To support them, UNSW surveyed students on how best to address poverty and then released a short video during Anti-Poverty Week highlighting support available, including a free food service, emergency housing, scholarships and free healthcare on campus.

#### **Poverty hackathon**

To help achieve SDG 1, UNSW ran a SDG Challenge Hackathon to find real-world solutions to the question 'How might we engage community support for policies and programs that will lower poverty in Australia?'. 30 UNSW students from five faculties competed for A\$3500 in prizes. Winning ideas included an immersive digital experience, a strategy to promote community inclusion and a storytelling approach to engaging community support.

## External Leadership & Engagement

#### **Cost of living submission**

The UNSW Tax and Business Advisory Clinic has provided more than A\$3 million in free advisory services to those in need. In 2023, the clinic informed a government cost of living inquiry that most of its clients are welfare recipients who have complex tax needs but cannot afford professional advice. The clinic called for increased funding for a national tax clinic program that provides pro bono tax advice to people experiencing financial hardship.

#### **Poverty partnership**

Since 2016, UNSW has partnered with ACOSS to sharpen public awareness of poverty and inequality in Australia in the <u>Poverty and Inequality partnership</u>. Backed by NGOs, the partnership monitors trends, researches drivers and develops solutions to increase community awareness and advocates for changes in government policy to better address the needs of those living in poverty.

#### **Operations & Governance**

#### **Staff support**

UNSW supports staff facing personal challenges and uncertainty in a number of ways. This includes seminars on financial wellbeing, free counselling sessions and a <u>staff hardship fund</u> that delivers emergency financial support for bills, rent, temporary accommodation and food insecurity.

#### **Increase in stipends**

Higher degree research (HDR) students at UNSW make valuable contributions to research fields and society. To help them meet the rising costs of living in Australia and reach their full research potential, UNSW <u>raised their stipends in 2023</u>. The new rate is the second-highest among Australia's top eight universities and well above government recommendations.

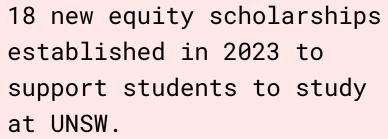
**29**Research grants

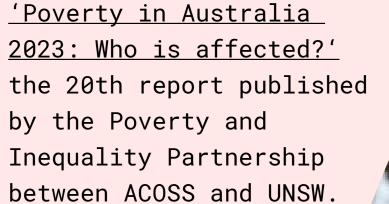
456
Publications





#### Highlights











## SDG 2: Zero Hunger

From addressing protein shortages in Papua New Guinea (PNG) and working with a remote Australian town to secure their food supply, to prescribing fruit and vegetables for diabetes and offering free food to students on campus, UNSW made an impact at home and around the world on the Zero Hunger goal.

#### Research & enterprise

#### **Producing protein and social** cohesion in PNG

In Papua New Guinea (PNG), malnutrition is a silent killer of children and adults. To improve protein intake, UNSW researchers and partners have helped expand the number of small-scale fish farms from 11,000 in 2009 to 70,000 in 2023. In collaboration with PNG's National Fisheries Authority, and working with communities, a new A\$2.6 million project <u>led by Professor Jes Sammut</u> is introducing technologies to create larger farms and expand farming training.

#### **Working with rice-shrimp farmers** in Vietnam

Climate change and growing pressure on soil and water resources in the Mekong Delta, Vietnam, are challenging rice and shrimp farmers. Professor Jes Sammut and partners in Vietnam work with farmers to test and adopt new technologies to increase rice, shrimp, prawn and crab production. The project has also helped increase the number and visibility of women rice-shrimp farmers.

#### **Prescribing food for diabetes**

In partnership with The George Institute, UNSW launched a randomised control trial investigating the impact of prescribing fresh food and vegetables to people with type 2 diabetes who are experiencing food insecurity. Early studies showed that prescribing healthy food had comparable benefits to prescription medications for type 2 diabetes. Results could support cost and life-saving changes to clinical guidelines.

#### **Boosting agribusiness in** regional Australia

The UNSW-based <u>Future Food Systems</u> centre partnered with the City of Coffs Harbour on a project to boost the region's agrifood capacity and develop new products. The project sees government and researchers collaborate with producers, growers and manufacturers on new opportunities for the region. It is the first project of its kind in Australia.

#### **Fermenting for alternative meat**

UNSW supported a commercial project by company Cauldron to expand a hyperfermentation pilot plant for producing alternative meat products, raising a ground-breaking A\$10.5 million in seed funding. The 'fermafacturing' technique being used is faster and 30-50% cheaper than traditional batch fermentation. It was conceived by UNSW's Founders program alum and CEO of Cauldron Michele Stansfield.

#### **Education & Student Experience**

#### Free food at UNSW

The cost of living is high in Australia. To support students, UNSW offers a free food pantry that had more than 55,000 visits in 2023. The UNSW Student Representative Council also ran a free <u>lunch program</u> three days a week on campus. In addition to free food, both initiatives provided students with a space to connect and build relationships.

#### Positively disrupting the food chain

To explore how society can better protect the food chain, the UNSW Business School hosted a podcast discussing how emerging technologies can make food supply less damaging to the environment and more robust. The podcast featured UNSW graduate Pablo Quintero, who works at <u>Vow</u>, a company that grows meat from animal cells.

#### **Encouraging more food scientists**

As part of Open Day, UNSW food and health expert Professor Johannes le Coutre gave a public lecture on the importance of food science and technology in Australia. Food science degrees at UNSW focus on food materials and food engineering with the ultimate aim of nourishing communities.

#### **External Leadership** & Engagement

#### Improving food security in Walgett

In the remote Australian town of Walgett, 46% of people experience food insecurity, a much higher rate than the national average. UNSW is working in partnership with the Dharriwaa Elders Group (DEG) and the community to strengthen community-led food security initiatives in the area that include a locally run community garden.

#### Mapping for better biosecurity

The Future Food Systems centre at UNSW supported the launch of Australia's first national map of protected crops that will help improve responses to biosecurity outbreaks. An interactive dashboard allows users to explore around 14,000 hectares of glasshouses, commercial nets, polytunnels and shadehouses. The map is also being used by the horticulture sector to forecast yields, manage logistics and respond to natural disasters.

#### **Operations & Governance**

#### **UNSW adopts Good Food Charter**

The Charter seeks to improve access to nutritious and affordable food on campus provided by retailers. Endorsed in 2023, it is the result of extensive consultation with students and staff, and an in-depth study which found that 95% of food outlets across UNSW's Kensington campus failed to meet nutrition guidelines. Implementation of charter recommendations are being supported by UNSW Medicine & Health experts, Wellbeing and Estate Management.

#### **Personal nutrition for staff**

During Health, Safety and Wellbeing Month, UNSW offered staff one-on-one 45-minute consultations with a tertiary-qualified dietitian or nutritionist. The offer reflects UNSW's understanding of the vital role food plays in the general wellbeing of its staff.

**Research grants** 

#### **Food & Health Security course**

The undergraduate course is part of UNSW's humanitarian science and technology minor - a world first. It calls on students to address the SDGs on food and health security at the micro (household) and macro (population and country) levels.



#### Goals

Help Australian Government - <u>double</u> <u>agrifood revenue</u> by 2030.



#### Awards

Best young chemical engineer finalist -Research Associate Woojeong Kim for her work on enhancing plant proteins.



# SDG 3: Good Health and Wellbeing

In its contribution to good health and wellbeing, UNSW launched an Al companion to help people with dementia, new facilities to advance the translation of health research findings into practice, and it advocated for access to safe drinking water in Indigenous communities.

#### Research & enterprise

#### Al helping dementia patients

Around <u>55 million people</u> worldwide are living with dementia. To provide them companionship, UNSW created <u>an AI character with dementia</u> called Viv who can talk to patients about dementia or any other interests, such as gardening. Viv can also help calm people experiencing emotional distress. The innovation is being tested in aged care centres where residents have limited social opportunities.

#### **Nature delivers health benefits**

In partnership with the University of Wollongong, UNSW published research that found directing people to spend time in nature – especially with trees – improved physical and mental health in patients, including lowering blood pressure and

anxiety scores. The research team are now focusing on how nature prescriptions can be implemented in Australia, with the UK and Canada already trialling programs.

#### **New institute for health engineering**

The Tyree Foundation Institute of Health Engineering will focus on delivering commercially and clinically viable solutions to major 21st century health issues. One of the institute's flagship projects is using telehealth to help people with chronic diseases better manage their medications. The institute is also targeting innovations for the ageing population, and will leverage UNSW's partnerships with local healthcare providers and industry.

#### **Crowd database to reduce deaths**

In the past 20 years, 8000 people have been killed and 15,000 injured in crowd accidents, mainly at religious gatherings. To reduce fatalities, UNSW researchers created a map of the world's deadliest crowd incidents in the last 120 years. The map will inform safety experts on how best to implement safeguards to prevent deadly crowd accidents from occurring.





#### **Education & Student Experience**

#### **Mental Health Month at UNSW**

The University offered a program of events and workshops over the month, including yoga, tai chi, African drumming, wellness webinars, and the sharing of stories of living with mental health challenges by students and staff. The month highlighted the importance of prioritising mental health throughout the year.

#### **Learn to swim programs**

UNSW offered domestic and international students with no swimming experience an eight-week program teaching them how to swim. More than 940 students have graduated from the program since 2018. UNSW also offered its Beach Ocean Safe program, which teaches students beach swimming and safety, first aid, understanding ocean conditions and water rescue techniques.

#### **Interpreting ageing report**

At the <u>UNSW Ageing Futures Institute's</u> annual research symposium, keynote speaker Professor Kenneth Langa from the University of Michigan discussed the implications of the government's intergenerational report. Professor Langa is an internationally renowned ageing researcher who was undertaking his sabbatical with the institute.

#### Leveraging the wellbeing economy

At a UNSW-hosted symposium, Dora Gudmundsdóttir, Director of Public Health in Iceland, presented on how the wellbeing economy can be further developed to enhance public health and the wellbeing of people and the planet.

#### **External Leadership** & Engagement

#### Addressing water insecurity in Walgett

In partnership with the DEG, UNSW research showed that the drinking water supply in the remote town of Walgett is <u>15 times higher in sodium</u> than recommended. A UNSW-led survey also found that poor drinking water is having severe negative effects on household expenses and food security. UNSW and the DEG called on the NSW Government for funding and support to solve the drinking water issues.

#### **Game to prevent farm injuries**

Farm injuries can be life-impacting and tragic for young people who are assigned farm duties and exposed to hazards. A free online game called 'Calm Your Farm', developed by UNSW with other universities, educates teenagers about potential hazards in the farm environment and ways to reduce injury risk.

#### **Psychedelics and mental health**

Psychedelic trials in Australia are underway and authorised psychiatrists can prescribe them for the first time. An expert panel at a free public event at UNSW <u>discussed the role psychedelics</u>, such as psilocybin and MDMA, can play in managing complex mental health issues, who can access treatment and ethical considerations.

#### Talks on health inequality and pandemics

Esteemed jurist and legal scholar the Hon. Michael Kirby AC delivered a public lecture on how society can make <u>healthcare access equitable</u>. In a public lecture, world-leading epidemiologist UNSW

Professor Raina MacIntyre <u>examined pandemics</u> and how society can navigate quantum advances in genetic engineering and synthetic biology.

#### **Operations & Governance**

#### New medical research building

The University launched the new Integrated Acute Services Building (IASB) at the nearby Prince of Wales Hospital. The 10-storey IASB will house state-of-the-art research, clinical innovations and UNSW teaching facilities. It is also a space where researchers, clinicians, industry partners and public health experts can collaborate to translate research into clinical practice.

#### **Health, Safety and Wellbeing month**

UNSW marked the month on campus with a program for staff, which included webinars on psychosocial risks, self-regulation among children, financial wellbeing, and fun activities around spotting hazards and safety. The program also promoted a new University-wide safety reporting portal called Salus and a safety toolkit.

**293 Research grants** 

14,598 **Publications** 



#### **Highlights**

Prioritising local health with a new A\$600 million hub.



#### Awards

#### Australian Mental Health

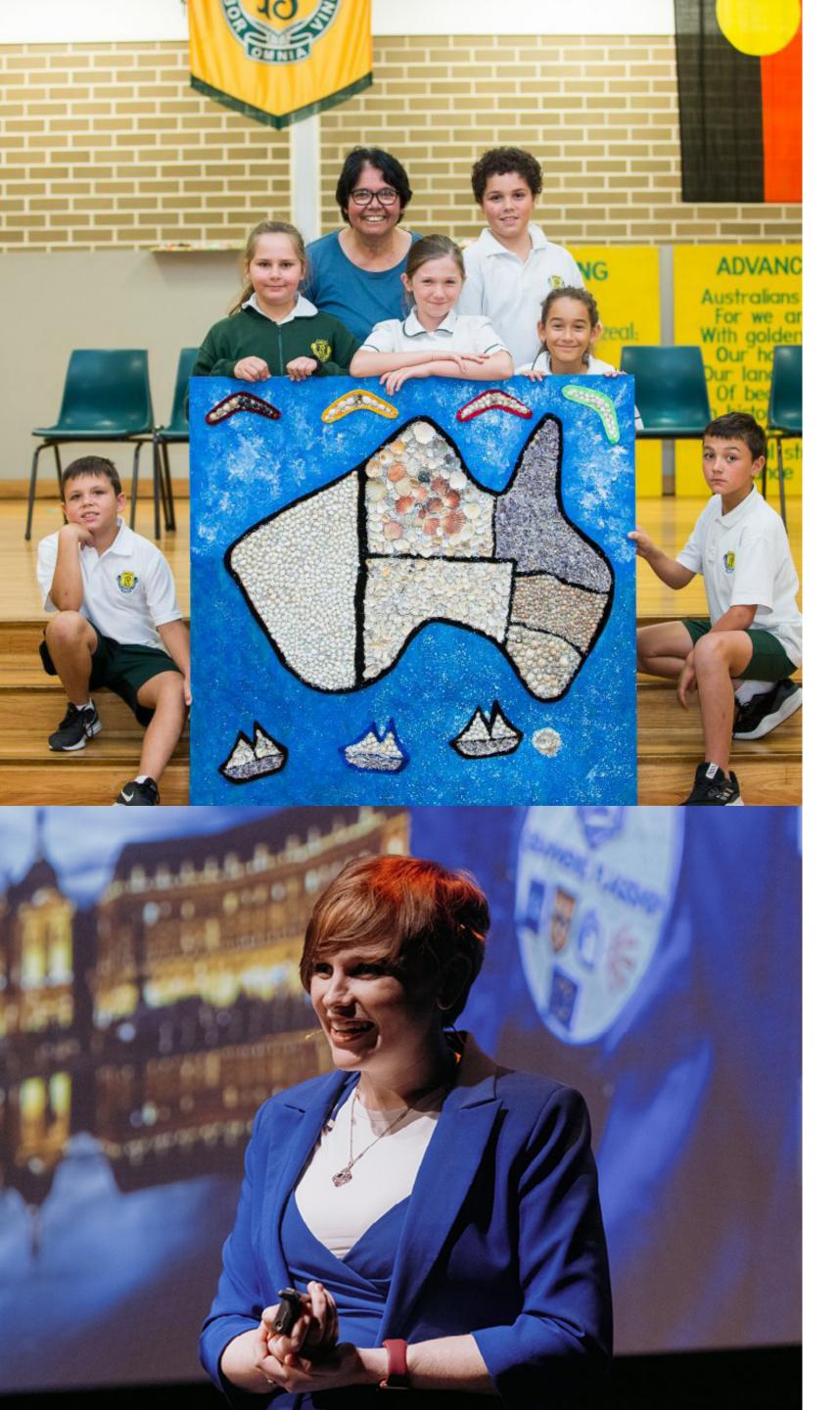
Prize - Professor Maree Toombs for her work on mental health and suicide prevention in Indigenous communities.

#### Highest quality healthcare

- Premier's Award to a UNSW collaboration addressing the shortage of doctors in regional Australia.

#### Early Career Researcher

Award - <u>UNSW's Dr Lise</u> Lafferty for her research on managing hepatitis C in prisons.





## **SDG 4**: Quality Education

UNSW pursued quality education for all, with 33 of its researchers among the most highly cited globally, research into retaining teachers and improving the resilience of students, world-class programs to incorporate Indigenous culture in schools and the workplace, and with the University's own education festival.

#### Research & enterprise

#### **Highly cited researchers**

Clarivate's Highly Cited Researchers List included <u>33 UNSW academics</u>, placing UNSW 27th among universities globally. The UNSW academics were from the faculties of Arts, Design & Architecture, Engineering, Medicine & Health, Science and UNSW Canberra.

#### **Connecting teachers to community**

Teachers in rural and regional communities are often required to be community leaders as well as teaching. A UNSW-led project found providing new teachers with an induction program about the community could help

them better understand what it means to be a prominent member of a small community. Stronger relationships with the community made teachers more effective, researchers discovered.

#### **Helping students cope with** academic setbacks

<u>UNSW research</u> into how students navigate academic challenges and how to help them cope better found students' sense of school belonging was the most notable factor impacting resilience. The study was based on responses from a survey of 71,861 high school students from 292 NSW Government schools

#### **Retaining new teachers**

High numbers of teachers plan to leave the profession in Australia and 20% of graduates leave teaching within three years. To help retain teachers, UNSW research suggested schools offer teachers reduced workloads in their first year of teaching, including a reduction in face-to-face teaching hours. Teachers would also benefit from additional support around classroom management, a key challenge for new teachers.

#### **Education & Student Experience**

#### **Accessibility awards**

UNSW received multiple awards for accessibility initiatives at the Australian Disability Clearinghouse on Education and Training (ADCET) Accessibility Awards. Initiatives included a student-led program to elevate neurodivergent voices in university course design, lifting UNSW's online digital presence to meet Web Content Accessibility Guidelines, and a project that aimed to ensure occupations are responsive to people with disability.

#### **Teacher and doctor pathways**

A pathway program between UNSW and the NSW Department of Education gave high school leavers and career changers the opportunity to teach in a public primary school in the Riverina region of NSW while studying for their UNSW degree. A UNSW doctor <u>program</u> in the region mentored high school students interested in medicine towards university, as young people in the area are less likely to pursue university degrees.

#### **Encouraging more maths students**

To encourage more high school students to pursue mathematics, UNSW hosted more than 700 high school students from across Australian and, for the first time, South East Asia at its Do the Maths workshops. Workshops focused on encouraging young women to pursue maths, career paths available, and the beauty and fun of mathematics.

#### Free course materials

To help students save money on textbooks and other materials for courses, UNSW offers Leganto, an online hub where course material lists can be accessed by students on any device.

#### SDGs x EDI Pecha Kucha

Intersections between sustainability research and education with important equity, diversity and inclusion (EDI) principles are complex. Eight '3-minute thesis' presentations from UNSW students and staff at a Diversity Festival event demonstrated how their approaches to EDI effectively intersect with the SDGs.

#### A celebration of science

As part of National Science Week, UNSW researchers from the faculties of Medicine & Health, Engineering and Science presented to the community on a range of topics to promote interest in their fields and share knowledge. The program featured UNSW alumna Dr Meganne Christian, the first Australian woman to visit space, discussions on rewilding threatened animals, and the medical benefits of psilocybin and MDMA.

#### **Science EDI and sustainability awards**

The awards celebrated the contributions of UNSW Science students to EDI, and to sustainability in both the UNSW community and wider society.

#### **Producing global citizens**

UNSW aims to create graduates who are global citizens. As part of this, UNSW encourages courses to adopt global citizen strategies in their assessment, such as taking advantage of the diversity of student backgrounds. One course, Comparative Management Systems, exemplifies the global citizen mindset, teaching different management practices from around the world.

#### **External Leadership &** Engagement

#### **Indigenous leader program**

To elevate the next generation of senior Indigenous business leaders, UNSW has been running an **Emerging Indigenous Executive Leaders Program** since 2017. The program helps participants develop skills in addressing strategic challenges and to embed their cultures in the workplace and their everyday lives. In 2023, 28 participants from government and industry completed the program, the largest cohort to date.

#### **Indigenous culture in schools**

A three-year partnership between World Vision and UNSW is embedding members of local Aboriginal communities within schools to work with teachers and integrate Indigenous histories, knowledges and cultures into the curriculum. The program aims to lift awareness and knowledge about Indigenous culture among students for a more equitable society in the future.

#### **Matraville Education Partnership**

UNSW is partnered with the Matraville Sports High School to raise the educational achievements of children from low-SES backgrounds and those who are underrepresented at university. Initiatives include a hub where students can learn more about UNSW, placement of UNSW teaching graduates at the school, university application support for Year 12 students, and an annual work experience program for 25 Matraville students at UNSW.

#### **Localising health research**

Health and medical researchers in low to middle income countries often have to rely on research from high income countries that is not applicable to local contexts. A seminar hosted by UNSW, as part of UNSW Diversity Festival, discussed solutions to boost high quality research from low to middle income communities, so research outcomes are more relevant and have more impact on these communities.

#### **Business leader podcast**

A UNSW-hosted podcast series <u>called 'The Business</u> Of' features leaders from industry, government and for-purpose sectors sharing their views and experience about core issues shaping the future of business, such as sustainability and Al.



#### **Operations &** Governance

#### **UNSW Education Festival**

The UNSW Education Festival, which celebrates education and educators, was attended by more than 1000 participants in 2023. Presentations, panels and workshops were held on a variety of topics, including transformative pedagogies and technologies in online postgraduate education, the future of legal education, Al-enhanced education and innovative assessment design.

#### **Inclusive teaching practices**

At an annual showcase event, UNSW educators presented to the wider UNSW community on inclusive education practices and technologies, which are framed by the Universal Design for Learning (UDL), and how they can be incorporated into teaching and learning.

#### New digital teaching studio

The studio was launched in the Faculty of Engineering in collaboration with Microsoft, Steelcase, Q-Sys and Creston. In the studio, teachers can leverage the latest technology such as multiple microphones and cameras – to deliver students a 'front row' learning experience whether they are in the room or online.

#### **World-class campus**

**UNSW's Future Campus initiative** sets out principles and design guidelines to deliver campus spaces that are world class. In 2023, the project finalised draft space principles and piloted them, explored inspirational spaces, conducted a campus experience workshop, and audited campus accessibility, gender-neutral facilities and parents' rooms.

#### **Supporting underrepresented students**

To support the inclusion and success of students from low-SES backgrounds and those underrepresented at UNSW, UNSW's Faculty of Law & Justice and the UNSW Business School offered educational resource schemes where students receive financial contributions for textbooks and can access paid professional experience. The Faculty of Engineering introduced a scheme to support equitable technology access between students.

**34 Research grants** 

844 **Publications** 





#### Highlights

#### Innovative UNSW education program

- Nexus now boasts 43 academic and 24 professional staff.

The Science Sustainability Working **Group** offered teaching funding of up to A\$2500 to undertake an SDGfocused class project as part of five 2023 undergraduate courses.



#### Awards

**Higher Education Emerging Leader** award - UNSW's Associate Professor <u>Katharine Kemp</u> for her leadership in data privacy and protection.

#### NSW Premier's Awards -

Emeritus Scientia Professor Trevor McDougall (oceans), Associate Professor Jodi Rowley (amphibians), Professor Shinichi Nakagawa (animal behaviour) and Dr Deborah Burnett (vaccines).

## SDG 5: Gender Equality

To continue momentum towards greater gender equality, UNSW published important domestic violence (DV) research and helped establish Australia's first trauma recovery centre, it led initiatives to encourage more women engineers and politicians, and the University renamed buildings and spaces after UNSW women role models.

#### Research & enterprise

#### **Cars used to control DV victims**

UNSW's Gendered Violence Research Network published a report for Allianz that found motor vehicles can be used to manipulate victims in domestic and family violence situations.

Perpetrators caused intentional damage to vehicles or stole keys or cars to prevent victims from leaving the relationship. The results indicate that insurance companies should have sensitivity training for interactions with customers who could be experiencing gendered violence.

#### Sexual violence high in young

Sexual violence in Australia is a persistent problem, UNSW researchers found, with <u>young women twice</u> as likely to experience it compared with young men, and rates of violence barely declining in the last 30 years. Interpersonal violence was four times higher among males. Results indicate a need for policy changes to improve reporting and support for adolescents to prevent intergenerational cycles of violence.

#### Holding governments accountable

A report from the UNSW-based Australian Human Rights Institute assessed how 117 countries implemented laws to address their legal obligations under the UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). It found that only 46% of CEDAW law recommendations had been implemented and that governments needed to do more, particularly with laws around sexual harassment, abortion and DV.

#### **Sexism in strength training**

Peak body guidelines for strength training were based on 70% male data, <u>UNSW researchers found</u>, and many did not acknowledge their bias towards male data. Results indicate a greater need for female data and authorship in the development of strength training guidelines.



#### **Education & Student Experience**

#### **Encouraging more women in engineering**

Australia's leading universities are predicting a shortage of 70,000 engineers by 2025. To boost participation of women from the lower-SES area of Western Sydney, UNSW and the Sir William Tyree Foundation offered <u>A\$2.6 million in scholarships</u> to women students from the region. Successful students accessed leadership programs and industry opportunities to boost their employability.

#### **Celebrating Indigenous leaders**

In a public panel discussion at UNSW, three Indigenous women CEOs discussed their career choices, supporting one another and inspiring the next generation.

#### **Pathway to Politics**

To help increase women and non-binary representation in politics, UNSW partnered in the Pathway to Politics program, which offers workshops, panel discussions and networking opportunities to equip participants with the knowledge and skills they need to thrive as political leaders.

#### More women in STEM

UNSW is actively supporting more women to enrol in STEM subjects through the Women in STEM Equity Scholarship program. Scholarships support young women with a background of educational disadvantage or financial hardship to become STEM graduates.

#### **External Leadership** & Engagement

#### Australia's first women's trauma recovery centre

Domestic, family and sexual violence is the leading contributor to disease burden in Australia. To address the long-term impacts of violence, UNSW co-designed Australia's first Women's Trauma Recovery Centre with A\$25 million in government funding. The centre, which can be replicated across the country, provides medical and health care, legal support, financial counselling and advocacy to women in need.

#### Improving protection for refugee women

A UNSW Forced Migration Research Network project team funded by DFAT Australia worked with refugee women leaders, NGO and UNHCR partners in Bangladesh and Malaysia to pilot a series of refugee women-led projects to increase gender equality and address sexual and gender-based violence. The outcomes, presented at the UNHCR Global Refugee Forum, have informed the development of online resources and trainings to support refugee womenled work in diverse contexts.

#### **IWD** with Mona Eltahawy

Women's rights are under attack in many countries. On International Women's Day (IWD), UNSW hosted a public discussion on global feminism with Mona Eltahawy, one of the world's most prominent feminists. Mona discussed feminism as a global movement that fights for the rights and equality of women everywhere.

#### **Sexual Harassment Information Assistant**

The NSW Public Service Commission engaged the UNSW Gendered Violence Research Network to develop content for a Sexual Harassment <u>Information Assistant</u>. The online tool provides easy, open access for anyone in the NSW Public Service and beyond about sexual harassment in the workplace.

#### How men came to rule

In a public discussion hosted by UNSW, British author Angela Saini spoke about the history of the patriarchy and how it varies from country to country and culture to culture, and what a future looks like where women are emancipated from the shackles of history.



#### First female astronaut

**During National Science Week,** UNSW hosted a public chat with UNSW alumna Dr Meganne Christian, Australia's first female astronaut and the University's Astronaut in Residence for 2023.

#### **Operations & Governance**

#### **UNSW** receives equity accreditations

The University received two <u>Cygnet Awards</u> from Science in Australia Gender Equity (SAGE) - the first for the equity it has achieved in STEMM academic career progression and the second for providing flexible work opportunities and supporting employees with caring responsibilities. Key achievements highlighted by the STEMM award included increasing the number and rate of women applying for promotion, maintaining high success rates in female promotion, and providing high quality support to staff throughout the promotion process.

#### **Celebrating women on campus**

UNSW launched a program to rename 17 campus buildings and spaces after UNSW women role models, to recognise their achievements and inspire the next generation. Role models included the first women graduates of each faculty, the first woman professor, the first woman Deputy Chancellor, the first Indigenous woman graduate, and other alumnae and former staff.

#### **Gendered violence grants**

As part of its Gendered Violence Strategy and Action Plan 2022-25, <u>UNSW offered 11 grants</u> to projects that helped create a safer and more respectful campus. Grant recipient projects included a three-week workshop on female empowerment, a student sexual harassment campaign, awareness and first responder training, and the creation of a wellness space for trauma victims.

**89**Research grants

1267
Publications

#### First to attend university

In partnership with Urban
Property Group, UNSW created
the A\$500,000 Margaret Elias
Equity Scholarships to support
two women a year who are
first in their family to attend
university and undertake a
bachelor degree in the
built environment.



#### Goal

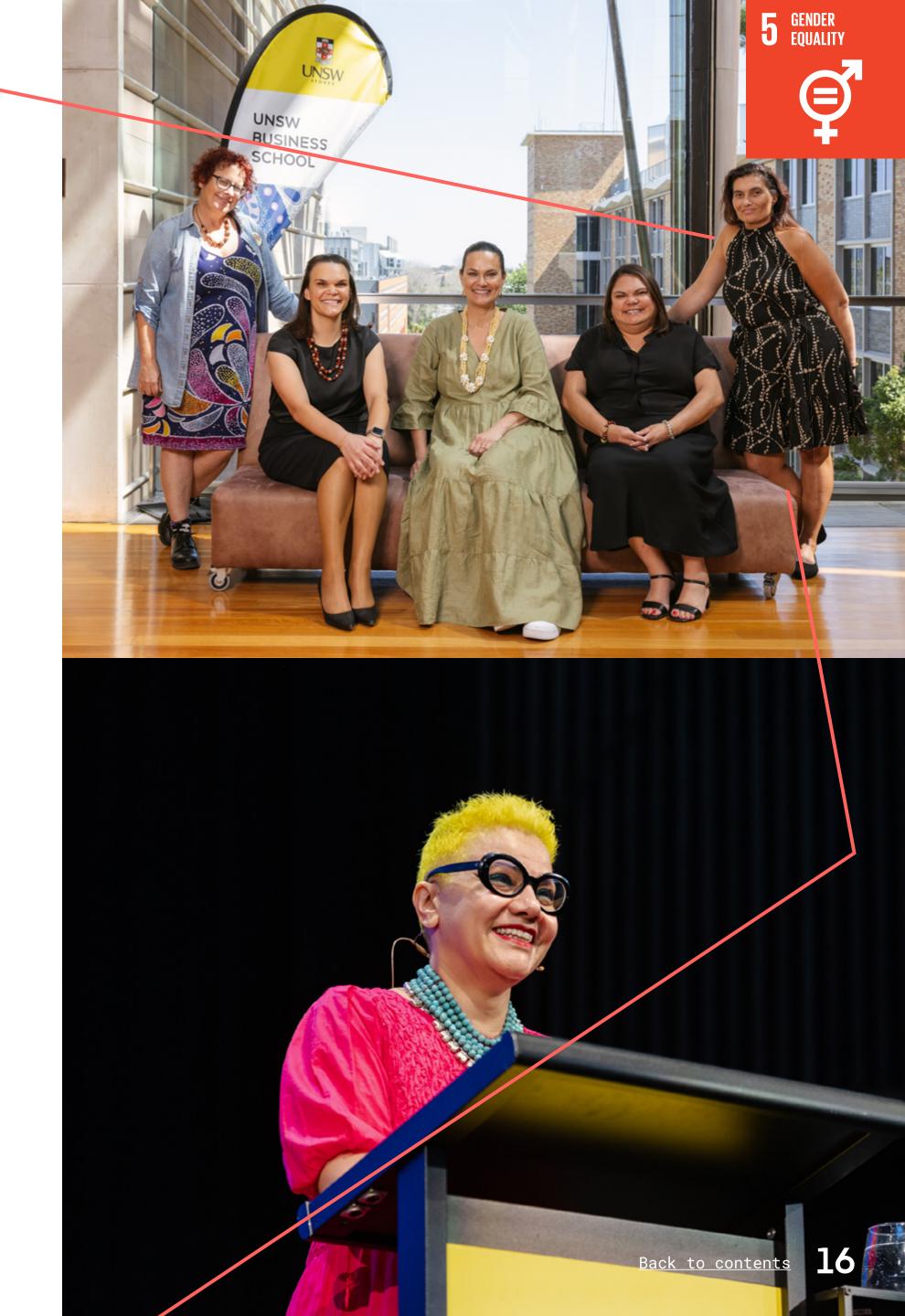
To achieve Silver
Accreditation in the
SAGE Athena Swan Gender
Equity Program.



#### **Awards**

Two SAGE
Cygnet Awards for:

- <u>Gender Equity</u> <u>in STEMM</u>
- <u>Flexible Work</u> and Care





## 6 CLEAN WATER AND SANITATION

## SDG 6: Clean Water and Sanitation

From across Australia to the Pacific and Uganda, UNSW researchers worked to address water levels and quality in communities for drinking and sanitation, it demonstrated leadership in international forums and in advice to the government about a vital Australian water basin, and the University implemented measures to save water on campus.

#### Research & enterprise

#### **Global Water Institute recognised**

The UNSW Global Water Institute (GWI) was one of five global research bodies highlighted for their positive contribution to SDGs by the International Association for Hydro-**Environment Engineering and Research** (IAHR). GWI draws on the expertise of 13 research centres and facilities and more than 400 researchers, professional staff and PhD candidates to solve global water issues and educate the public.

#### How big is the algae problem?

Using data from past algae blooms that impacted water supplies, UNSW researchers found algae-related problems account for 21-40% of water quality concerns at Australian water utilities. This was the first effort to estimate the economic impact of algae blooms on the Australian water industry in two decades. The research helps industry to better understand and facilitate research into bloom mitigation and management.

#### **Groundwater at 800-year low**

In a world-first study using caves, UNSW researchers discovered that a decadeslong decline in rainfall in south-western Australia has reduced the replenishment of groundwater to an 800-year low. The research team is now researching groundwater levels up to 10,000 years ago to further understand what is needed to improve water security in a region reliant on groundwater supply.

#### **Education & Student Experience**

#### **Providing drinking water in Uganda**

Eight students from UNSW's Humanitarian Engineering program travelled to Uganda to work with Gulu University and the Africa STEM Education Initiative (ASEI) to help provide safe drinking water to schools and healthcare facilities. A UNSW-ASEI microfactory is using UV light and a charcoal and cotton filter to make contaminated water drinkable for more than 1000 school children and 250 people in healthcare centres.

#### **Inspiring the next water scientists**

To promote water literacy, particularly among young community members, the UNSW Water Research Laboratory held an open day that was attended by 820 visitors. Visitors were encouraged to engage with the lab and learn more about water processes through a 'water engineer for a day' passport, interactive features and hands-on experiments.

#### **Exhibition on lakes and lagoons**

As part of UNSW Library's Exhibition program, the UNSW Water Research Laboratory partnered with artist Dr Nigel Helyer to provide an audio-visual exhibition on the gradual changes to coastal lakes and lagoons on the NSW coastline. Titled Sonus *Maris*, the exhibition paired images from the past three decades with music, inviting audiences to sympathise with the flows and patterns of these dynamic estuaries.

#### **External Leadership** & Engagement

#### **Empowering Walgett's water rights**

Since 2018, UNSW has partnered with the DEG to assess the quality of bore water Walgett residents rely on for drinking. UNSW research found the water contains 15 times the level of sodium recommended for people with diabetes and heart issues, and 40% of residents worry about accessing safe drinking water. UNSW is backing the DEG's calls to government for an alternative, safe water source.

#### Pacific forum addresses water goals

As a side event to the UN 2023 Water Conference, UNSW's GWI co-organised a forum on the Pacific region's need to step up activity to meet its SDG 6 targets. Local government ministers and water industry leaders presented initiatives being undertaken to improve water access, sanitation and the disposal of wastewater.

#### **UNSW** a leader at global water meeting

UNSW Associate Professor Stefan Felder joined a panel discussion at the Global Water Institutes Meeting to speak about the latest innovations in the hydro-environmental community and goals for the coming years. The meeting was hosted by the IAHR.

#### **Operations & Governance**

#### **Submission on water bill**

UNSW Professor Richard Kingsford put forward 18 recommendations for an Australian federal government bill that aims to restore the rivers and wetlands of the Murray-Darling Basin. The Basin supports 2.4 million people and 16 internationally significant wetlands. The recommendations support the sustainability of the Basin's rivers and ecosystems.

#### **Meeting OECD water goals**

As a member of the OECD Water Governance <u>Initiative</u>, UNSW is committed to OECD's principles on water governance. As part of this commitment, UNSW undertook water audits in 2023 to optimise its water efficiency and implemented several water-saving measures, including additional irrigation water meters, cooling tower metering and benchmarking, rectification works in student accommodation and toilet flushing controls.

**Research grants** 

976 **Publications** 





Goals & Highlights

On track for 5% less water use by 2025.

UNSW leaders contributed to the UN 2023 Water **Conference**, focused on accelerating implementation of the Water Action Decade objectives.



#### Awards

<u>Dr Bojan</u> <u>Tamburic</u> <u>receives</u> fellowship for <u>urban stormwater</u> reuse.



## SDG 7: Affordable and Clean Energy

To further its global leadership in clean energy, UNSW demonstrated the economic impact pollution is having on solar panel efficiency, its student solar car again won a global world cup, it launched a nuclear fusion project with industry, and the University continued to run on 100% solar power.

#### Research & enterprise

#### **Reducing** gases improves solar efficiency

World-leading photovoltaic research from UNSW discovered that lower emissions in the atmosphere in 70 years' time could increase the productivity of solar panels by US\$12.4 billion every year. Emissions reduce the amount of solar radiation reaching Earth and the panels, and higher temperatures hamper panel efficiency.

#### Converting dams into energy storage

More than 30,000 farm dams in Australia could house small-scale hydro energy storage sites, UNSW Engineering researchers found. Excess energy can be stored by pumping water to a high-lying reservoir. When more energy is needed, the water can be released to a low-lying reservoir through a turbine. Research showed the average site could provide up to 30 kWh of usable energy and would be 30% cheaper than a lithium-ion battery solution.

#### **Education & Student Experience**

#### **UNSW** wins world solar race

With its student built and designed Sunswift 7 electric car, UNSW again won the Bridgestone World Solar Challenge (Cruiser Class) by a substantial margin. Students are currently working on a Sunswift 8 car, which will build on the success of the Guinness World Recordholding Sunswift 7 design and feature hydrogen fuel cells for the first time.

#### **Student-built nuclear device**

A UNSW campus will house the first-ever nuclear fusion device designed, built and operated by students in two to three years' <u>time</u>. The device will use thermonuclear fusion to produce large amounts of clean energy. Under the program, students will work with industry partner Tokamak Energy in one of the fastest growing energy sectors globally.



#### Helping organisations to net zero

The UNSW Business School held a five-day Net Zero course for organisations. Organisations learned how to measure their footprint, pathways to net zero and how to make a value chain sustainable and regenerative. The course featured guest speakers, real-world case studies, and tours of sustainability leaders Taronga Zoo Sydney and wineries in the Hunter Valley.

#### **Sharing STEM passion**

Representatives of the UNSW Redback Racing team, who are working on a high performance all-electric Formula Student race car, visited the regional town of Tamworth to showcase STEM and pathway opportunities available at UNSW to high school students.

#### **External Leadership &** Engagement

#### **Solar expert wins US\$3m prize**

UNSW Scientia Professor Martin Green was awarded the VinFuture Grand Prize for his research and leadership in global solar energy. Professor Green is a world-leading specialist in silicon solar cells. His team's pioneering solar cell technologies account for more than 90% of solar cells manufactured in the world today.

#### **Clean energy at Diversity Festival**

UNSW's leading energy researchers and representatives from energy companies AGL and Iberdrola met at Global Goals Week to discuss how UNSW can further drive Australia's transition to net zero. The panel of experts explored challenges and possible solutions to deliver an electricity grid that will host increasingly variable and distributed generation, and the need for change to be customerled to promote social equity and trust.

#### **Operations & Governance**

#### **Environmental Sustainability Plan**

The University's first plan (2019-21) saw UNSW switch to 100% solar renewable energy. The 2022-24 <u>Plan</u> outlined a strategy to reduce total greenhouse gas (GHG) emissions to net zero by 2050, divest from fossil fuel companies, reduce water and energy use by 5%, and reduce general waste by 20%. As of 2023, total GHG emissions were 27% below the 2018 baseline.

#### **Running on 100% solar**

Since 2020, the Sunraysia Solar Farm in southwestern NSW has supplied UNSW with 100% renewable energy. It is one of the largest solar farms in Australia with more than 755,000 panels producing 255 megawatts. UNSW uses around 25% of the farm's output to maintain net zero operational (scope 1 and 2) emissions.

#### **Building aircon upgrades**

UNSW completed audits of heating, ventilation and air-conditioning systems for two of its buildings and retrocommissioning work commenced to improve efficiency. An electrification program will also deliver reductions in energy use, by moving systems from gas boilers to efficient heat pump systems.

100 **Research grants** 

3447 **Publications** 







#### Goals

On track for 5% less energy use by 2025.



#### Awards

The 'Nobel prize' in engineering - Scientia Professor Martin Green and colleagues for their innovations in solar cells.

US award for global impact - Professor Green also won the Leigh Ann Conn Prize for Renewable Energy.







## SDG 8: Decent Work and Economic Growth

Finding out which personality traits make business founders succeed, helping microbusinesses navigate tax burdens, calling for tougher modern slavery laws, and introducing a range of new health and safety initiatives on campus were some of the 2023 activities UNSW undertook to advance the quality of work and economic growth.

#### Research & enterprise

#### **Personalities drive startup success**

Most start-up companies fail – what makes the winners thrive? According to research from UNSW and others, a <u>founder's personality</u> traits are critical. Using AI to assess more than 21,000 founder profiles on Twitter/X and Crunchbase, researchers found a high preference for variety, being the centre of attention and exuberance were related to better chances of success. More resilient startups can be created as a result of the findings.

#### Tax help for microbusinesses

Microbusinesses, which make up 60% of small business in Australia, often have overdue tax returns or large tax debts. Experts from the UNSW Tax and Business Advisory Clinic found many microbusiness owners need tax advice but cannot afford it and are often experiencing emotional and financial stress. The clinic began teaching and coaching clients about their tax obligations so business owners can better selfmanage their financial status.

#### **Teachers need affordable housing**

There is a shortage of teachers in Australia. Housing shortages are contributing to the problem, UNSW researchers discovered, with more than 90% of teaching positions in NSW located in areas where housing is unaffordable on a teacher's salary, resulting in issues such as long commutes. Researchers suggested salary loading and affordable housing options for teachers as possible solutions.

#### **Education & Student Experience**

#### **UNSW** best for careers

UNSW ranked best in Australia for graduate career outcomes and was the second-best university overall in a new national ranking from the Australian Financial Review (AFR). AFR also named <u>UNSW the 'Most Employable University'</u> at the Top 100 Future Leaders Awards for the fourth year in a row, with 33 UNSW students making the 2023 list.

#### **Career mentoring program**

The UNSW Career Discovery Mentoring Program connects students with industry professionals. Students receive guidance and gain knowledge of industries and sectors, career options, industry trends, and workplace culture and dynamics. Students also have the opportunity to build their professional and personal networks.

#### **External Leadership** & Engagement

#### **Toughening slavery laws**

The Australian Government enacted a modern slavery law in 2018 to reduce exploitation by Australian businesses. In 2023, UNSW Professor Justine Nolan called for stronger laws and the creation of an independent regulator to reduce modern slavery in Australia, particularly in supply chains. Professor Nolan advises government and businesses around the world on anti-slavery reform.

#### Improving climate risk taxonomy

Climate scenario analyses often give limited attention to financial impacts. To better account for these, UNSW researchers called for clearer scenarios to compare financial institutions, to take into account revenue and not just financial outcomes, and for better discipline representation and debate. Researchers also said analyses should account for the role the financial sector can play in tackling climate change.

#### **Operations & Governance**

#### **Health and safety initiatives**

UNSW delivered a number of health and safety initiatives in 2023 to continue the embedding of health and safety into its culture. This included a new Safer Communities team to address gendered violence, respect at work and staff wellbeing, the launch of new safety management software, new work health and safety plans, and the introduction of health and safety awareness modules to educate the UNSW community.

#### Pay increases for staff

UNSW offered staff new employment agreements, which will see salaries increase 17% over four years. Salaries increased by 6% from 1 September 2023. Compared to the minimum wage in Australia of A\$23.23 per hour, the lowest hourly rate paid by UNSW to staff under the new agreements is A\$30.19. The gender pay gap at UNSW is 1.4%, the lowest gap among Australia's top eight universities.

#### **UNSW Community Day**

More than 3000 adults and 1450 children from the UNSW community enjoyed the day at UNSW's Kensington campus. Roving artists and performers, a ninja warrior course, a giant slide and dodgem cars were some of the many activities on offer to UNSW staff and their families.

#### **Staff engagement survey**

UNSW surveyed staff about their engagement levels in 2023, providing staff an opportunity to share their thoughts on what was working well and what needed improvement. Overall staff engagement scores -68% for fixed term and continuing staff, and 81% for casual staff – were higher than the global higher education institution average.



Goals & Highlights

90% of initiatives implemented under UNSW's <u>Disability</u> Inclusion Action Plan.

#### **Awards**

#### Future Leader Awards

- 33 UNSW students were <u>awarded</u> the most employable in the nation, and UNSW the most employable university.





## SDG 9: Industry, Innovation and Infrastructure

In 2023, UNSW powered a government ambition to become a global energy superpower, it launched a new nuclear centre to foster workplace development in the industry, it developed a global Al app for STEM papers, and it announced a new 14-building Canberra campus specialising in cyber security and Al.

#### Research & enterprise

#### **Powering net zero ambitions**

A UNSW-led consortium delivered a <u>detailed roadmap</u> to the NSW Government on how the state can become a global renewable energy superpower. The report referred to energy conversion technologies (P2X) that can be used to store surplus power from renewable energy sources, such as chemical energy. The NSW Government is using the roadmap as a cornerstone for its creation of a global P2X hub.

#### **Nuclear centre to progress industry**

The UNSW Nuclear Innovation Centre (UNIC) was launched with the support of A\$7.5 million in funding for research, scholarships and academic positions in nuclear engineering. UNIC brings together experts from different disciplines with the aim of fostering a skilled workforce and future leaders in Australia's nuclear industry. UNSW has the largest nuclear engineering program in the country.

#### **UNSW tops ARC grants**

UNSW received the highest number and greatest amount of ARC infrastructure (LEIF) grants in the nation from the Australian Government, with eight projects receiving A\$6 million in total in the areas of energy, cycling infrastructure, quantum devices and biotechnology. UNSW researchers were also awarded two of eight government industry fellowships for their work in quantum computing and transforming electronic waste into green metals.

#### Young driver feedback reduces speeding

Around 20% of deaths on the road in Australia involve people aged between 17 and 25. Research from UNSW discovered that providing feedback to young drivers about the safety and financial implications of speeding during driver training reduced their speed. The results suggested an overhaul of young driver training could result in fewer road fatalities.

#### **World-leading data lab**

The new 3DXLab at UNSW offers novel ways of visualising complex data in fields such as art, design, science, medicine and engineering to make data more accessible for audiences. The lab brings together UNSW experts in 3D visualisation and immersive display technologies.

## **Education & Student Experience**

#### **Encouraging women-led startups**

UNSW joined forces with one of Australia's largest banks, Westpac, to offer women female and non-binary founders of startups financial support for their ideas. Support came in the form of three scholarships valued at A\$20,000, and a A\$15,000 prize for the winner of the biannual UNSW New Wave program for women with a startup idea or interest in expanding their entrepreneurial skills.

#### **Latest in AI from global experts**

Global leader in AI and co-founder of Coursera, Andrew Ng, spoke about the latest trends and challenges in AI and what the future holds with UNSW AI Institute's Scientia Professor Toby Walsh in a free public talk.

#### Hydrogen course receives priority funding

The UNSW course in Hydrogen Production for Electrical Engineers received funding from the government under a program supporting fields of national priority. The course explores the designing of energy-efficient equipment and systems that can help reduce the costs of producing hydrogen.

## External Leadership & Engagement

#### Al app for STEM research

In partnership with GreenDynamics, UNSW co-developed and launched a large language model for STEM papers called <u>Darwin</u>. Darwin has access to papers in chemistry, physics and materials science journals. It continues to learn from emerging research and its capabilities are expected to expand.

#### **UNSW showcase at Australian Parliament House**

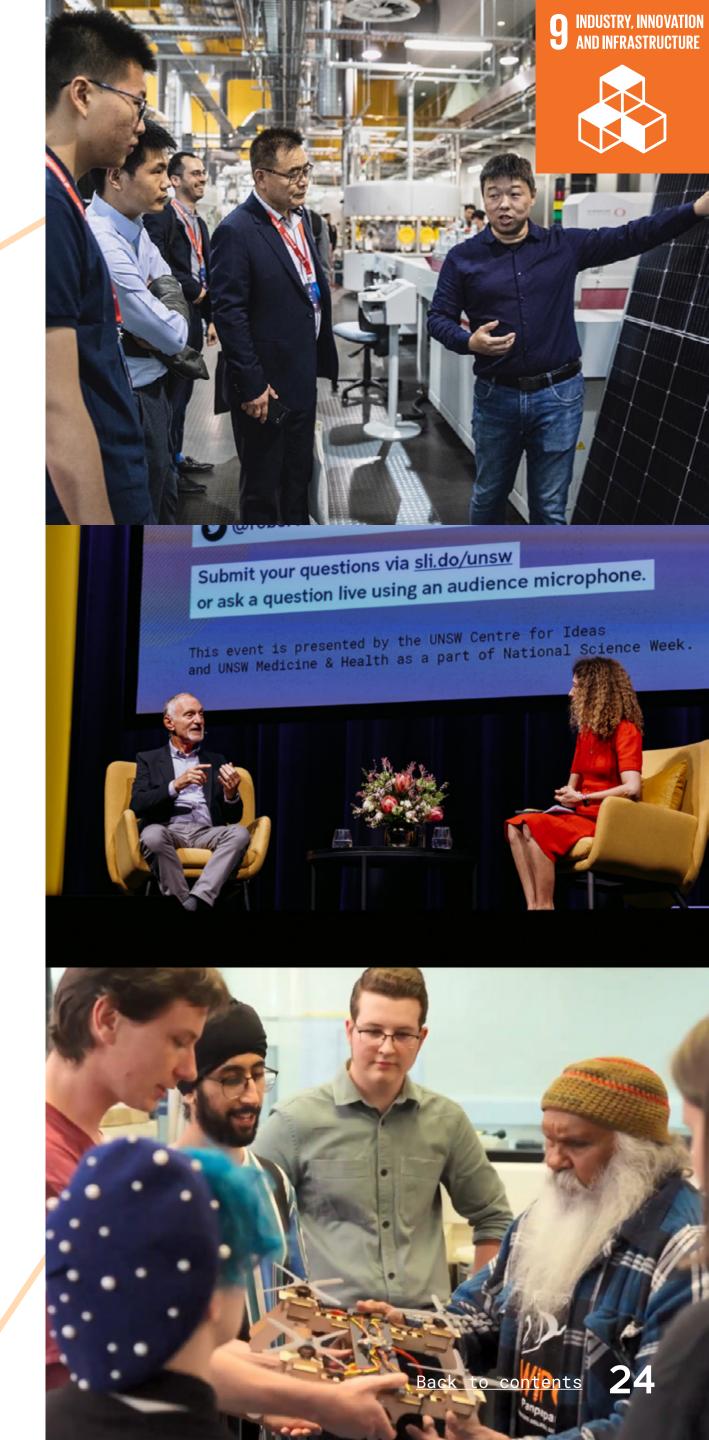
To demonstrate the work UNSW does to tackle society's most pressing issues, UNSW held a showcase day for government and policymakers. UNSW researchers highlighted the world-leading research they are undertaking in clean energy, AI, affordable housing, defence, health, and sustainability and waste.

#### Can we trust Al?

World-leading AI expert and UNSW Scientia
Professor Toby Walsh gave a <u>public lecture</u> on society's increasing reliance on intelligent and autonomous technology, and how society can ensure AI is harnessed for the greater good.

#### **Torch Expo at UNSW**

The <u>Torch Innovation Expo 2023</u> highlighted the advancements being made by UNSW Torch researchers in clean energy, health and biotech, digital technology, water and environment, advanced materials and manufacturing, and social sciences. In its seventh year, the Torch Innovation Precinct is where researchers, industry and policymakers from Australia, China and beyond develop and integrate research to positively impact society.







#### **New 14-building Canberra campus**

UNSW received government approval to build a new UNSW Canbevity campus, which will attract around 6000 students and host a new Defence and Security Innovation Precinct. The new campus in the nation's capital will leverage the 55-year partnership between UNSW and the Australian Defence Force Academy, particularly in the areas of cyber security and Al.

#### **Hub for digital security**

The new Trustworthy Digital Society Hub will develop technologies and practices that prioritise privacy, security and ethical considerations in the digital space. A partnership between UNSW and the University of Technology Sydney, the hub will also provide education, training and tools to help people understand the risks and benefits of digital technologies, and how to use them safely and responsibly.

#### **Pre-accelerator startup program**

To help get startup ideas off the ground, UNSW has launched a pre-accelerator program where founders can stress-test proof of concepts and minimum viable products, and build the habits and skills required for success. The pre-accelerator program is a foundation step to UNSW's 10x Accelerators program, which has supported 500 startups since 2017.

424 **Research grants** 

1581 **Publications** 



#### Goals

UNSW is enhancing education and innovation infrastructure in Greater Western Sydney through our Parramatta **Engineering Innovation** Hub. This region is currently home to 20% of UNSW students, and we are working to boost that number.



#### Awards

#### Excellence in concrete technology award

- Dr Ali Kashani for his <u>research in</u> <u>robotic construction</u> technology.

Prime Minister's Prize for Science - UNSW Professor Michelle Simmons for her work on the <u>world's first</u> quantum computer.

#### Best industry collaboration award

- for the UNSW-OCIUS project which is building robotic boats powered by renewable energy.



## SDG 10: Reduced Inequalities

**UNSW** fostered greater equity and inclusion in 2023 on projects empowering school teachers to incorporate Indigenous culture in the classroom and Indigenous youth to become future leaders, tackling poverty head on, and supporting students from low socioeconomic and underrepresented backgrounds.

#### Research & enterprise

#### **Indigenous voices at school**

Following a successful pilot, the UNSW-led **Culturally** Nourishing Schooling (CNS) project was rolled out in eight NSW schools and to around 200 teachers. The project aims to enhance engagement between schools and Aboriginal and Torres Strait Islander communities in a sustained way, so teachers feel more confident incorporating Indigenous culture in the classroom. The project saw Indigenous students benefit from a greater sense of identity.

#### **Inequality report**

In partnership with ACOSS, UNSW published the <u>Inequality in Australia 2023 report</u>. The report found wealth inequality increased substantially over the past two decades, highlighting the role of housing, taxation and pension policy in the growing divide. The report aimed to increase public awareness of this concerning social issue, and to encourage policymakers to act.

#### **Disability and employment research**

In Australia, 54% of people with disability are employed. Many government-funded programs focus on getting people into full-time work. A UNSW study found people with disability are more likely to work part-time, which benefits wellbeing and reduces healthcare costs. The findings suggest the government should adjust its strategy for disability employment services.

#### **Basins too low for wheelchairs**

A UNSW study reported that the majority of washbasins in accessible bathrooms cannot be used efficiently by around half of wheelchair <u>users</u>. The research demonstrates the need to re-evaluate Australian Standards so wheelchair users can use bathrooms effectively and with dignity.

#### **Earnings inequality**

The segregation of women and men into different occupations and industries is a key driver of earnings inequality, UNSW researchers found. Many jobs where large numbers of women are concentrated disproportionately are among the lowest paid, including early childhood education and care, dental assistants, beauty therapists and veterinary nurses. Findings from the research informed the Fair Work Commission's work to eliminate gender-based undervaluation.

## **Education & Student Experience**

#### **Scholarship support**

To support students from backgrounds traditionally underrepresented in higher education, UNSW offers a range of scholarships to students from low socioeconomic and <u>rural and regional areas</u>, and to <u>refugees</u> and students attending more than <u>400 Gateway partner schools</u>. The scholarships demonstrate the University's commitment to its student body reflecting the diversity of the broader population.

#### **Workshops on sign language**

As part of <u>UNSW's Diversity Festival</u>, UNSW's student life organisation, Arc, ran Auslan workshops open to all students and staff. The workshops were led by <u>Expression Australia</u>, leaders in the teaching of Auslan.

#### **Increasing transgender visibility**

To mark International Transgender Day of Visibility, UNSW's Faculty of Arts, Design & Architecture launched a <u>video series with transgender students</u> and staff sharing their stories of self-discovery and empowerment. In addition to highlighting the importance of visibility, the campaign offered personal and powerful insights into the trans and gender diverse community at UNSW.

#### **Culturally inclusive calendar**

In consultation with students and staff, UNSW created a culturally inclusive calendar that highlights key religious and cultural dates in Australia. The resource supports the University community in planning and scheduling for the academic year, and helps foster a supportive and diverse culture and community.

#### **Indigenous youth leaders program**

Founded in 2021, the UNSW <u>Indigenous Youth</u>
<u>Leaders program</u> offers high school students a
unique immersive campus experience at UNSW,
with the aim of instilling cultural leadership and
camaraderie in participants. In 2023, 36 Indigenous
students from nearby high schools attended UNSW
over three days and addressed real-life scenarios
that impact Indigenous communities in workshops
and problem-solving activities.

#### **Inclusive science showcase**

The event demonstrated <u>science projects</u> from student or staff scientists in both research and teaching that are working to foster more equitable and inclusive communities.





#### **External Leadership** & Engagement

#### **University hub in Western Sydney**

UNSW partnered with Western Sydney University on the Fairfield Connect hub, which aims to boost higher education participation in one of the most socially, economically and culturally diverse regions in Australia. The hub offers students and the community access to computers, high-speed internet and advanced video-conferencing capabilities, as well as literacy, career development and employment services.

#### **Beyond marriage equality**

UNSW's Community of Practice for Inclusive Research with Queer, Trans & Intersex people held its inaugural event at UNSW's Diversity Festival. A public panel with NSW Government representative Alex Greenwich discussed recent wins for LGBTQIA+ rights in Australia that go beyond marriage equality, and what else needs to be done to achieve greater equality for queer, trans and intersex people.

#### **Diversity in action**

At UNSW's Diversity Festival, a keynote and panel hosted by trans man and Olympic gold medallist Ellia Green OAM discussed what diversity means and how institutional change is needed to dismantle power and privilege structures. Another session featured people with <u>lived experience of disability</u> in the workplace and the practical ways the legal profession can be more accessible and inclusive.

#### Pride at work conference

UNSW participated in the 15th annual Pride in Practice conference, the only national conference dedicated to advancing LGBTQIA+ inclusion in Australian workplaces.

#### **Operations & Governance**

#### **Grants for inclusive projects**

UNSW granted over A\$90,000 in funding to faculty projects that enhanced opportunities for students from low-SES and underrepresented backgrounds, those with diverse gender identities, LGBTQIA+ students, students with disability, and students from culturally and linguistically diverse backgrounds. One project, called Diversified, developed a toolkit of inclusive teaching modules and resources for neurodiverse students.

#### **Inaugural DVC Indigenous**

UNSW appointed its first <a href="Deputy Vice-Chancellor">Deputy Vice-Chancellor</a> <u>Indigenous</u> in 2023, Professor Leanne Holt. A proud Worimi and Biripi woman, Professor Holt aims to increase Indigenous students and staff at UNSW, and deepen the University's engagement with Aboriginal and Torres Strait Islander communities.

#### Indigenous students awarded

Twelve UNSW students who excelled academically in 2023 were recognised at the UNSW Nura Gilli <u>Indigenous Student Awards night</u>. The awards were presented to students with the highest cumulative weighted average mark in each faculty.

**133 Research grants** 

1330 **Publications** 



#### Goals & Highlights

25% of all students enrolled from low-SES backgrounds and/or socio-educationally disadvantaged schools by 2027.

A\$10 million donated to campaign for a First Nations Voice to Parliament.



#### Awards

Indigenous awards -Nura Gili academic Dr Janine Gertz (thesis on self-determination) and alumnus Professor Kelvin Kong (<u>services to</u> <u>Indigenous patients</u>).



## SDG 11: Sustainable Cities and Communities

Leading by example, UNSW created a paint which helps protect against bushfires, it led discussions on building more sustainable public buildings, it hosted an international conference on urban climate, and the University became the first Australasian university to have its laboratories awarded global sustainable accreditation.

#### Research & enterprise

#### **Bushfire-resistant paint**

Australia is one of the most bushfire-prone countries in the world. To help prevent the spread of bushfires, a partnership between **UNSW** and Flame Security International produced a fire-retardant paint. Chemicals in the paint produce a thick layer of char that deflects heat from a fire. Available in retail stores, the paint can be brushed or sprayed onto surfaces like normal paint.

#### Indigenous bushfire technique

Australian policymakers and researchers have been searching for ways to minimise catastrophic bushfire events. UNSW researchers found the Indigenous Australian traditional technique of using small, lowintensity fires to clean out undergrowth reduces the risk of bushfires occurring. The findings suggest traditional Indigenous practices should be considered in bushfire management policy.

#### Apps to reduce waste and heat

In 2018-19, waste from Australia's construction and demolition sector comprised nearly 17% of total national waste. To help minimise the environmental footprint of buildings, UNSW's Associate Professor Hank Haeusler developed heat and waste reduction Al apps that can assist architects and developers to make more sustainable decisions around size, scale and materials when designing and constructing buildings.

#### **Education & Student Experience**

#### **Real-world transport solutions**

Close to 7 billion people will be living in urban areas globally by 2050, increasing the need for sustainable transport solutions. UNSW students travelled to The Teaching & Engineering Design Institute in London (TEDI-London) to explore sustainable transport solutions for the Canada Water masterplan in a residential experience alongside industry partners. The workplace-like experience equipped students with professional skills.

#### Sustainable public buildings

A symposium hosted by UNSW addressed sustainability issues and the creation and sharing of green knowledge for publicly funded buildings, with the aim of making public buildings more sustainable for the long term. Topics included sustainable architecture, risks in open sharing, copyright and intellectual property, and innovation management.

#### **Street life course**

As part of its built environment programs, UNSW offered an elective that studied the street environments of Sydney and Phnom Penh. Students explored the way that streets and footpaths support the daily lives of urban citizens, working with Cambodian design students and community members. Travel grants for the course were provided by the Australian Government New Colombo Plan and UNSW Arts, Design and Architecture.

#### **Net zero cities**

UNSW appointed two world renowned architects from Singaporean practice Woha, to deliver an interdisciplinary course to UNSW students on the creation of net zero carbon cities.

#### Flood resilience in the Pacific

A UNSW study of how nature-based solutions can improve flood resilience in Pacific Island communities received a UNSW humanitarian engineering grant. The grants support research into better livelihoods in low and middle income countries.

#### **External Leadership** & Engagement

#### Housing affordability roundtable

To address the complex issue of housing affordability in Australia, UNSW hosted a roundtable attended by government leaders and other universities. UNSW researchers shared their ideas for better delivery models, decisionmaking, and design and wellbeing. This included the demonstration of a UNSW-developed tool that can quickly estimate and visualise the impact infrastructure decisions have on property prices.

#### **Transport in future cities**

The world is expected to gain 2.2 billion new urban residents by 2050. UNSW experts in transport and geotechnical engineering discussed what this means for the future of urban transport in a podcast. Topics included the feasibility of flying cars and drones as a form of transport, and the case for increased infrastructure to be built underground.

#### **Fostering livable communities**

Together with Western Sydney University, UNSW researchers received funding to investigate urban heat mitigation, the impacts of urban climate on playground activity, and indicators of livable communities in Western Sydney. The collaborative projects aim to create more sustainable and vibrant spaces for local communities in the region.

#### Policies for housing crisis

With a state election on the horizon, the housing crisis became a major policy focus for political parties. In an online article, UNSW experts made five policy recommendations: offering emergency and regulatory relief, widening land tax reform, enhancing tenant rights, boosting social housing investment, and making developer contributions to affordable housing mandatory.



#### **Urban climate conference**

UNSW hosted the 11th International Conference on Urban Climate, which was attended by 640 researchers from 49 countries. Major themes included urban climate processes and policy, biometeorology and health, climate-conscious design and sustainable development.

#### **Operations & Governance**

#### **Leading in lab sustainability**

Labs are estimated to use around 2% of global plastic waste and three to 10 times the energy used in a typical office. In recognition of its efforts to make its labs more sustainable, UNSW received international sustainability accreditation for 45 of its labs from LEAF. UNSW is the first Australasian university to receive LEAF accreditation.

#### **Tracking nature at UNSW**

The University developed a methodology to <a href="mailto:track">track</a>
<a href="mailto:nature value">nature value</a> at its main Kensington campus, as part of its Environmental Sustainability Plan 2022-24. The metric accounts for tree canopy cover, native trees, green-blue infrastructure, plants and garden beds, and total green space. With the new metric, project teams across UNSW were incentivised to contribute to a better nature value outcome in planning and grounds management.

#### **Courses on sustainable cities**

UNSW's word-leading built environment researchers created three innovative short courses to <u>solve</u> <u>problems faced by modern cities</u>. The courses – in managing urban heat, assessing the built environment in 3D, and open data platforms and licences for cities – looked at the most recent findings and best practices to upskill the existing workforce.



Goals & Highlights

5-star green rating - on all new buildings and refurbishments at UNSW.

**\$884,807** paid in student accommodation scholarships.



#### **Awards**

Green lab awards More than 50 labs are
participating in the
UNSW LEAF program.

#### Architect award

- UNSW graduate
Samantha Rich for
her work on housing
for remote Aboriginal
communities.





## SDG 12: Responsible Production and Consumption

To help create circular economies and reduce landfill, UNSW researchers came up with innovative ways to recycle solar panels, food packaging and clothing, it launched a new battery recycling hub, co-launched a national recycling and clean energy program, and 96% of the University's campus retailers were awarded for their work to help diners go plastic free.

#### Research & enterprise

#### **Recycling solar panels**

Approximately 90% of solar panel systems end up in landfill, despite up to 95% of panel materials being recyclable. To improve recycling outcomes, UNSW researchers developed a patented sieving process that separates 99% of cell particles and recovers important materials, like silver. UNSW solar experts also proposed adopting a reuse mindset instead of the current replacement one.

#### **Recyclable food packaging**

Food packaging is mostly petroleum based and cannot be recycled. UNSW is working with industry and the UNSW-based Future Food Systems Cooperative Research Centre to produce sustainable food and beverage packaging that can be recycled. They are also working on sensors that detect food spoilage to reduce food waste. The sensors appear as a sticker that changes colour when food is spoilt.

#### **Reusing clothing**

Charities receive a huge amount of damaged clothing through donations that often ends up in landfill. UNSW researchers are investigating a sorting methodology that can turn damaged textiles into new products, such as fabrics, jewellery, accessories, lighting and homeware items. They also hosted workshops to teach people how to repair and maintain clothing.

#### **Education & Student Experience**

#### Students on TV

On the popular War on Waste TV program, UNSW students were challenged to design solutions to single-use plastic packaging. Students from UNSW's industrial design program developed a powdered soy pouch to replace the fish-shaped plastic containers used by sushi retailers.



12 RESPONSIBLE CONSUMPTION

#### **Circular economy course**

As part of its commitment to creating circular economies, UNSW offered a course to students on the social and environmental impact of circular economy models in Australia and India. Participants visited **UNSW's SMaRT MICROfactorie** in the regional town of Nowra, and they undertook a 20-day study tour of India to investigate recyclable waste, business models, human and social factors, policy and pathways to empowerment.

#### **TEDI-London e-waste course**

UNSW students participated in TEDI's three-week course in London on reducing e-waste for an <u>improved circular economy</u>. Students were asked to create a community repair initiative that could be run by TEDI-London and continually benefit its local Canada Water community. Solutions included regular repair events, art competitions using e-waste, education sessions on repairing and a website.

#### Reimagining e-waste

The UNSW Business School SDG Committee hosted a competition where more than 25 students competed to come up with the <u>best SDG-inspired</u> wearable item using filament made from recycled e-waste and a 3D pen. The competition highlighted how e-waste can be reincarnated into innovative products.

#### **External Leadership &** Engagement

#### **New microrecycling hub**

It is estimated that 18,600 tonnes of batteries are discarded to landfill in Australia annually, despite the growing demand for batteries to support renewable energy technology. The new UNSW-based Microrecycling Hub – a collaboration between six universities and industry – seeks to develop technologies to recover valuable materials from batteries and other complex wastes that are not currently being recycled.

#### Recycling and clean energy program

In 2023, UNSW and its partners launched the <u>Trailblazer for Recycling and Clean Energy (TRaCE)</u> program, which seeks to advance solar panels, sustainable fuels, recycling factories, energy storage and green steel technology over the next five years. The A\$277 million program signed its first commercialisation agreements to create green ceramics and fast track green ammonia for realworld use.

#### Carbon fibre recycling

Recycling carbon fibre leaves the material unable to support heavy forces or loads. UNSW researchers came up with a new technique that does not shred the fibre and ensures it remains much stronger, so the recycled material can be used in cars to make them lighter and more efficient. Recycled carbon fibre only requires one-fifth of the energy used to make it from scratch.

#### **Operations & Governance**

#### **Plastic-free dining at UNSW**

The University launched a plastic-free dining <u>initiative</u> in 2021 to eliminate single-use plastics among retailers on campus. In 2023, 96% of retailers were awarded gold, silver or bronze status for implementing initiatives, such as compostable packaging and reuse incentives.

#### **Supply chain assessment**

A significant proportion of UNSW's carbon footprint and nature impact can be attributed to its supply chain. To better understand these impacts and risks, UNSW completed a nature assessment of its supply chain and developed a multi-year roadmap to reduce nature-related impacts and risk exposure. The study is one of the first to be completed by a university globally.

9 **Research grants** 

813 **Publications** 





#### Goals & Highlights

54% of on campus retailers achieved gold plastic-free dining award status on track with the 2024 goal for at least 80%.

85% of surplus furniture diverted from landfill.



#### Awards

Women in Design Award - SMaRT Centre Director, Scientia Professor Veena Sahajwalla, for her innovations in green manufacturing and recycling waste.



# SDG 13: Climate Action

In support of action to improve the climate, UNSW launched an advisoryfocused climate institute, it determined how to cool a Saudi Arabian city, it hosted national and Pacific forums on the creation of circular economies to reduce emissions and carbon footprints, and the University upgraded electricity systems in 10 campus buildings.

#### Research & enterprise

#### **New climate institute**

The <u>UNSW Institute for Climate Risk &</u> Response (ICRR) was established to leverage the University's expertise on responding to climate risks. UNSW experts from science, business and law will advise government and industry on interpreting climate science and integrating it into their business models, and how best to implement local and international regulations and standards. The institute will foster a new generation of climate leaders.

#### **Helping the Pacific prepare** for disasters

Pacific Island countries are experiencing more frequent and severe tropical cyclones and floods. They are also rapidly urbanising. The <u>UNSW-led Resilience project</u> examined the disaster recovery responses of Fiji, the Solomon Islands and Vanuatu, particularly in densely populated areas prone to flooding. A partnership between UNSW, the Australian National University and Australian Red Cross found community-led responses can help foster better resilience.

#### **Cooling Saudi Arabia**

Extreme urban heat affects more than 450 cities worldwide. A <u>UNSW study</u> found highly reflective building materials developed by UNSW, irrigated trees and energy retrofitting measures could help cool Saudi Arabia's capital city of Riyadh by up to 4.5°C and reduce the city's energy use by up to 16%. The study was conducted in collaboration with the Royal Commission of Riyadh and is the first of its kind.



#### **Education & Student Experience**

#### **Climate startup program**

UNSW runs a 10-week accelerator program for startups. A new stream, the Climate 10x program, was established for climate-focused companies in 2023. The program aims to commercialise initiatives that reduce emissions, build a cleaner energy system and improve finite resource use. Participating companies were reinventing roads, industrial supply chains and transport, and decarbonising the engine industry.

#### New hub for climate refugees

Climate change is forcing millions of people from their homes each year, particularly in the Pacific. Developed by <u>UNSW's Kaldor Centre for International</u> Refugee Law, the Climate Mobility Hub brings to life practical, legal and effective responses to this pressing humanitarian issue. The hub offers research-backed answers on climate-related mobility, it provides policy guidance on helping people to stay or move safely, and visitors can hear from people directly impacted.

#### **Climate panel for Global Goals Week**

Leading UNSW academics and industry experts from AGL and Iberdrola explored major questions underpinning Australia's role in the energy transition to net zero at <u>Diversity Festival 2023</u>. Topics included: how can we secure Australia's position as a global powerhouse? How can we deliver the future power system? And how can we support a consumer-led energy transition? The panel followed a keynote presentation from the CEO of the **UNSW** Energy Institute, Dani Alexander.

#### **Climate action internships**

To give students real-life experience in helping organisations to become more sustainable, UNSW teamed up with Pomegranate Global to offer them the opportunity to participate in the Climate Action Virtual Internship program. Under the program, students partnered with companies from around the world to help them develop climate action plans or projects. The program advances students' climate literacy and delivers meaningful climate impact.

#### **External Leadership** & Engagement

#### **Creating circular economies**

Two forums co-hosted by UNSW saw 365 leaders from industry, government, academia and community groups come together to discuss what is needed to create circular economies in Australia and the Pacific by 2030. The forums highlighted the interconnection between climate change and circular economies and how eliminating waste, circulating materials and regenerating nature are critical to achieving emissions reduction targets.

#### Ocean impact on climate change

In a public lecture, Emeritus Scientia Professor Trevor McDougall highlighted the ocean's complex role in regulating climate. Calling on his expertise in mathematics, Professor McDougall explained how currents move seawater, heat and gas from one ocean basin to another. He highlighted areas where more research is needed and advised the audience on how best to conduct this research.

#### Improving emissions reporting

To contribute to global progress to net zero, it's essential for Australia to have accurate data about the greenhouse gas emissions, energy production and consumption of its largest corporations. Associate Professor Bryce Kelly made a submission and led a Climate Change Authority scientific forum to inform the 2023 review of the National **Greenhouse and Energy Reporting Scheme** legislation.



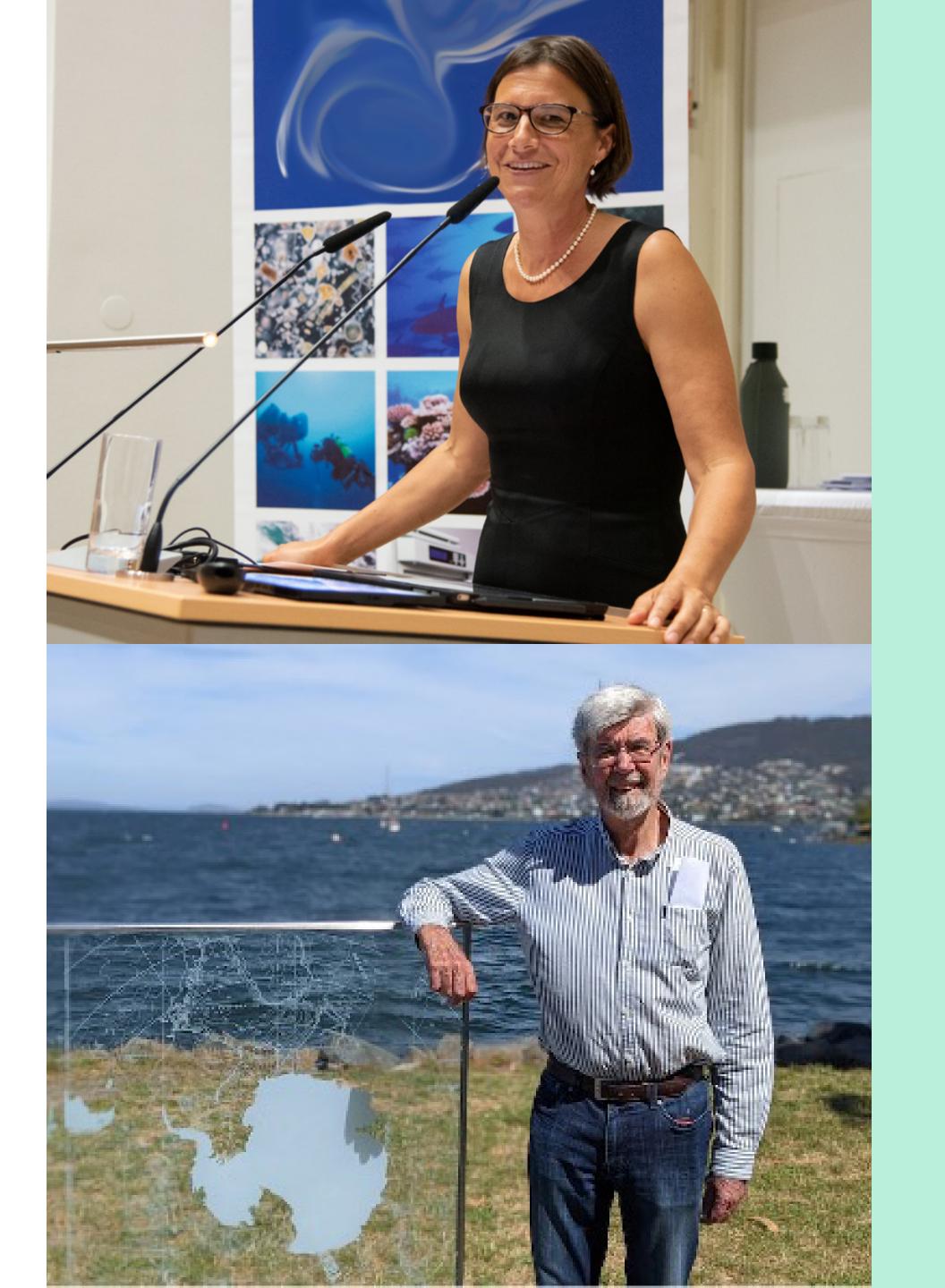
#### **Optimising outcomes at COP28**

As part of its membership in the IUCA, UNSW participated in three IUCA planning discussions in the lead up to the 28th UN Climate Change Conference (COP28) in Dubai. Members discussed how universities, as global thought leaders, can work together to empower leaders to accelerate action on climate change. At the conference, <u>UNSW representatives</u> showcased work including nature-based solutions in our oceans, partnerships for climate action in the Asia Pacific, the case for green hydrogen in the Pacific and the critical role of water in achieving global climate goals.

#### **Operations &** Governance

#### **Urgent action to achieve net zero**

To reduce total emissions to net zero by 2050, UNSW has measures in place to maintain net zero operational (scope 1 and 2) emissions and reduce value chain (scope 3) emissions on a 1.5°C pathway. In 2023, UNSW completed designs for electrification upgrades in 10 buildings and commenced designs for a further 11 buildings. The University also prioritised sustainable procurement and, for the first time, received third party assurance of its greenhouse gas emissions.





1491 **Publications** 



#### Goals & Highlights

**Net zero** in scope 1 and 2 emissions since 2020.

Goal - Net zero for all emissions scopes by 2050.



#### **Awards**

#### Prince Albert Medal -Emeritus Professor John Church for his research on <u>sea levels and climate</u> change.

#### Geoscience award -Professor John Church also received the <u>Axford</u> Medal.

Global ocean research award - Professor Katrin Meissner for work on earth history research and system models.



# SDG 14: Life Below Water

To protect the world's water life, a UNSW partnership created living seawalls to promote stronger harbour ecosystems, it continued to raise the alarm about the impacts of climate change on ocean life, it called on the world to help restore ocean kelp forests, and the University ran a marine science program for high school students.

### Research & enterprise

#### **Reefs under threat**

A UNSW paper reported coral disease has tripled in the last 25 years, and if temperatures continue to rise on the same trajectory, nearly 80% of coral reefs will be diseased in the next 80 years. Coral reefs support around a quarter of the world's fish, they are vital for fisheries and tourism, and they provide protection from storms and coastal erosion.

#### Warmer oceans kill sea sponges

Sea sponges exposed to temperature increases of 3°C lose an important microbe, which could explain why they die, <u>UNSW researchers found</u> in collaboration with the Australian Institute of Marine Science and the Victoria University of Wellington. Sea sponges provide shelter and food to a plethora of marine creatures, and also play an important role in drug discovery.

#### The threat of marine heatwaves

Marine heatwaves, which are 50% more frequent than 100 years ago, can be devastating for ocean life and they can seriously harm fisheries, aquaculture and tourism, Associate Professor Alex Sen Gupta from the UNSW Centre For Marine Science <a href="mailto:said\_in an article">said\_in an article</a>. Greater understanding of the causes and impacts of these heatwaves can help marine resource managers minimise stresses on ocean life.

# **Education & Student Experience**

#### **Sydney Harbour marine life**

UNSW's Jess Nguyen presented at the first-ever Sydney Harbour Marine Education and Research activity to help raise awareness about sea urchins and other ocean life in the harbour.



# 14 LIFE BELOW WATER

#### The next marine scientists

As part of the SciX@UNSW program, high school students took part in a research project identifying where rocky shore species live and why in the Sydney area. Species distributions are important for marine scientists in understanding how ecosystems function, and can help them to monitor the effects of climate change and sea level rises. The entire program cohort of more than 170 high school students learned about the SDGs from a panel of **UNSW** experts working on innovations translating science research into accessible sustainable solutions. Students were encouraged to place sustainability at the heart of their research now and into the future.

#### **Exploring marine heatwaves**

UNSW researchers boarded <u>Australia's flagship</u> ocean research vessel to study a 400 kilometre wide and 3 kilometre deep eddy forming off Sydney that could have triggered another coastal marine heatwave. The same researchers published a paper in 2023 demonstrating the link between an eddy and a marine heatwave off the coast of Sydney in December 2021.

#### **Master of Marine Science** and Management

The masters course, offered by UNSW and the Sydney Institute of Marine Science, educates students about coastal management and engineering, climate change, marine ecology and conservation, marine legislation, physical oceanography, and data analysis and modelling.

# **External Leadership** & Engagement

#### **Creating living seawalls**

It started as a project with the Sydney Institute of Marine Science to build living seawalls to promote marine life and better ecosystems in Sydney Harbour. Now, the UNSW co-led Living Seawalls project is being trialled in harbours across Australia and in Asia and Europe. In 2023, UNSW helped install new walls and design new piling wraps for wharfs.

#### **Call for more kelp forests**

Marine ecologists from UNSW called on the public to help restore a million hectares of lost underwater kelp forest by 2040. Up to 95% of kelp canopy, which hosts an incredible amount of biodiversity, has disappeared in areas like Tasmania and California as a result of climate change and pollution. The Kelp Forest Challenge calls on individuals and businesses to help meet the goal.

#### White paper on ocean economy

UNSW co-authored <u>a white paper</u> calling for urgent policy to deliver a thriving, sustainable ocean economy in Australia by 2050. Australia's ocean estate includes nearly 26,000 kilometres of coastline and is the third largest Exclusive Economic Zone in the world. The white paper followed the inaugural Ocean Business Leaders' Summit, which was attended by 250 leaders from government, business, science and the community.

### **Operations & Governance**

#### **Sustainable supplies**

Under the UNSW Supplier Charter, the University is committed to sustainable procurement practices. This includes ensuring that farmed products and those harvested from aquatic ecosystems – like food and drink products – are ethically, sustainably and/or locally sourced.

#### Coffee in an edible cup

To increase awareness about the importance of reducing plastic waste for ocean health, the **UNSW** Business School invited staff and students to enjoy their morning tea and coffees in edible cups on 2023 World Oceans Day.

**25 Research grants** 

691 **Publications** 



#### **Highlights**

Three Faculty of Science courses received Sustainable Solutions teaching grants that targeted SDG 14 awareness in class projects.

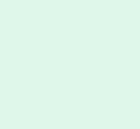


#### Awards

**NSW Scientist of the Year -** Emeritus Scientia Professor Trevor McDougall for his oceanography and ocean thermodynamics research.

Clarke Medal - Professor Moninya Roughan for her research on marine heatwaves.





# SDG 15: Life On Land

From reintroducing platypuses to healthy habitats and using Al to save plant species, to planting trees, installing bee hives on campus and making key submissions to government on biodiversity and land conservation, UNSW was at the forefront of preserving biodiversity and

# Research & enterprise

#### **Rewilding platypuses**

The platypus is an iconic Australian mammal under threat of extinction. To ensure their survival, researchers from UNSW's Centre for Ecosystem Science and others relocated a population of 10 platypuses to Sydney's Royal National Park, where the species has been absent for 50 years. Researchers tested water quality in the park to confirm it was safe and will continue to monitor quality levels.

#### Al unlocking plant data

To document the impact of climate change on flora, UNSW researchers have trained AI to unlock data from millions of plant specimens kept in digital herbaria around the world. A key finding by the AI model was that leaf size doesn't increase in warmer climates within a single species, contrary to prior observations. Findings from the model will help save plant species from extinction.

#### **Ecosystem without predators**

Many native Australian mammals have become extinct or endangered because of the introduction of predators, such as foxes and feral cats. To understand how an

ecosystem in an arid zone can recover without these intruders, UNSW researchers installed conservation fencing on a station in outback NSW to protect mammals for up to 15 years, providing valuable information for future conservation strategies.

#### **Bushfires harm biodiversity**

A severe bushfire event in Australia in 2019-20 burnt more than 5 million hectares. UNSW researchers discovered plant and animal life recovered where fires were of low to high severity, but both failed to recover in regions where fires were extreme. With fire seasons expected to worsen due to climate change, the findings inform conservation monitoring and management strategies.

#### Frogs love dams

Freshwater frogs are a threatened species in Australia. UNSW researchers found many of Australia's 1.8 million farm dams have become important homes to more than two-fifths of Australia's 240 frog species, including four species threatened with extinction. Dams richest in frog species were older than 20 years. Farm dams could become a biodiversity credit for farmers and landowners as a result of the findings.

# **Education & Student Experience**

#### Planting more than 1200 trees

MBA and PhD students from the UNSW Business School volunteered their time to help the UNSW Landscaping team plant more than 1200 plants on campus. The event created an opportunity for students to contribute to a healthier campus and the SDGs.

#### **Sharing local bee knowledge**

As part of UNSW's Diversity Festival, volunteers from UNSW's Producers team – which leads community-run sustainable produce projects across campus – ran a workshop for the UNSW community about how bee hotels can support populations in the local area. Students and staff helped decorate bee houses to make them more attractive to bees.

# External Leadership & Engagement

#### **Rewilding to save species**

Australia has lost many native species over the past hundred years, earning the undesirable title of 'extinction central'. A panel on rewilding featuring Director of the UNSW Centre for Ecosystem Science, Professor Richard Kingsford, and colleagues discussed how rewilding and breaking from traditional conservation approaches can help save fragile species and ecosystems.

#### Managing wild horses

Kosciuszko National Park is home to up to 20,000 wild horses that are negatively impacting the environment. In its <u>submission to the government</u>, UNSW enlisted its support for controlling horse numbers to preserve native species and ecosystems in the park, advocating for best practice capture and control methods.

#### **Submission on biodiversity act**

Current rates of biodiversity loss around the world and in Australia are unprecedented. In its submission to the government on the review of the Biodiversity Act, UNSW researchers highlighted <u>nine major areas of biodiversity concern</u> where legislation was not achieving its objectives, and what could be done to improve conservation.

#### **Protecting natural capital**

Natural environments have social and cultural benefits. To explore how these benefits can be better harnessed, UNSW hosted a panel on strengthening awareness and planning around <u>natural capital</u> and ecosystem services. The panel featured representatives from government and explored current science, policy initiatives, and opportunities for universities and government to collaborate.

#### **Submission on vital basin**

The Australian Government is seeking to restore the rivers and wetlands of the Murray-Darling

Basin, home to 2.4 million people and 8400 agriculture businesses. Professor Richard Kingsford made a submission to the government with 18 recommendations for how best to execute the restoration.





### **Operations & Governance**

#### **UNSW Sustainability Plan**

The University's Environmental Sustainability

Plan 2022-24 includes a target for a net gain in
biodiversity on campus using the broad definition
of natural value to account for where species live.

Five measures were used to track nature value,
incentivising project teams to prioritise nature in
campus planning and activities.

#### **Native bees on campus**

UNSW installed a hive of 5000 stingless bees at its Paddington campus to ensure bees keep up their important pollination work in the area. Students and staff had planted native flower gardens in the years preceding the installation, so that the bees have access to an adequate food supply.



910
Publications



#### **Awards**

Australian Museum Eureka

Prizes - the Waterbirds

Aerial Survey Team, led by

Professor Richard Kingsford

at UNSW and the NSW Department

of Planning and Environment,

Scientia Professor Toby Walsh

(AI), and Associate Professor

Jodi Rowley (amphibians).

Ecological Society of Australia
Gold Medal - Professor David
Keith for his conservation
planning and biodiversity work.

US Quest Award - Associate
Professor Terry Ord
for his research on
how natural selection shapes
animal behaviour.



#### Goals & Highlights

Nature positive - on campus and in University supply chains.

#2 in Australia for
research output - UNSW's
School of Biological,
Earth and Environmental
Sciences.



15 LIFE ON LAND





# SDG 16: Peace, Justice and Strong Institutions

To help achieve a just and peaceful society, UNSW undertook research on improving conditions for migrants and protecting children from sexual violence, it helped students gain fellowships with leading NGOs, it backed a referendum on a First Nations Voice to Parliament, and the University published an anti-slavery plan and freedom of speech code.

## Research & enterprise

#### Visas bad for refugee health

Refugees to Australia are often on temporary visas, creating uncertainty around their future. A UNSW survey of more than 1000 refugees from Iraq, Iran, Syria and Sri Lanka over the last five years found refugees on temporary visas suffered from serious mental health issues, including depression and anxiety. Findings suggest changes to the temporary visa program are needed.

#### **Improving juvenile justice outcomes**

To improve outcomes for young people in custody, UNSW partnered on a project examining the effectiveness of a government program that trains detention staff in interpersonal skills with the aim of improving their interaction with juveniles and recidivism rates. The project is seeking to develop an evidence-based framework for juvenile justice agencies across Australia.

#### **Preventing child sex abuse**

One in six Australian men reported sexual feelings towards children, and almost one in 10 men have sexually offended against a child, <u>UNSW</u> and its research partners reported. The project anonymously surveyed the behaviours and attitudes of nearly 2000 men aged over 18 years, the largest survey of its kind in the world. The report provides measures to track adult male behaviours and bolster services to keep children safe from harm.

#### **Open access to research**

UNSW is committed to achieving positive societal impact on a global scale. As part of this, the University's research outputs are made available through the <u>UNSWorks service</u> provided by UNSW Library. Anyone can access and reuse the text of UNSW-produced journals, conference papers, reports and theses. UNSW also encourages its researchers to make other outputs - like book chapters, data and code available to the public.

#### **Working with Raskol Gangs and Tribal Warriors in PNG**

The Inland Aquaculture Project in PNG, coordinated by Professor Jes Sammut in partnership with the National Fisheries Authority and the Sisters of Notre Dame, has helped to increase peace in areas where crime and tribal war has impacted communities. Training and introduction to fish farming has reduced crime and ended several tribal wars in the Highlands of PNG.

16 PEACE, JUSTICE AND STRONG



# **Education & Student Experience**

#### Fellowship with leading NGOs

To give students real-life experience in the international development and human rights sectors, the UNSW Australian Human Rights Institute offered students the chance to undertake a six-week, paid <u>fellowship</u> with a leading organisation. The Institute contributed A\$6500 to each student to support them over the fellowship period.

#### Hacking startup skills

Designing and pitching a startup can be daunting. To help students develop core startup skills, UNSW held a hackathon competition for legal technology ideas. The event, which offered cash prizes to winners, prepared participants for the UNSW Allens Hub Legal Tech Venture Days competition later in the year.

#### **Sharing green building knowledge**

Public buildings in Australia often lack sustainability credentials. To change this, UNSW held a symposium to promote the sharing and transferring of 'green' knowledge for buildings that are publicly funded. Topics included sustainable architecture, risks in open sharing, copyright and intellectual property, and innovation management.

#### **Better healthcare in Nepal**

Since 2015, UNSW and Engineering World Health have collaborated to improve healthcare delivery in resource-poor hospitals around the world. In 2023, the partnership offered up to 15 UNSW students the opportunity to become a biomedical equipment technician in Nepal, repairing critical medical equipment and transforming lives in low resource communities. The experience also advanced the career prospects of participating students.

#### **Advocating for reform in Indonesia**

In the Talking Indonesia podcast, UNSW's Dr Elisabeth Kramer spoke about efforts to improve Indonesian bureaucracy, including the design and implementation of incentives to reform the civil service and how disparities between different ministries can impact the psyche of civil servants.

# **External Leadership** & Engagement

#### **Supporting First Nations referendum**

Australia held a referendum in 2023 on a First Nations Voice to Parliament and First Nations constitutional recognition. UNSW affirmed its support for the Voice, as part of its commitment to an equitable and just society and the **UNSW** Indigenous Strategy 2018-2025. UNSW Professor Megan Davis, Pro Vice-Chancellor Society, designed the dialogue process that initially called for the Voice, and reflected on "The Power of Voice" in UNSW's 10 Minute Genius podcast series.

#### Climate change law case

The homes of people in the Torres Strait are under threat from rising seas. The Grata Fund, an NGO partnered with UNSW Law & Justice, supported a <u>landmark law case</u> by the Torres Strait community against the Australian Government for failing to prevent climate change and sea level rises.

#### **New climate mobility hub**

Climate change is already forcing millions of people from their homes each year, particularly in the Pacific. To educate the public about the challenges vulnerable people face, the <u>UNSW Kaldor Centre's</u> Climate Mobility Hub offers facts, policies to help people stay and safely move, and stories from people impacted by climate change.

#### Forced migration conference

Climate change, geopolitical instability and other events are forcing people to migrate. A UNSW conference, hosted by **UNSW's Kaldor Centre**, addressed what these trends mean for migrants, and what legal and policy changes are required to ensure those who need protection receive it.

#### **Avoiding migrant exploitation**

A UNSW-led coalition of 40 organisations recommended the Australian Government introduce visa-based protections for migrant workers to reduce their exploitation at work. In response, the government offered migrants protection against visa cancellation, flexible visa requirements for future sponsorship visas, and a short-term visa to allow migrants to claim wages owed by their employers.

#### **Improving constitutions**

UNSW hosted a two-day workshop on constitutionbuilding in the 21st century, which was attended by practitioners from across the globe. Participants discussed the role of culture in constitutional reform, elements of culturally rooted constitutionalism, and what culture-backed reform of constitutions could look like in the future.

#### **Defence program blazes**

UNSW is a partner in a Defence Trailblazer program to strengthen Australia's defence capabilities. In 2023, the program had secured agreements with 40 partners, locked in investment for five startup businesses, and established a commercialisation bootcamp. A total of 66 industry-academia projects were underway, including scholarship and workforce skilling initiatives.

#### Improving judicial outcomes for young

UNSW's Dr Phillipa Evans partnered with a government-funded project that sought to improve the <u>interpersonal skills of officers</u> in youth detention centres to improve the outcomes for young people, including lowering recidivism rates.

#### **Award for AI boats**

UNSW partners with company Ocius to build solar powered robotic boats that can be used to reduce illegal fishing, map oceans and protect whales from deep-sea mining. The project, which is based at UNSW, received an award for the best industry collaboration from Knowledge Commercialisation Australasia.



## **Operations & Governance**

#### Modern slavery plan

UNSW launched its <u>Modern Slavery Strategy</u> and Action Plan in 2023 to facilitate meaningful contributions to anti-slavery practices. The plan ensures the University's supply chains and goods and services do not contribute to modern slavery, and that the risks of modern slavery occurring within the UNSW student community are continually addressed.

#### Freedom of speech code

As part of UNSW's commitment to the principles of academic freedom and free speech, the University released a code on both in 2023. The University also ran a student campaign to raise awareness about foreign government harassment and freedom of speech, stressing the need for respectful behaviour while exercising free speech.

#### **SDGs Steering Committees**

UNSW's SDGs Steering Committee coordinates the University's SDG efforts. All faculties engage with the SDGs, including through their own SDGs committees in Law & Justice, Engineering, Medicine & Health, Arts, Design & Architecture, and the UNSW Business School. In 2023, the <u>UNSW Business School's committee</u> hosted global climate week, campaigned for the end of disposal coffee cups, and planted more than 1200 plants on campus.

#### **Supporting UK and US defence**

The PLuS Alliance is a longstanding partnership between UNSW, Arizona State University and King's

College London. In 2023, PLuS <u>launched a security</u> and <u>defence initiative</u> in support of the AUKUS partnership between Australia, the UK and the US. PLuS held events in all three countries in the year to promote AUKUS to defence professionals.

#### **UNSW** raises record A\$100m

With the support of more than 4000 donors, the University raised A\$100 million through philanthropy in 2023, the highest amount ever raised. Donations supported high-quality research, world-class education and a first-class student experience – including a new healthcare centre, dementia research, scholarships for women in engineering from underrepresented backgrounds, and projects improving Indigenous culture sharing in schools.

#### More accessible policies

UNSW's three-year <u>policy transformation program</u> <u>is underway</u>, aiming to reduce red tape and make university policies easier to read and more accessible.

**99**Research grants

1319
Publications



#### Goals & Highlights

A\$110 million raised from philanthropic donations.

A\$800,000+ in staff workplace giving - matched by UNSW.

#### Improving youth justice

- more than 100 outcomes achieved through the <u>Yuwaya</u>
<a href="Maintain: 100 outcomes">Ngarra-li community-led</a>
<a href="partnership">partnership</a>.



#### Awards

Australian Academy of the
Humanities Fellow - Professor
Megan Davis for her work on
constitutional recognition for
Indigenous people.

Asian Society of International Law prize - Natasha Yacoub for her <u>article on refugee</u> protection.

# SDG 17: Partnership for the Goals

Living and breathing the Goals, UNSW experts addressed air and water quality and the achievement of SDGs in the Asia Pacific, co-authored a report on changing poverty thinking in Australia, contributed voices to an independent media wire, and national recycling and defence programs, and hosted a sustainability forum for Australia's top universities.

### Research & enterprise

#### **Measuring air quality in the Pacific**

Data collected by UNSW researchers showed air quality in the urban areas of the Solomon Islands and Fiji has deteriorated since 2018, with increasing incidences of human respiratory illness. A team led by UNSW expanded the project to include Tonga in 2022 and then Vanuatu in 2023. In partnership with Pacific and international partners, the project supports in-country efforts to continuously monitor air quality and inform local decision-making.

#### **Changing attitudes to poverty**

In partnership with ACOSS, UNSW published a report on community attitudes towards poverty and inequality. Findings showed only 23% of the public said they could live on the current rate of unemployment benefits, and indicated public support for increasing the rates. UNSW presented the findings in an online webinar attended by representatives from government, NGOs, industry, other universities and the public.

#### **Hub for infrastructure needs**

Based at UNSW, the ARC Research Hub for Resilient and Intelligent Infrastructure Systems (RIIS) aims to improve the management of urban transport, water, resource and energy infrastructure. Drawing on expertise from three other universities and 13 industry partners, RIIS will seek clever ways to make infrastructure more resilient and to commercialise technology to create jobs.

#### **Five Business School SDG grants**

Worth A\$4000 each, the <u>UNSW Business</u>
<u>School</u> grants were awarded to five PhD students to further their SDG-related research on the impact of renewables on coal and gas plants, designing AI for estimating carbon stocks, estimating the influence of sustainability in decision-making, increasing the acceptance of unattractive food and advancing sustainability through insurance.



# **Education & Student Experience**

#### **Students pitch SDGs solutions**

The UNSW Hult Prize is a global social entrepreneurship competition that rewards students solving the world's biggest issues and SDGs with US\$1 million in prize money. The 2023 prize was won by Banofi Leather, a company that creates plantbased leather. UNSW also hosted a one-day event where students were challenged to tackle <u>real-world</u> SDG challenges and pitch solutions to win A\$3500 in prize money.

#### **Global engineering pathway**

To address the global shortage of engineers, UNSW teamed up with Arizona State University and King's College London to establish a new engineering higher education provider, TEDI-London, in 2019. Students at TEDI-London work on real-life, SDGfocused projects with industry partners and stakeholders. In 2023, projects included reducing electronic waste through community repairs and sustainable transport. Up to 39% of students are female and 21% are mature age.

# **External Leadership** & Engagement

#### **UNSW hosts UN delegation**

In the lead up to COP31, the University hosted the **UN Development Coordination Offices Asia Pacific** Director, David McLachlan-Karr, to demonstrate how the University is supporting the UN's work on climate adaptation and resilience. The visit was part of UNSW's ongoing knowledge partnership with the UN, accompanying change and progress for the SDGs and societal impact in the Asia Pacific.

#### Climate action in the Asia Pacific

Facilitated by IUCA, UNSW co-hosted a free online event exploring the importance of real-world partnerships in achieving meaningful climate impact in the Asia Pacific. The symposium was attended by leaders in the tertiary sector, government, the United Nations Framework Convention on Climate Change (UNFCCC), local communities, youth, and First Nations people.

#### **Advancing Timor-Leste's economy**

A UNSW delegation visited Timor-Leste to further understand the government's action on UN strategic imperatives and to explore opportunities for partnerships and collaboration with the government and education institutions. UNSW also met with the Timor-Leste National Institute of Statistics to discuss the development of local capabilities in oceans and natural capital accounting.



#### Trailblazing in recycling and defence

Two national trailblazing programs in which UNSW is a partner launched in 2023. The A\$277 million TRaCE Program helps Australia and the world transition to sustainable recycling and clean energy solutions and systems. The <u>Defence Trailblazer Program</u> seeks to upskill the defence workforce and accelerate the delivery of cutting-edge science and technology to strengthen Australia's defence capabilities.

#### **Newswire for public interest**

UNSW partnered with Monash University to develop 360info, an independent newswire agency for publishers, broadcasters, schools and civic society outlets. 360info distributes research-driven content on the world's great challenges and is partnered with more than 1000 media outlets in Asia, Australia and the Pacific. A 360info Editor is based at UNSW.

#### **Better youth outcomes in Walgett**

A community-led partnership between the DEG and UNSW is helping to divert young Aboriginal people in the remote town of Walgett away from the criminal justice system. The Yuwaya Ngarra-li partnership is also working to secure safe drinking water and improve access to healthy food options in the area.

#### Global dialogue on ocean accounting

The Global Ocean Accounts Partnership, hosted by the UNSW Sustainable Development Reform Hub, led the 4th Global Dialogue on Ocean Accounting. It brought together delegates from 73 countries to explore how ocean accounting can be used to meet international and regional climate and biodiversity commitments, and address challenges to our marine environments.

#### **Enabling greater fish production in PNG**

Two researchers from UNSW, Associate Professor Jes Sammut and Joshua Noiney, presented at the World Aquaculture Society on clearing bottlenecks to fish production in PNG and the establishment of 22 fish hatcheries in rural communities. Their research has helped the PNG fishing industry expand from 11,000 farms to more than 70,000 farms in a decade.

#### **Pacific water report**

Following the release of the 2023 Global Water Policy Report, UNSW is helping to prepare a regional report for the Pacific on the water challenges identified by the 13 Pacific Island countries who took part in the survey.

#### Office of Global Affairs

The University's Office of Global Affairs (UOGA) leads the UNSW Global Strategy, which seeks to positively impact society around the world. In support of the strategy, UOGA has hosted more than 25 international delegations and launched projects and initiatives in China, Fiji, India, PNG, Singapore and Timor-Leste.

#### **University alliance for NSW**

To deliver greater benefits to NSW, UNSW partnered with three other NSW-based universities in the NUW Alliance. The NUW Alliance facilitates collaborations between the universities on projects that unlock value and benefits for the state's communities, including its Six Cities Region Vision which seeks to sustainably advance six cities in the decades to come.

### **Operations & Governance**

#### **Sustainability forum for universities**

A sustainability forum for leaders from Australia's top universities hosted by UNSW explored opportunities for further collaborations between institutions and with government, industry, community and NGOs. Presentations were made by Deloitte and KPMG on carbon forests and greenwashing, and by University leaders on carbon and biodiversity footprints, travel strategies and creating a circular campus.

#### Leading climate action

As host of the IUCA Secretariat, UNSW facilitated the annual IUCA Executive Committee meeting where senior leaders of member universities discussed IUCA's new 2023-25 strategy, university pathways to net zero, and the benefits of global dialogue.

#### **Partnership** with the UN-Water **Expert Group**

The UN-Water Expert Group on Water and Climate Change, in collaboration with the IUCA, presented preliminary findings of a study on the water requirements of climate mitigation measures at COP28. The GWI led study will inform global policy makers at COP29 on the freshwater requirements for their own Nationally Determined Contributions (NDCs).



22,003 **Publications** 



#### Goals

The Office of Global Affairs set five priority areas to help meet UNSW's societal impact goals.



Awards

**Fulbright** Scholarships awarded to six UNSW scholars.



# Methodology

This report is a snapshot of UNSW's contributions to advancing the UN Sustainable Development Goals through the activities of students, staff and partnerships in 2023, as part of the University's commitment to positive societal impact and improving life on earth.

Stories were selected for inclusion based on submissions from faculties, centres and institutes, from a desktop review of UNSW news articles and websites, UNSW SDGs Steering Committee discussion, and from other key UNSW annual reports.

We have endeavoured to select the most relevant SDG for each story, however as work for sustainable development is interlinked and multidisciplinary, many entries are relevant to multiple goals and targets.

The entries are divided into the four broad pillars by which UNSW understands our contributions to the goals: Research & Enterprise; Education & Student Experience; External Leadership & Engagement; and Operations & Governance.

#### **Research grants**

At UNSW, our commitment to sustainability drives us to improve futures through various initiatives, including research, innovation and partnership. In 2022, we launched a mapping effort to gauge our progress against the UN SDGs by aligning research grants with the relevant SDGs. This year, we've refined our approach further. Instead of relying on keyword coding, the method used previously, we now use the ANZSRC Socio-Economic Objective (SEO) codes to determine grant alignment with the SDGs more accurately. This shift minimises ambiguity and improves the reproducibility of our methods.

We have standardised our approach, using SEO codes to match grants to specific SDGs. This method aims to accurately identify the SDGs each grant supports and the corresponding funding amount, ensuring consistent data handling and preventing double counting.

It was determined that using research codes for SDG matching would be more reliable than using keywords. The language and focus of SEO codes closely align with the social, environmental, and economic dimensions of SDGs, thereby facilitating more accurate and easier selections.

Utilising the SEO method only to standardise our categorisation process presents several challenges, including overlooking important and relevant SDGs that would be captured otherwise using the keyword method.

SEO codes are selected by individual researchers, introducing subjectivity as each researcher may interpret the relevance differently. This lack of standardisation arises from the diverse perspectives of hundreds of researchers, which can lead to inconsistencies in how projects are categorised.

While most SEO codes are typically matched with one SDG, this can sometimes oversimplify the categorisation. Therefore, for certain SEOs, we have applied multiple SDGs to better reflect the projects' complex impacts. Despite this approach, we strive to maintain simplicity and balance complexity and efficiency, by using equal weighting as much as possible in our processes.

For a copy of the full report, please contact EDIGovernance@unsw.edu.au

#### Figure 1 - Research grants

SDG	Total grant occurrences
SDG 1 - No Poverty	29
SDG 2 - Zero Hunger	5
SDG 3 - Good Health and Well-Being	293
SDG 4 - Quality Education	34
SDG 5 - Gender Equality	89
SDG 6 - Clean Water and Sanitation	9
SDG 7 - Affordable and Clean Energy	100
SDG 8 - Decent Work and Economic Growth	31
SDG 9 - Industry, Innovation and Infrastructure	424
SDG 10 - Reduced Inequality	133
SDG 11 - Sustainable Cities and Communities	83
SDG 12 - Responsible Consumption and Production	9
SDG 13 - Climate Action	44
SDG 14 - Life Below Water	25
SDG 15 - Life on Land	16
SDG 16 - Peace, Justice and Strong Institutions	99
SDG 17 - Partnerships for the Goals	52

#### **Publications**

The 'publications' number for SDGs 1-16 was calculated on SciVal using the SDGs research field filter, based on the latest snapshot from Scopus data, and represents UNSW scholarly outputs from 2019-23. See Elsevier 2023 SDG Mapping.

For SDG 17, in the absence of a research field feature, we have used SciVal's calculation for the 2024 THE Impact Rankings, which is the latest figure available. See here.

The calculation is based on a data snapshot of UNSW's SDGs scholarly output from 2018 to mid-2022, calculated as the deduplicated count of all SDG 1-16 publications. See here.

Figure 2 - Publications

SDG	Total publications
SDG 1 - No Poverty	456
SDG 2 - Zero Hunger	429
SDG 3 - Good Health and Well-Being	14,598
SDG 4 - Quality Education	844
SDG 5 - Gender Equality	1267
SDG 6 - Clean Water and Sanitation	976
SDG 7 - Affordable and Clean Energy	3447
SDG 8 - Decent Work and Economic Growth	900
SDG 9 - Industry, Innovation and Infrastructure	1581
SDG 10 - Reduced Inequality	1330
SDG 11 - Sustainable Cities and Communities	1769
SDG 12 - Responsible Consumption and Production	813
SDG 13 - Climate Action	1491
SDG 14 - Life Below Water	691
SDG 15 - Life on Land	910
SDG 16 - Peace, Justice and Strong Institutions	1319
SDG 17 - Partnerships for the Goals	22,003

#### For more details on UNSW's contributions to sustainability, see the below:

- 2023 UNSW Annual Report
- 2023 Arc Annual Report
- 2023 Environmental Sustainability Report
- 2022-2024 Environmental Sustainability Plan
- Institute for Global Development: Accelerating the Asia Pacific towards the Sustainable Development Goals
- UNSW Business School PRME reporting
- Workplace Gender Equality Agency
- Australian Workplace Equality Index
- SAGE Athena Swan
- Sustainability Matters publications & reports page

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