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UNSW
SYDNEY

Australia's
Global
University

Sustainability Report 2016



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This report was originally published as a website in order to reduce printing and subsequent waste.

Visit the online version of this report at <http://sustainabilityreport.unsw.edu.au>

UNSW acknowledges the Bedegal (Kensington campus) and Gadigal (City campus) peoples, and all other traditional custodians of the lands where UNSW campuses are located. We acknowledge all Aboriginal and Torres Strait Islander Elders, past and present, and their communities who have shared and practiced their teachings over thousands of years. We recognise Aboriginal and Torres Strait Islander people's ongoing leadership and contributions, including to business, education, research and industry.

Message from Ian Jacobs, President and Vice-Chancellor

UNSW is taking an ambitious approach to the urgent need to achieve sustainability - at UNSW, throughout the university sector and more broadly in society. It is a key pillar of our 2025 Strategy and we are taking great steps to ensure our positive contribution.

Our UNSW Sustainability Report is a measure of our progress and a celebration of our achievements in the way we live, learn and work.

I have been encouraged and inspired by what I have read.

We continue to focus on improving the operations of our university and I see increasing numbers of researchers and students focusing on environmental innovation and social impact.

I also observe a growing passion for social engagement, with thousands of staff and students volunteering their time and attending events that connect people with common purpose on campus, across Australia and throughout our international alumni.

Our report is certified under the Global Reporting Initiative, making UNSW one of the few Australian universities to meet this international sustainability reporting standard. It is a commendable achievement. It is also good to note UNSW's role in the growing network of international universities sharing ideas and collaborating on sustainability initiatives. This contributes to our efforts to make a global impact.



The UNSW Sustainability Report provides a valuable record of our university's contribution to social, environmental and economic progress. I would like to acknowledge the hard work and dedication of the people here at UNSW who have brought this report to life.

You have my warm thanks and congratulations.

Ian Jacobs
President and Vice-Chancellor
UNSW Australia

A handwritten signature in black ink that reads "Ian Jacobs".

Introduction

Sustainability means a lot of different things to different people, but the oft-quoted definition of sustainability – living successfully in the present without compromising our ability to do so in the future – still holds true.

As one of Australia's leading research and teaching universities, UNSW recognises the vital role the university sector has in driving the change to sustainability as well as the urgency with which this change must take place.

This year the University's approach to sustainability was defined by the implementation of UNSW's 2025 Strategy. Arguably, sustainability as a concept underpins the whole Plan, and we are excited to report on numerous initiatives that are establishing UNSW as a sustainability leader through excellence in research, outstanding education and our commitment to advancing a just society.



In 2016, we were also thrilled to ratify UNSW's Environmental Management Plan (EMP). By documenting our environmental objectives and targets, the EMP has established a platform for us to deliver on the aims of UNSW's Environmental Policy. This is a huge step forward for us to be able to monitor, report on and be accountable for our sustainability progress.

Fast facts

94%

GENERAL WASTE
DIVERTED FROM LANDFILL
FROM OCTOBER 2016

1.42 Tonnes **5,322**

of batteries recycled

staff and students walked
to/from campus

35%

of total water use is bore
water

19%

more renewable energy
production than 2015

1,200 trees

cared for on Kensington
campus

80%

of trees on campus are
Australian native

International enrolments of over **28.5%**

Students from more than **128 countries**

UNSW campus ranks in **world's top 5%**

111.1 GWh

of renewable energy produced

1,613 cycle to uni

922 more than 2007

Approach

Sustainability defined

Sustainability means a lot of different things to different people, but the oft-quoted definition of sustainability – living successfully in the present without compromising our ability to do so in the future – still holds true. To that end, sustainability encompasses not just environmental, but social, cultural and economic dimensions.

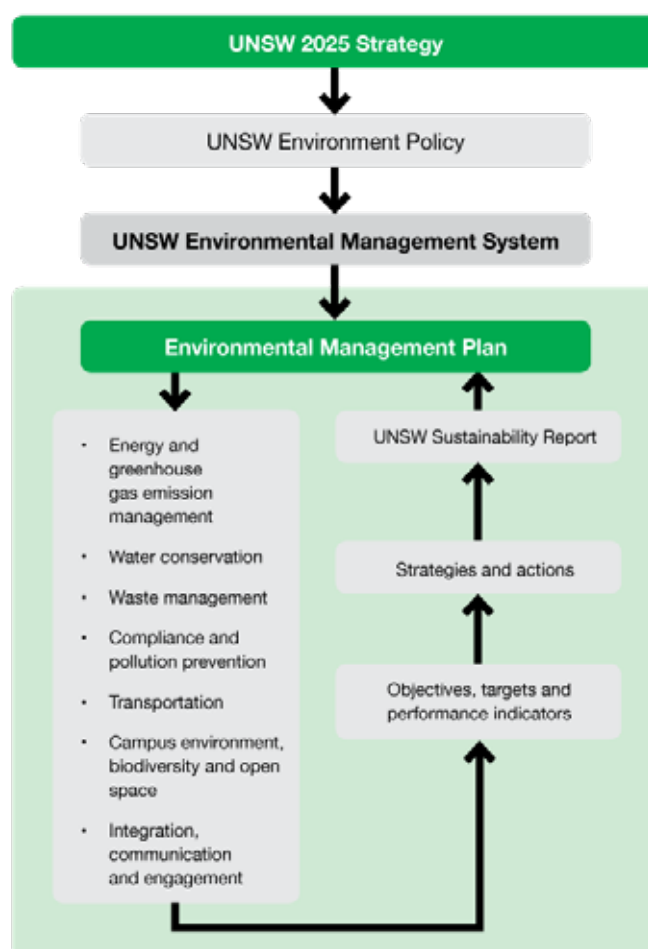
As one of Australia's leading research and teaching universities, UNSW recognises the vital role the university sector has in driving the sustainability agenda as well as the urgency with which this change must take place.

Reporting period

UNSW's 2016 Sustainability Report documents the sustainability performance of the University since 2013, but with a focus on the 1 January to 31 December 2016 reporting period. This report includes our environmental and social performance, as well as an overview of how the University is tracking in sustainability research and education. Information about our economic impact can be viewed in UNSW's 2016 Annual Report.

Sustainability loop

Sustainability at UNSW operates as a continuous improvement cycle as can be seen from the diagram below:



The aim of this report

This report aims to:

- To identify the sustainability issues that impact on the environment and society as a result of UNSW business activities.
- To describe UNSW's journey towards sustainability, including past achievements, current initiatives and future aspirations.
- To provide a snapshot to allow comparison with our past sustainability performance and a benchmark for the future from 2013-2016.

This report is a celebration of our sustainability achievements but it is not about 'greenwashing'. It is a genuine attempt to record where we have been and where we are now so we can transparently and clearly demonstrate our improvements over time.

Identifying our reporting needs

UNSW Sustainability is championing UNSW's charge towards sustainability, but we understand the vital importance of bringing the whole UNSW community along with us. When initiating the annual Sustainability Report in 2013, our first step was to explore what sustainability issues were important, so we:

- interviewed key members of senior management and a sample of students
- conducted interviews and focus groups with internal managers and data owners
- undertook staff engagement activities.

Best practice reporting

In terms of the structure and reporting style, we have been guided by the Global Reporting Initiative (GRI) reporting principles for defining report content.

Our approach is built on the AA1000 Principles and informed by Account Ability's 5-part materiality test.

We'd love your help!

If you have any sustainability initiatives or research you'd like to highlight in 2017, or if you think there are any sustainability indicators missing in this report we want to hear from you. Email us at sustainability@unsw.edu.au

Highlights during 2016



UNSW Chemical Engineer Associate Professor Pierre Le-Clech visits earthquake-devastated Nepal to undertake vital water research.



Journalist Stan Grant calls for a treaty with Australia's first peoples.



New sexual assault and sexual harassment initiative launched.



New water recirculating facility to reduce water usage.



Five new 'Diversity Champions' help drive significant cultural change around equity, diversity and inclusion at UNSW.



Student-led hackathons are emerging as a creative force for good in diverse and unexpected areas.

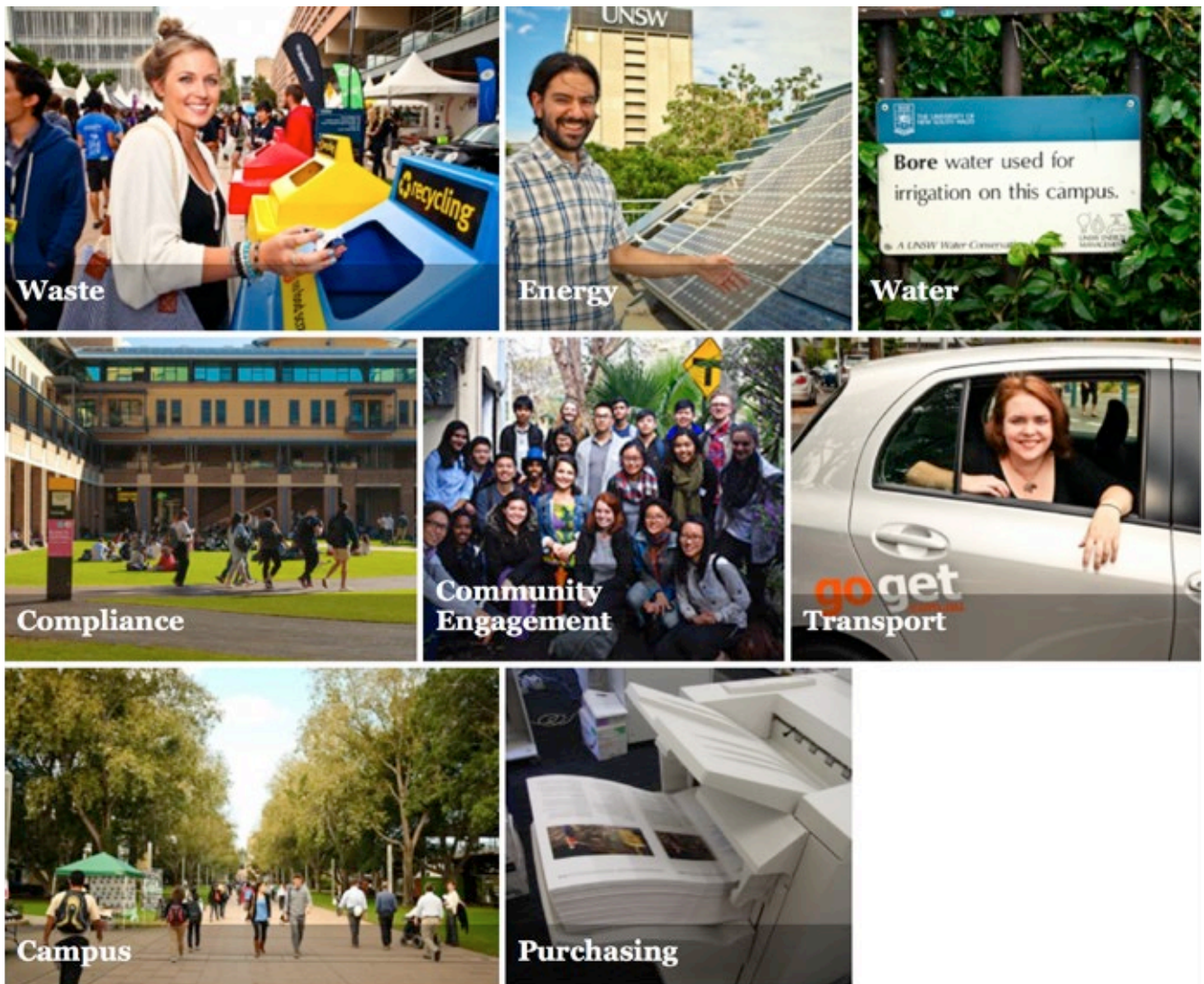
Environment

With approximately 56,000 students and more than 6,000 staff, the UNSW campuses are equivalent in population to a small town. These campuses consequently have the potential for significant and wide-ranging environmental and ecological impacts.

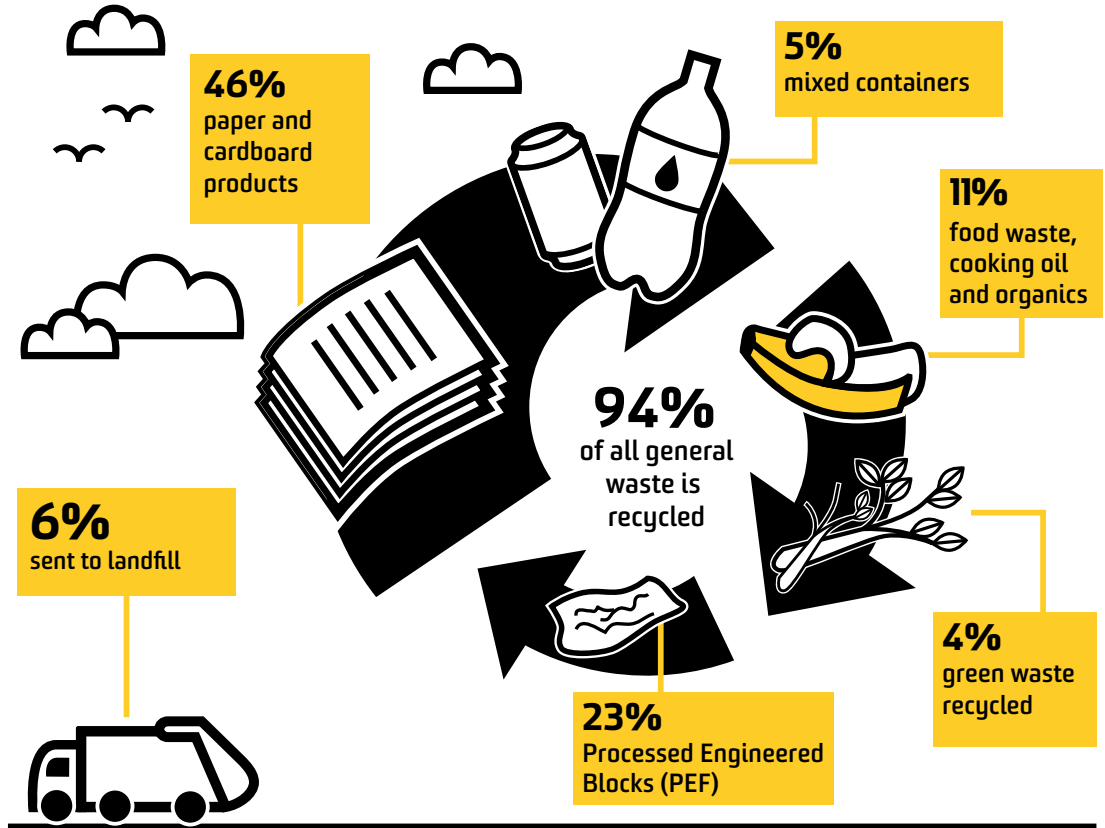
Environmental sustainability is a guiding principle in UNSW's 2025 Strategic Plan and it is our commitment to continuously improve our environmental performance across all areas of the University – from the way we construct our buildings, dispose of our waste, make purchasing decisions and use our resources, to how we measure our performance.

Ratified in 2016, UNSW's Environmental Management Plan (EMP) outlines the University's sustainability objectives, targets, indicators, strategies and actions that will guide our environmental planning and management to 2018 and beyond. The EMP also guides reporting in this section of the Sustainability Report.

In this section



Waste



Information source: UNSW Facilities Management

UNSW's waste management initiatives involve reducing, reusing, recycling and composting.

UNSW applies the principles of the internationally recognised Waste Management Hierarchy which states that waste is best managed according to:

- avoidance including the reduction of waste;
- resource recovery including reuse and recycling; and
- disposal in an environmentally responsible way.

Waste is a key component of UNSW's Environmental Management Plan. See the EMP for a status report for 2016.

In common with many organisations, waste management is a considerable challenge for UNSW. With several different streams of waste generated by a wide variety of activities, the University proactively looks for sustainable ways to deal with waste. However, waste is not just an institutional responsibility, UNSW Sustainability, Facilities Management and the Arc student body have joined forces to introduce a number of University-wide waste reduction and recycling initiatives.

Some of these programs include:

- our battery and mobile phone recycling program
- an e-Reuse Centre established in collaboration with Arc
- a reusable coffee KeepCup program
- a stationery reuse centre to reuse unwanted office supplies
- installing and promoting charity clothing bins in residential areas on campus
- recycling waste cooking oil, fluorocarbon gases from disposed refrigerators
- mercury from light fittings (via chemical waste).

Overview of waste

General waste

'General waste' consists of all waste collected from public spaces, offices, labs and teaching spaces. UNSW's current waste management contract with Doyle Bros ensures that all general waste is collected and carefully sorted.

Other waste

'Other waste' consists of all the other waste streams generated by the University.

The following table outlines the total waste generated by UNSW between 2014 and 2016:

		2014	2015	2016
	Waste component	Total (tonnes)	Total (tonnes)	Total (tonnes)
General waste	Paper/cardboard	1300	1045	1306
	Mixed containers	193	232	158
	Plastic film	59	42	0
	Food and organics	502	571	327
	Food waste	111	108	106
	Waste oil	20.4	15	15
	Green waste	99	108	127
	Processed Engineered Blocks (PEF)	0	0	667
	General waste subtotal	2284.4	2121	2868
	Component sent to landfill	549	472	162
	General waste recycled	1735.4	1649	2706
	Percentage of general waste recycled	76%	78%	94%

	Waste component	Total (tonnes)	Total (tonnes)	Total (tonnes)
Other waste	Chemical waste (not recycled)	110	114	122.5
	Biological waste (not recycled)	106	106	66
	E-waste (Monitors, laptops, desktops, printers, scanners, projectors, fax machines, servers - sent for recycling)	24	16	17
	Fluorescent tubes (recycled)	2.08	1.34	1.5
	Batteries (recycled)	0.58	1.45	1.42
	Mobile phones (recycled)	0.04	0.05	0.05
	Toner cartridges (recycled)	2	3.5	2.2
	CDs/DVDs	0.1	0	0
	Concrete* (recycled)	24	30	30
	Wooden pallets** (recycled)	1.5	1.5	1.5
	Skip bins (328.5 tonnes recycled)	870	858	876
	Other waste total	1140.3	1131.84	1118.27
	Component sent to landfill	757.6	538.1	556.1
	Other waste recycled	382.7	593.74	361.82
	Percentage of other waste recycled	34%	52%	50%

	Waste component	Total cubic metres	Total cubic metres	Total cubic metres
Furniture	Furniture***	1200	800	800



UNSW Environmental Management Plan published

Guiding our environmental planning and management to 2018 and beyond.

Environmental sustainability is a guiding principle in UNSW's Strategy 2025 and it's central to creating world-class environments across our operations. The EMP outlines our objectives, targets, indicators, strategies and actions to guide environmental planning and management to 2018 and beyond.

'Environmental management planning is an exceptionally useful tool in establishing the site specific environmental impact of a complex organisation like UNSW as it sets out clear commitments on how those impacts will be avoided, minimised and managed,' says UNSW Sustainability Manager Arifa Sarfraz.

'UNSW's 2016-2018 EMP is a significant step towards achieving an ISO-certified environmental management system. Based on ISO 14001:2016: Plan, Do, Check, Act model this Sustainability Report is key to our performance evaluation and communication assuring continuous improvement.'

Data provided by UNSW FM Waste team

* Calculated by 8 x 3 tonne skip bins of concrete go directly to recycle from R9 civil engineering

** Pallets used for E-waste recycle and exam desk storage. 72 x pallets 20kilos/pallet = 1.5 tonne

*** Estimate from Furniture re-use contract and items re-used from UNSW Randwick Tram Shed storage.



Innovative battery recycling project takes off

Massive increase in battery recycling on campus.

In 2010, a comprehensive waste audit of UNSW revealed an alarming number of batteries in our general waste. Considering that metals used in batteries are highly toxic to wildlife and cause serious soil and water pollution, UNSW Sustainability partnered with EPA-certified recycler MRI e-cycle solutions, on a pilot recycling program. Two recycling stations were installed and began to divert up to 200kg of batteries from landfill per year.

‘The project received a very positive response, but with only two collection stations covering a huge campus, it wasn’t very accessible,’ explains Arifa Sarfraz, UNSW Sustainability Manager. ‘So, in 2014, we reached out to the UNSW community for volunteers to help expand the program.’

By the end of 2016, the battery recycling program had over 50 recycling stations across campus, managed by a volunteer bank of 60 staff and students. Additionally, and critically, the UNSW mailroom committed to collect and transport the heavy batteries to a central location.

As a result, the Sustainability office now diverts approximately one tonne of batteries away from landfill annually. About 70-80% of these batteries are recycled by MRI e-cycle solutions, and the remaining 20-30% are directed into on-campus battery recycling research at UNSW’s Sustainable Materials Research and Technology (SMART) Centre.

Furniture reuse program

Any UNSW staff member or student needing additional furniture for their work space at the University, or wanting to responsibly dispose of old workplace furniture, can use the UNSW Furniture Reuse Centre.

Lab equipment is reused through a similar scheme called Technet. Both Adminet and Technet are sharing portals and run by staff volunteers.

Food waste

Food waste bins are available to campus food outlets and owners are encouraged to separate their food scraps. These bins are collected and the contents composted.

Food and organics

Food and organics are separated from the general waste collected on site at the Doyle Bros materials recovery facility and composted.

Cooking oil waste

The waste cooking oil collected from campus is recycled into the process of creating bio-diesel fuel.

Problematic waste streams

Batteries

A battery recycling collection service is available to all UNSW staff and students. Spent batteries that are D-size and smaller, and all button batteries can be recycled by depositing them in the specific recycling tubes in most schools and buildings. There are also recycling tubes at the following locations:

- FM Assist
- Arc Precinct
- The Chancellery.

During 2016, 1.4 tonnes of batteries were collected for recycling, an amount considerably greater than some local government collections in NSW! For any further information email sustainability@unsw.edu.au

Packaging waste reduction including polystyrene

Polystyrene is identified as a dedicated waste stream in the new Waste Tender (which should be signed in 2017 and serviced from 2018).

Printer and photocopier toner cartridges

Toner recycling bins are found throughout campus. UNSW partners with Close the Loop and Planet Ark, who collect and recycle cartridges and toner bottles from any brand of printer, photocopier or fax. During 2016, 2.2 tonnes of toner cartridges were recycled.

Mobile phones

Mobile phones contain both hazardous and valuable materials that need to be recycled and prevented from going to landfill. Mobile phone recycling stations are located across campus including the Library, FM Assist and the Chancellery. Phones can also be sent via internal mail to the Sustainability team. During 2016, 50kg of mobile phones were collected and recycled.

Bulbs and globes

Fluorescent light globes are processed as chemical waste and recycled. In 2016, 1.5 tonnes of fluorescent tubes were recycled at UNSW.

Paper and cardboard

UNSW has run a paper recycling program for many years. The University is reimbursed per tonne of paper, so this process has both environmental and economic benefits.

Litter and dumping reduction

Cigarette butt litter

In 2015-16 UNSW Sustainability partnered with Security, Health and Safety, UNSW Health Services and Arc to launch an awareness campaign including stalls, flyers, newsletter articles and regular security guards patrolling litter hotspots.

In addition to the awareness campaign and enforcement, to provide an alternate option to littering, UNSW Sustainability installed three permanent Enviropole Cigarette Butt bins at the litter hot spots outside UNSW boundary near main entrances with three more coming in 2017.

Campus-wide dumping reduction

All skip bins on UNSW sites are gated/locked and/or monitored by security cameras to reduce illegal dumping. In 2016, there was also a campus-wide dumping reduction campaign run in collaboration with Randwick Council.

Waste awareness raising

Ongoing activities include:

- posters promoting recycling displayed in communal areas
- a quarterly Facilities Management newsletter with articles promoting ways to responsibly manage different types of waste (i.e. fridges, pallets, batteries etc)
- installing and promoting water refill stations to encourage the re-use of drink bottles
- environmental awareness training is available to all staff
- stickers have been applied to all paper recycling bins across campus to promote the benefits of paper recycling.

Electronic waste recycling

Monitors, laptops, PCs, printers, scanners, projectors, fax machines and servers

UNSW has an agreement in place with the current IT equipment suppliers, HP and Lexmark. Serviceable items such as laptops and desktops that are no longer of any use to UNSW are remanufactured, resold or donated via HP Planet Partners.

Chemical and biological waste management

UNSW researchers are involved in activities which use a wide variety of chemical and biological materials. UNSW has contracts with specialist chemical and biological waste management companies who collect and dispose of these materials safely. Paint products are processed as chemical waste and recycled.

Green Lab Program

The UNSW Green Lab Environmental Compliance Program works directly with faculties and schools to ensure relevant staff are informed of their legal responsibilities in regard to environmental compliance. The program offers training for staff and students who use the laboratories and environmental auditing of campus laboratories as necessary.



eReuse Program gains momentum

UNSW IT lends support to innovative e-waste initiative.

eReuse is a UNSW student start-up and not-for-profit organisation with the goal of supporting a sustainable e-waste management system. The program, funded by Arc, has recently launched as a pilot, and UNSW IT are proud to be able to support the initiative.

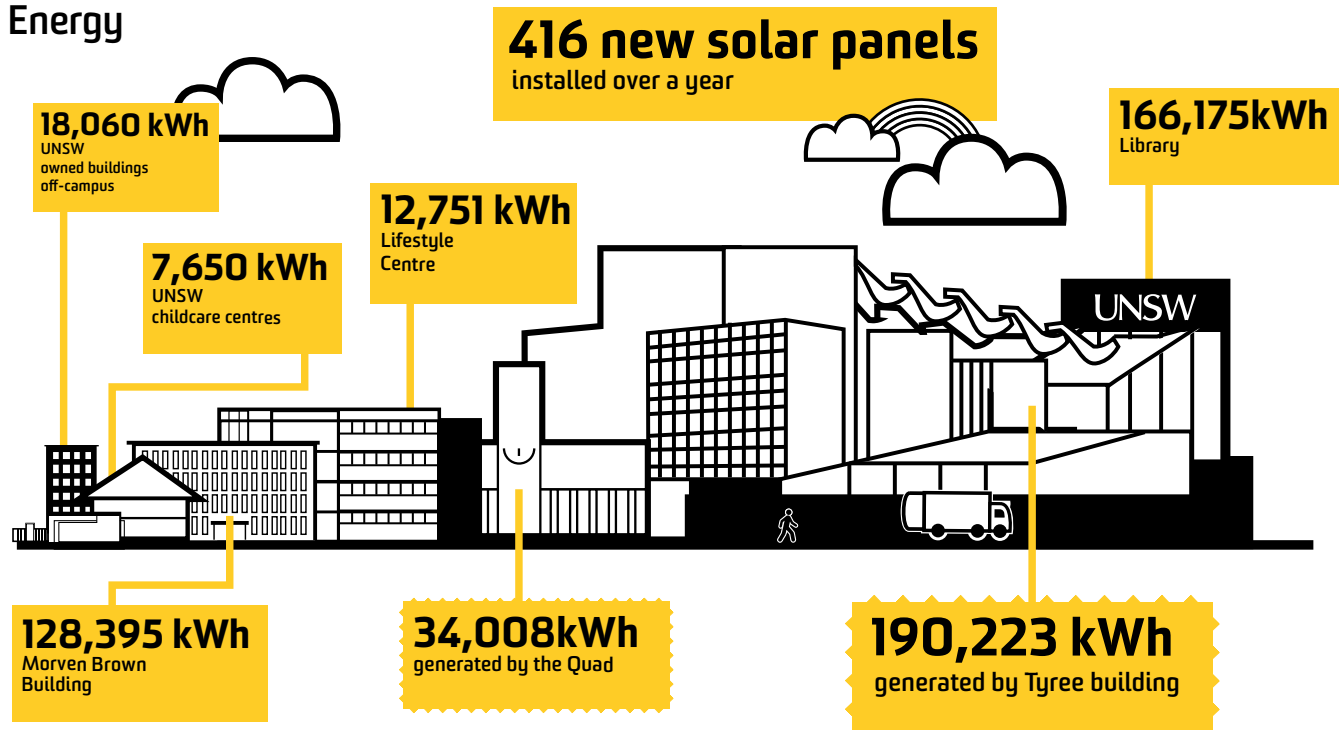
eReuse has two main goals. The first is to reduce the amount of e-waste filling up landfills across Australia by breathing new life into 'old but good' computer equipment. At the same time, eReuse hopes help bridge the digital divide by getting that computing equipment into the hands of disadvantaged families.

Ian Summers from Desktop Services said UNSW IT will support eReuse by supplying older PCs that would normally be disposed. 'It's the students at eReuse that have the knowledge and process for wiping the PCs and preparing them for release to the communities they've engaged with,' Summer's said. 'The community engagements are not easy to establish, it was a significant amount of work to build the relationships and trust that's in place.'

And if you've got working computer equipment you'd like to donate yourself, eReuse would love to hear from you. 'People in the wider UNSW community can also help by dropping off any unwanted computers, peripherals, technology in general at the Michael Crouch Innovation Centre e-waste recycling bin.'

This article was originally written by Peter Wells for the UNSW IT Blog.

Energy



Information source: UNSW Facilities Management

At UNSW we are proactively finding new ways to conserve energy and accelerate our transition to cleaner energy sources.

UNSW takes an active approach to reducing energy consumption through the implementation of various energy saving initiatives. Despite this, our total energy use continues to rise slowly due to the increasing operation of highly advanced, energy-intensive research equipment, and our continuous growth on building area required to support student and staff numbers.

Like most organisations in New South Wales, the majority of UNSW's energy requirements are currently met either directly or indirectly through the burning of fossil fuels. The University is committed to finding new ways to meet its energy needs that are both environmentally and economically sustainable and has implemented several strategies to minimise the environmental footprint of the energy required by its facilities.

Reducing our reliance on energy sourced from fossil fuels is critical because:

- the burning of fossil fuels releases greenhouse gases that accelerate climate change
- fossil fuels are a finite resource that will run out
- the price of energy generated from fossil fuels in NSW has doubled since 2007 and is expected to double again by 2020.

Good progress has been made to improve the efficiency of energy use and generate low- and zero-carbon energy onsite. UNSW's Energy and Water Strategy has been produced to provide a summary of recent and future activities.

Energy is a key component of UNSW's EMP. See the EMP for a status report for 2016.

Total energy use

Total energy use on the Kensington campus has risen from 93.5 gigawatt hours (GWh) in 2013 to 111.1 GWh in 2016. This is an increase of 19%.

The source of primary energy consumed by UNSW in 2016 can be broken down as follows:

- 73.3% from grid electricity (mostly from coal-fired power plants)
- 23.9% from natural gas
- 2.2% from co-generation
- 0.5% from renewable sources such as solar energy

Energy initiatives

Energy Generation - Natural gas

Although natural gas is a fossil fuel, its conversion into energy results in approximately 40% less greenhouse gas emissions than coal-based alternatives. The use of natural gas for space and water heating at UNSW, therefore, offers significantly better environmental outcomes than grid-based electric alternatives. In 2016, natural gas consumption at the Kensington campus was about 96.7 terajoules, down about 1.3% since 2013.

Electricity generation – photovoltaic

Since 2005, UNSW has been installing photovoltaic cells on buildings around its campuses. The continued expansion of installations meant that in 2016, photovoltaic systems met 0.5% of the University's energy demand. This is an increase of 108% since 2013.

Electricity generation – co-generation & tri-generation

Co-generation and tri-generation are techniques for energy generation that capture and use the heat energy that results from the production of electricity (that would otherwise have been wasted). Co-generation systems use waste heat from the production of electricity to supply hot water to buildings, whilst tri-generation systems capture both the heating and/or cooling potential of the waste energy.

UNSW currently has one co-generation system and one tri-generation system on campus which, in 2016, accounted for around 2.2% of the University's energy demand.

Solar progress from 2016

- A new 112 kWp array was installed on the Old Main Building
- The Quadrangle solar array is being upgraded from the current 43 kWp system to a 100 kWp system which will be in operation from early 2017
- Fourteen solar-powered mobile device charging stations were installed around the Library Lawn, powered by a 5kWp array on the walkway roof
- With the completion of the new Biological Sciences building, UNSW's total solar generating capacity will reach 700 kWp, up from 400 kWp in 2015.

Energy efficiency - building upgrades

The energy management team at UNSW continually improves the energy efficiency of the University's facilities through initiatives such as:

- replacing ageing electric hot water systems with solar or gas-powered systems
- replacing old lighting systems with new, more energy-efficient, sensor-controlled lights (*around 10-15% of a building's energy consumption comes from lighting and FM has been working to centralise lighting control systems allowing FM to re-program and optimise the settings and make significant energy savings*)
- fitting new bathrooms with only cold-water taps
- installing variable speed drives to pumps and fans
- 'tuning' the building management systems
- enhancing energy efficiency design for new buildings
- re-commissioning major heating, ventilating, and air conditioning (HVAC) plants.



UNSW ranks in world's top 5%

UNSW leads Australia and comes 24th out of 516 in a leading Green University ranking.

UNSW's Strategy 2025 aims for our university to be in the world's Top 50 universities. Well, we have already surpassed that when it comes to sustainability. We have just been ranked 24th out of 516 participating institutions in the 2015 UI GreenMetric Ranking of world universities. This is up from 57 out of 407 participating institutions in 2015 and sees UNSW come in the top 5% globally and number one in Australia.

The UI GreenMetric Ranking is an initiative of Universitas Indonesia, one of UNSW's key regional partners. The ranking considers each university's setting, energy, waste, water, transportation, education and carbon footprint.

UNSW Sustainability Manager, Arifa Sarfraz, said it was an honour to be recognised. 'The aim of our sustainability programs is to reduce our environmental impact and educate future leaders who can lead change for a sustainable future,' she says.

Aaron Magner, UNSW Sustainability Director, says key sustainability initiatives include a range of innovative programs to reduce energy usage, including using the 'campus as a living laboratory' and embedding sustainability principles into the curriculum.

Energy efficiency - awareness campaigns

The University also runs awareness campaigns about energy efficiency for staff, students and the wider community. These campaigns include:

- making live energy data available for the UNSW community
- encouraging security staff patrolling buildings at night and cleaners to turn off lights
- creating posters such as '7 things you can do'.

Carbon and other greenhouse gas emissions

The University is required to report its carbon and greenhouse gas emissions to the Commonwealth Government under the National Greenhouse and Energy Reporting (NGER) Act.

The term 'greenhouse gas' refers to any gas that absorbs infrared radiation when released into the atmosphere. The absorption of this energy creates an insulating layer that balances the amount of energy received from the sun with energy radiated away from the earth's surface, creating a stable surface temperature.

Different gases are able to absorb different levels of radiation and remain in the atmosphere for different periods of time, making comparisons between them difficult. To enable us to estimate how much a given mass of a greenhouse gas is contributing to global warming, the gas is compared to a baseline of one unit of carbon dioxide (CO₂) and is expressed as a carbon dioxide equivalent (CO₂eq). For example, methane has an insulating (global warming) potential 21 times greater than that of carbon dioxide, meaning the emission of one tonne of methane is equivalent to the emission of 21 tonnes of carbon dioxide (21 CO₂eq).

The NGER Reporting Guidelines break emissions down into three categories:

Scope 1: These are direct emissions, such as those from the burning of natural gas and motor vehicle fuels.

Scope 2: These are indirect emissions, removed by a single step such as those generated as a result of the use of electricity produced by a third-party.

Scope 3: These are emissions that are more than one step removed. This category is most difficult to measure and includes emissions such as those resulting from business travel by staff, the disposal of waste, the extraction and transmission of energy, and the production of the energy embodied in a resource such as water. UNSW did not measure Scope 3 emissions during the 2016 reporting period. This is something we intend to investigate for future reporting, as scope 3 emissions are likely to represent the greatest proportion of UNSW's carbon emissions.

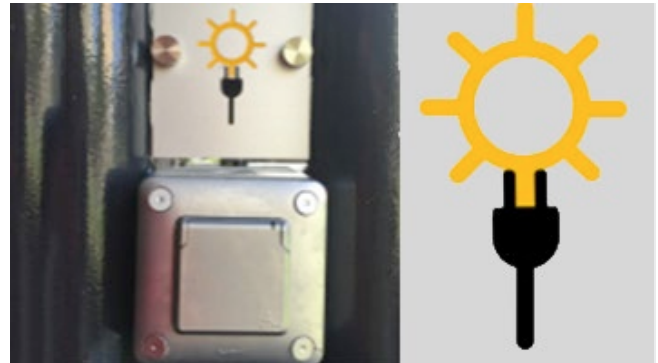
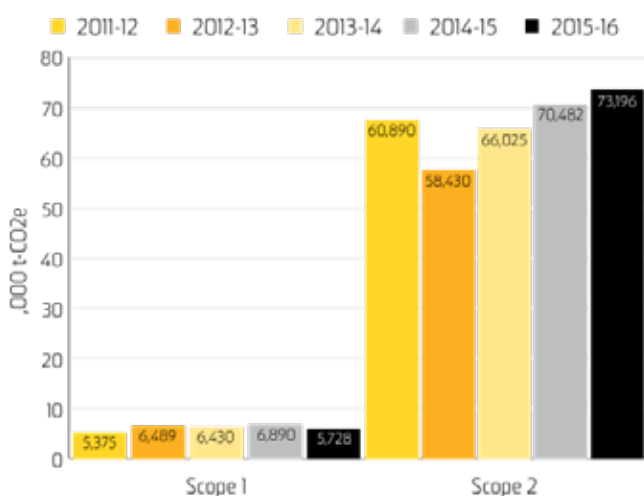
In the 2015-16 financial year, the University's campuses and operations were responsible for the production of 78,924 tonnes of Scope 1 and 2 emissions of CO₂eq greenhouse gases, which is an increase of 19% since 2011-12.

Scope 2 CO₂eq greenhouse gas emissions associated with the consumption of NSW grid electricity are the largest contributor to the University's carbon footprint. In 2015-16 UNSW's Scope 2 emissions totalled 73,196 tonnes.

The Scope 1 CO₂eq greenhouse gas emissions from the burning of natural gas (primarily for space and hot water heating), and the liquid fuels used by the vehicle fleet totalled 5,728 tonnes in 2015-16.

UNSW greenhouse gas emissions

Scope 1 and 2 CO₂e Emissions



Sun-powered device charging

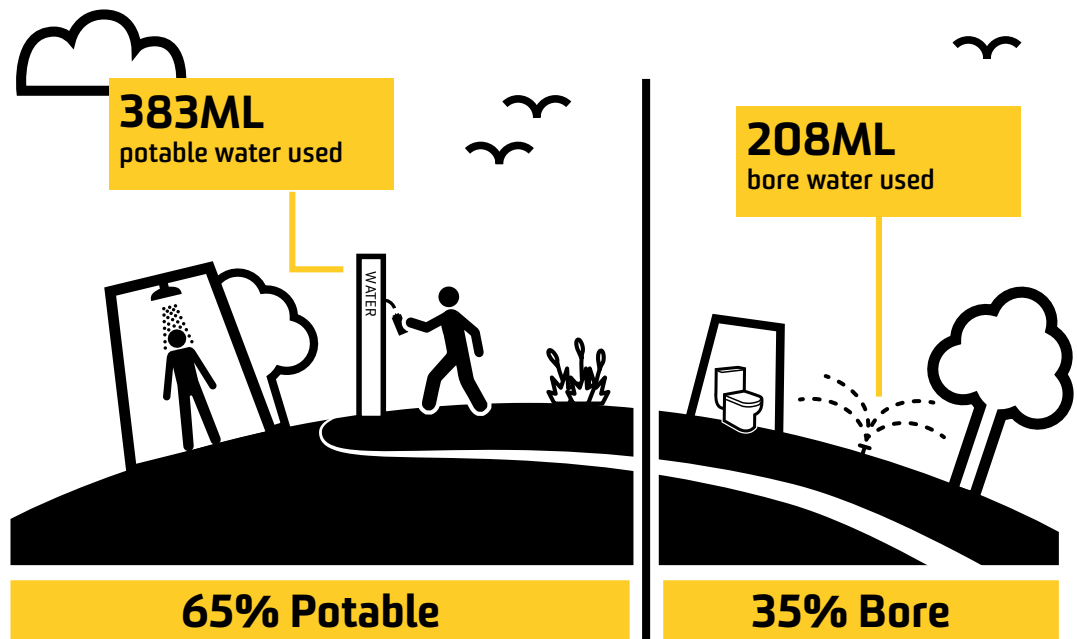
New solar charging stations installed around the Library Lawn.

In 2016, arising from UNSW's Grand Climate Challenge, Facilities Management installed 14 charging stations around the Library Lawn, powered by sleek new solar panels.

The new generation frameless glass-glass panels are great for high profile installations like on the Library walkway roof. Although only 6mm thick, their generating capacity is still good at 260 W. They certainly pack a punch, despite their slim design.

Each charging station has a USB power outlet so all a user needs to do is bring is their charging cable and mobile device. There's even a handy shelf located beneath the power outlet, to rest the device safely while it charges.

Water



Information source: UNSW Facilities Management

Water conservation remains a priority at UNSW for our current operations and future planning.

The intermittent and uncertain supply of water in Australia has led individuals and organisations to take an active interest in their water usage and the long-term sustainability of water supply. UNSW accepts its ongoing responsibility as an efficient water user and takes water conservation seriously in its day to day activities and in the planning of future developments on campus.

Good progress has been made to improve the efficiency of water usage at UNSW and the Energy and Water Strategy has been produced to provide a summary of recent and planned activities for the future.

Water is a key component of UNSW's EMP. See the EMP for a status report for 2016.

Water sources and use

Potable water

Since 2003, UNSW has instigated a range of water saving initiatives that have allowed UNSW to become water efficient and maintain water use levels despite a large increase in student numbers and total building area. In 2016, the total amount of potable water used on campus was 383 megalitres, representing 65% of the water used on campus.

Bore water

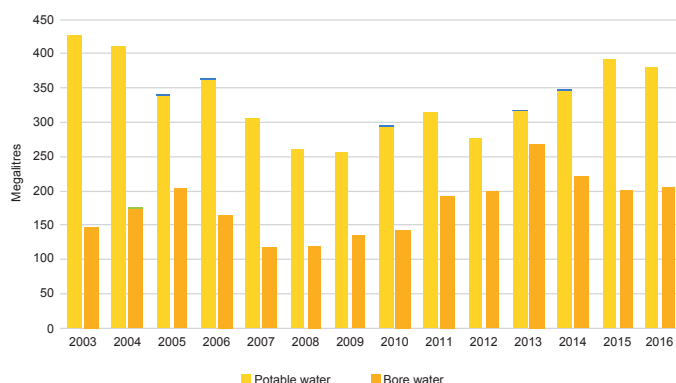
Where potable water is not required, UNSW is systematically replacing it with bore water. In addition to irrigation and toilet flushing, the applications of bore water have been extended to include reverse osmosis systems, process cooling, and heat dissipation in air-conditioning systems. In 2016, UNSW used 208 megalitres of bore water, representing 35% of total water use.

Stormwater

UNSW uses a managed aquifer recharge process to mitigate the effects of the extraction of bore water from the Botany aquifer. Managed aquifer recharge is a significant area of research at UNSW, through the UNSW's Connected Waters Initiative. As a part of this initiative, the University has installed Sydney's largest percolation pit, capturing close to 70% of the stormwater runoff in the village green on Kensington Campus. Surface runoff that would normally flow out to sea is redirected into the percolation pit from where it can recharge the Botany aquifer.

Although this water is not directly used on the University's campuses, it replenishes the aquifer and therefore feeds UNSW's bore water system. This process enables UNSW to capture and return 160 megalitres of water to the aquifer per year, the equivalent of 64 Olympic-sized swimming pools.

UNSW Water Usage Kensington Campus 2003-2016



Ongoing water conservation initiatives

We actively investigate opportunities to reduce water use at UNSW. Initiatives include:

- upgrading toilets and showers to incorporate high efficiency water-saving fixtures and fittings
- planting drought-tolerant grasses and native plants
- undertaking water consumption reviews of campus cooling towers to improve operational efficiency and reduce water wastage
- incorporating bore water systems into all of our major building projects
- and continuous monitoring of water use on our buildings and systems.

Progress in 2016

In the Tyree Energy Technologies Building, a heat recovery system was commissioned, using thermal energy from bore water to preheat and precool fresh air used across the building. The bore water tank maintains 19°C year-round, which means that, no matter what is happening with the weather, the system can reduce energy consumption and help keep indoor areas at a consistent temperature.

Bore water infrastructure continues to be extended throughout the main Kensington campus and will be used in the new Biological Sciences building's cooling towers and toilets from April 2017.



Closing the loop at Water Research Laboratory

New water recirculating facility to reduce water usage

UNSW WRL is one of the world's leading water research laboratories where they can test engineering designs and simulate real-world problems. In 2016, they undertook a major lab upgrade to reduce their own water use.

The project involved the construction of a water recirculating facility to significantly reduce their use of water from Manly Dam during high flow experiments and provide them with a secure water supply for research during times of drought.

The recirculating facility construction included the excavation of a three-metre-deep, 100 cubic metre sump under the laboratory floor linked by a pipeline to a header tank. When operating at full design capacity, the system will be able to recycle flows at 500 litres per second. Since most high flow experiments they simulate run for periods of hours to days, this facility represents a major reduction in water use at the lab.

Compliance

UNSW goes over and above compliance to environmental legislation to reduce our environmental impact.

Environmental compliance means conforming to environmental laws, regulations, standards and other site-specific requirements. UNSW's operations are diverse and impact the environment in different ways. Activities that have potential environmental impacts are reduced, or avoided completely via careful planning through UNSW's Environmental Management Plan (EMP). This outlines a series of targets, strategies and indicators to ensure, not only full compliance, but ongoing best practice.

Compliance and pollution prevention are key components of UNSW's EMP. See the EMP for a status report for 2016.

EMP compliance objectives

- Maintain full compliance with all environmental legislative and regulatory requirements.
- Conduct environmental audit/inspections of identified high risk facilities to ensure compliance and environmental improvement.
- Develop and implement strategies for managing and/or reducing toxic, hazardous and hard waste.

Compliance and pollution prevention activities

- Communicating staff compliance responsibilities via the Sustainability website
- Actively managing our environmental responsibilities via UNSW's Environmental Management System.
- The provision of an online reporting tool to enable staff report any hazards or environmental incidents on any UNSW campus or site.
- Green Lab Program.
- Security staff hazardous spill management training.
- Batteries and toner cartridge recycling program.
- Reporting via UNSW's annual Sustainability Report.



Helium balloon release triggers compliance incident

At least 70 helium balloons with plastic strings were released from UNSW.

In August 2016, during the 'Global Business Leadership Program' opening ceremony, attended by over 70 participating students from China, Japan, New Zealand and UNSW Australia, at least 70 helium balloons were released in the air.

Under the Protection of the Environment Operations Act 1997, releasing more than 20 helium balloons is an offence and must be reported to the local enforcement authority, in this case Randwick Council Environmental Health Department.

Balloons can travel thousands of miles, polluting the most remote and pristine places. As these balloons had 'Global Business Leadership Program' printed on them, it could also lead to reputational risk, especially if they end up in an area causing damage to the environment (e.g. bird or marine life).

Following the incident, an investigation process was started and corrective actions were taken. All main events-related areas/units were contacted and reminded about the legal and environmental consequences on helium balloons release. They were also requested to update their relevant procedures or guidelines to include information about legal restrictions of releasing helium balloons. Awareness across the University on this issue was promoted.

Community Engagement

UNSW achieves high standards in environmental sustainability by integration, communication and community engagement.

Sustainability is possible only if the whole community is committed to achieving this goal. As environmental awareness and the importance of sustainability continues to grow in the mainstream, more and more opportunities have arisen on campus for staff, students and visitors to get involved.

Integration, communication and engagement are key components of UNSW's EMP. See the EMP for a status report for 2016.

Events

From major ongoing university-wide campaigns to annual events focused on environmental sustainability issues, here are just a few of the community engagement activities occurring on campus throughout the year:

- UNSW Grand Challenges - engaging experts on campus and around the globe to discuss the sustainability challenges facing our society
- Global Climate Change Week – a global initiative that encourages academic communities in all disciplines and countries to engage with each other, their communities, and policy makers on climate change action and solutions
- OWeek Sustainability engagement stall
- Earth Hour events
- Ride to Work Day
- Clean up Australia activities.



Engineers Without Borders

Engineers without Borders (EWB) is a not-for-profit organisation run by a purposeful community of student volunteers.

With topics ranging from renewable energy and floating houses to prosthetic limbs and more, EWB is equipping a new generation of humanitarian engineers with the skills they need to change the world. EWB's vision is that everyone should have access to the engineering knowledge and resources required to lead a life of opportunity, free from poverty. Projects are people-centered and based on knowledge-sharing and mutual respect.

Yasmin Cherek, Co-President EWB and Environmental Engineering undergraduate describes what her participation means to her:

'What you give is nothing in comparison to what you receive. Looking back at the time I've been involved with EWB, it seems I've grown into the person I had hoped to become. My perspective on engineering has done a 180. What I thought would be a technical slog of endless maths and physics is, in fact, a much more intricate discipline. Engineering involves creativity, initiative and a lot of curiosity. But most important is a basic human understanding. This grasp of what is needed will differentiate your engineering work from satisfactory to exceptional.'

Sustainability promotion and communication

The Sustainability office promotes the University's sustainability objectives through:

- UNSW's Environmental Management System
- Cutting-edge sustainability reporting
- Submitting applications for sustainability awards and rankings such as the UI GreenMetric Ranking of world universities (in 2016 UNSW came 24th out of 516, i.e. the top 5%, of competing universities)
- newsletters, social media and websites.

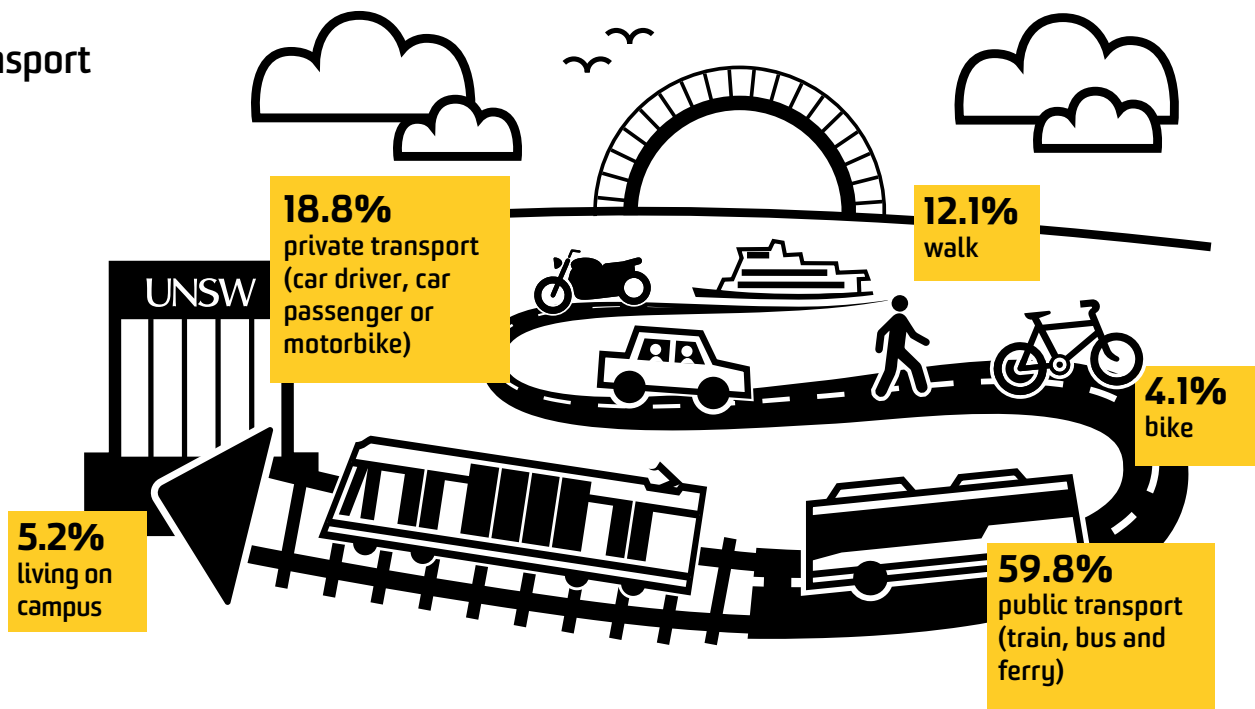
Student groups

Everyday sustainable living practices require people to actively get involved to create a culture that accepts sustainability as the norm. At UNSW, we have a vibrant campus that seeks to promote best practices and behaviours.

Our students (often in collaboration with staff) conduct an enormous range of activities that benefit the community throughout the year, these are just a few of the groups and initiatives:

- Amnesty International UNSW
 - ARC Environmental Collective (student representative council)
 - UNSW Oxfam Club
 - UNSW Bike Club
 - Thoughtful Foods (UNSW's Organic Food Coop)
 - Stationary Re-use Centre
 - Arc Student Development and Volunteer Programs
 - Engineers Without Borders
 - International Student Volunteers
 - United Nations Society
 - Vegetarian Society.
-

Transport



Information source: UNSW 2016 Travel Survey

UNSW actively helps students and staff make sustainable transport choices.

More students and staff are travelling to UNSW by public transport and by bicycle than ever before. Every weekday during semester, around 40,000 trips are made to and from UNSW's Kensington campus making it the largest single destination in Sydney's eastern suburbs.

Unlike other Sydney-based universities, UNSW is not located close to a railway station meaning there is a higher reliance on the use of buses, although this will change in 2020 with the opening of the new South East Light Rail line.

Transport is a key component of UNSW's EMP. See the EMP for a status report for 2016.

Annual travel survey

UNSW's annual Travel Survey provides critical input to the University's transport strategy. The survey is run every April and completed its tenth year in 2016. The University analyses survey results each year to design programs that promote sustainable transportation options including walking, cycling and public transport. The results are also used to develop measures that reduce car dependence and parking demand on campus.

Some 18%, or almost 10,000, UNSW staff and students took part in the 2016 travel survey. Some key statistics from the survey results are as follows:

Public transport: In 2016, a majority of the respondents (59.8%) travelled by public transport, an 10.9% increase since 2007 when this method of travel was used by only 48.9% of staff and students. When the percentages were extrapolated to the average daily campus population, the results equated to an average increase of 1,419 public transport users each year.

Private vehicles: In 2016 18.8% of respondents travelled in private vehicles, a 13.3% decrease since 2007. When the percentages were extrapolated to the average daily campus population, the results equated to an average decrease of 360 private vehicle users each year despite a growth in the total campus population of approximately 18,327 since 2007.

Walking: Walking to and from the campus has been fairly consistent over the years with 12.1% of all respondents walking to campus in 2016. When extrapolated to the average daily campus population, the results demonstrate that approximately 5,322 staff and students walked to/from the campus in 2016 on a typical semester day.



The new South East Light Rail

A vital transport link for UNSW.

As UNSW has grown, we have outgrown the existing public transport system and a high capacity mass transport solution was desperately needed to alleviate current transport issues, improve accessibility and make sure UNSW continues to attract students and staff of the highest potential.

In 2015, construction started on the South East Light Rail to provide sustainable and reliable modern transport from the CBD to UNSW's Kensington Campus. From 2020, the Light Rail will provide efficient, turn-up-and-go public transport, with services every eight minutes to/from Randwick and Kingsford between 7am and 7pm. Each vehicle will carry up to 450 people – the equivalent of nine standard buses, with a planned capacity of 13,500 passengers per hour (6750 in each direction).

The Light Rail will also deliver a significant improvement in reliability compared to the current variability of bus travel times to and from UNSW due to traffic congestion.

Transport for NSW's current planning would see a combined light rail and bus network deliver double the morning peak capacity from the CBD to UNSW and the Randwick hospital precinct.

Cycling: Bicycle usage continues to gain popularity and demonstrates an increasing trend which has more than doubled as a typical mode of transportation since 2007. The percentage of respondents cycling to and from the campus increased from 2.7% in 2007 to 4.1% in 2016. When extrapolated to the average daily campus population, this is a significant increase from 922 daily riders in 2007 to 1,613 daily riders in 2016.

South East Light Rail – coming soon!

UNSW is a key destination on the new South East Light Rail route which will extend from Circular Quay, through Sydney's CBD and on to UNSW via Central Station. Construction started in 2016 and is expected to be completed in 2020. The light rail is set to transform public transport to UNSW and is anticipated to greatly reduce staff and student reliance on private vehicle usage. For the latest news visit UNSW's Light Rail website

Car sharing and car pooling

Car sharing

In 2011, UNSW became the first university in Australia to have car sharing facilities on campus. Four vehicles (including a van) from the car share company GoGet are available for hire.

In 2016, approximately 160 students and staff used the service. There were over 2,400 bookings across the year with an average booking length of 4.3 hours per booking.

GoGet data has shown carshare members drive, on average, 2,000km less per year than the average car owner. This results in 320,000 less kilometres travelled per year by UNSW students and staff.

Car pooling

UNSW has a dedicated car-pooling website called MyCarpools which has been designed to match drivers with passengers based on location, travel times and personal preferences. Car-pooling reduces travel congestion, pollution and the costs of travel.

Car parking

Whilst car parking at UNSW is limited, driving to and from the University remains attractive to many staff and students. Because car transportation is in direct conflict with the University's sustainability goals, UNSW has implemented carsharing and carpooling strategies to reduce single passenger private vehicle dependency.

In addition, we have increased car parking fees at a greater rate to encourage students and staff to choose more sustainable transport options. There are approximately 2,800 parking spaces on its Kensington campus (including loading bays).

Cycling

The Kensington campus is easily accessible by bicycle and provides over 50 indoor and almost 700 outdoor designated bicycle parking spaces. This is an increase of about 17% since 2013. There are also two permanent bike pumps and 19 shower locations. UNSW also took part in national Ride to Work day in 2016 for the fifth consecutive year.

Bike Hub

In 2016 a business case was put forward for the construction of a Bike Hub. This is a secure bicycle parking facility that includes a range of end of trip facilities, including lockers, showers, change rooms and, potentially, a bike workshop. The project has enthusiastic support across campus and was identified as one of the most popular campus improvement opportunities in a 2016 Arc Annual Student Survey.

Fleet vehicles

UNSW ensures that a high proportion of its 83 fleet vehicles are energy-efficient or use alternative fuels. Fuel-efficient vehicles in the fleet include hybrid cars (Toyota Prius and Toyota Camry) and three electric vehicles.



Bike riders push cycling cause at Ride2Uni Day

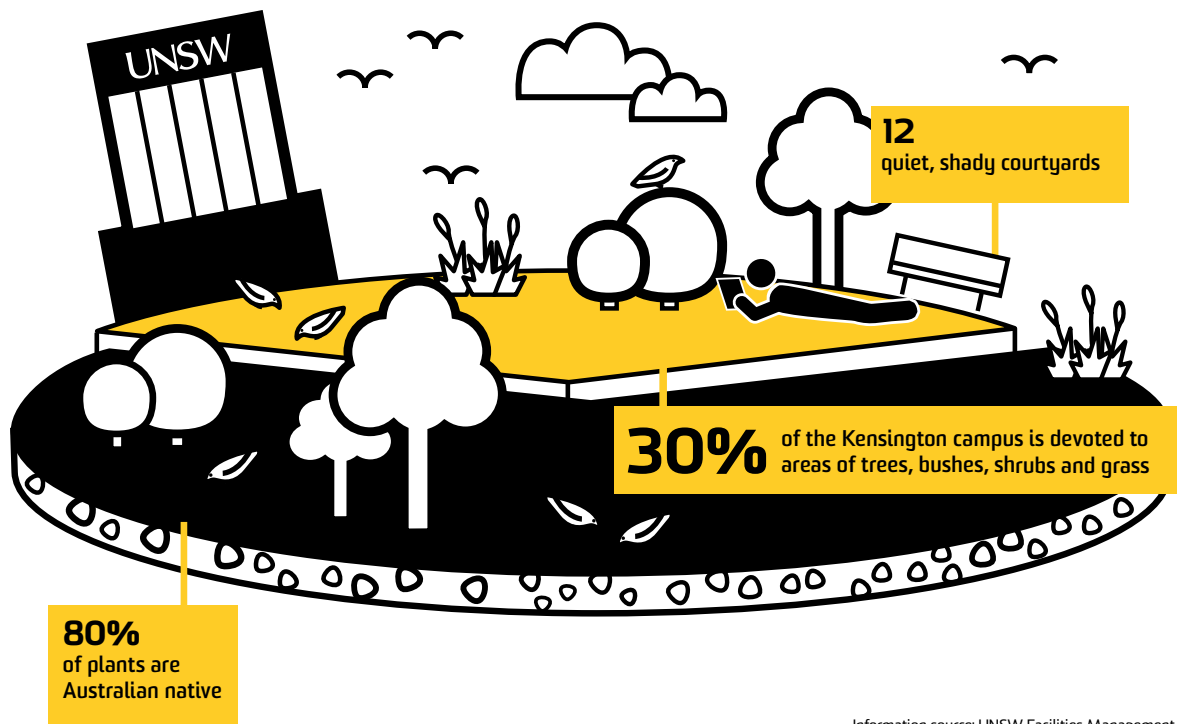
Big turnout of UNSW students and staff for national Ride2Work day.

A large number of cyclists from all over the city relied on pedal power to travel to UNSW in celebration of National Ride to Work Day.

All cyclists were rewarded with a delicious free breakfast courtesy of UNSW Sustainability and the opportunity to tune their bikes.

More and more Sydneysiders are riding bikes for transport, with a 100% increase over the past three years. Twice as many are riding bikes for transport than the national average, and some 31,600 City of Sydney residents get on a bike in a typical week (2013 Australian Bicycle Council survey). Safe cycle access is currently impaired due to the building of the South East Light Rail, but when complete there will be excellent bike access to campus.

Campus



Information source: UNSW Facilities Management

UNSW's campuses inspire a green outlook

UNSW has appealing campus grounds that are planned, planted, and maintained with the local environment and ecology in mind. We protect and create wildlife habitat and conserve water and other natural resources.

Campus environment, biodiversity and open space are key components of UNSW's EMP. See the EMP for a status report for 2016.

Grounds management

UNSW maintains approximately 120,000m² of landscaped areas and another 80,000m² of playing fields. The University recognises that the way these grounds are managed can have significant environmental impacts and employs several strategies to ensure they are managed in a sustainable way.

These strategies include:

- choosing appropriate plants (i.e. planting native species that complement the soil and climactic conditions);
- maintaining soil quality;
- minimising the use of chemical and fertiliser treatments; and
- ensuring the responsible disposal of green waste.

Trees

UNSW is the proud caretaker of over 1,200 trees on the Kensington campus including several visually stunning 120-year-old Morton Bay and Port Jackson Fig trees. Our trees are managed through a tree database system and an interactive tree plan of the campus.

As well as providing a habitat for wildlife and contributing to a pleasing aesthetic, trees create a microclimate that can significantly reduce the 'urban heat island effect'. This provides staff and students with a more comfortable campus environment and the temperature decreases can significantly reduce the amount of energy required to cool (and in some instances to heat) buildings.

Campus grounds sustainability initiatives

Native planting policy

UNSW's planting policy is to promote local biodiversity. While the Kensington campus has some mature non-native trees, new plantings favour native plants and grasses, particularly species that are indigenous to the Randwick/Kensington area. These plants are suited to the local climactic conditions (reducing their watering requirements), and allow students to learn about bioregionalism. In 2016, 80% of trees on campus were noted as Australian native species.

Irrigation

UNSW continues to audit its landscape irrigation systems and has a contractual requirement in place for the grounds maintenance contractor to ensure optimum outcomes. Where irrigation is required, the preference is for drip irrigation rather than sprinkler systems, and all campus irrigation systems use bore water, rather than potable water.

Healthy soil

UNSW has reduced its use of synthetic garden fertilisers and replaced these with slow-release organics wherever possible. This reduces potential run-off issues, improves the soil structure and reduces watering requirements.

UNSW has limited the use of pesticides on campus through modifications in grounds maintenance contracts. Low toxicity chemical solutions are still used for pest and weed control, but only as a last resort.

Mulching

UNSW processes all tree prunings on site into mulch and woodchips to use in gardens across its campuses to reduce evaporation and conserve water. Approximately 800 cubic metres of mulch was applied to the landscaped environment in 2016.

Technology in the garden

Automatic watering systems, rain sensors and night-time watering regimes are in operation at UNSW. These industry-standard solutions are applied to 100% of the Kensington campus and have significantly reduced overwatering.

Reusing and recycling

UNSW's campuses continue to evolve as we adapt facilities and landscapes to meet our changing needs. Surplus materials and equipment, such as old sandstone, paving bricks, outdoor furniture, plants, bike racks and bollards, are saved and stored on site by the UNSW grounds manager. This policy of reuse before recycling or disposal helps to minimise the waste from these adaptations and gives rise to the possibility of zero-purchase projects.



UNSW celebrates diversity – in an unexpected space

Facelift for the Basser Steps.

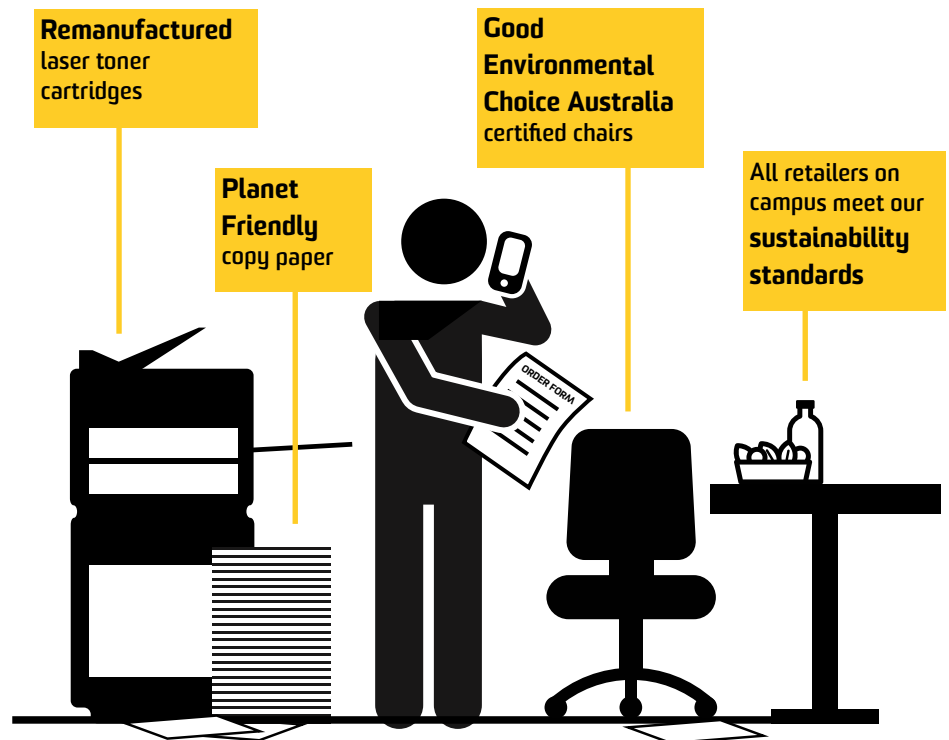
They're notorious at UNSW, but those seemingly endless Basser Steps received a welcome new look in 2016 – in every colour of the rainbow. Arising from UNSW's 2015 Kickbox innovation workshops, Facilities Management Campus Planner Kuhu Gupta had the bright idea to activate some of the more 'bland' spaces on UNSW's Kensington campus.

'We have a lot of inspirational buildings at UNSW, but often the spaces that connect the buildings, the spaces where all the social interactions take place and memories are made, aren't very exciting,' Gupta says.

'The rainbow Basser Steps idea was one of the Vice-Chancellor's favourites from the Kickbox presentation, and we were able to find a way to make it happen just in time for O-Week,' she continues.

'This is also a message to help raise awareness of all kinds of inclusion and diversity, and has given the steps an exciting and meaningful message to share with the UNSW community.'

Purchasing



Information source: UNSW P3 Print, Post, Plus

Sustainable purchasing powers our procurement

Sustainable procurement considers the broader economic, environmental and social cost of purchases made by UNSW

Sustainable procurement at UNSW

Sustainable procurement at UNSW means that when buying goods and services we consider:

- strategies to avoid unnecessary consumption and manage demand
- ways to minimise the environmental impacts over the life of goods and services from 'cradle to grave'
- the social responsibility practices of our suppliers, including compliance with legislative obligations to employees, the community, supply chain management and international treaties
- value for money over the lifetime of goods and services, not just the up-front price.

The University encourages significant and strategic purchases to be made through the centralised strategic procurement team and, whenever possible, for them to be made online using e-procurement. This allows UNSW to more accurately measure and manage efficient material and services use, avoid unnecessary expenditure and calculate carbon emissions.

UNSW continues to pursue the use of electronic tools for procurement, and is building a suite of purchasing analysis reports and analytics to enable it to gain insights into the purchasing profile of the University. This should assist in identifying opportunities to understand and track purchasing behaviours, areas of spending and product categories.

Work in progress in 2016

A new Waste Tender is currently in preparation and will be implemented in 2017.

Sustainability has partnered with Strategic Procurement (Finance), and Health and Safety Unit to incorporate resource management and minimisation into decision making processes. Learn more about our procurement procedure.

UNSW Sustainability and Facilities Management work with Strategic Procurement (Finance) and Health and Safety Unit to incorporate energy and water efficiency requirements, including minimum 4-Star Energy Rating for any new equipment.

A review is underway to update minimum environmental standards for current and future lease agreements for vendors on campus to incorporate waste minimisation strategies.

Sustainability features of current supply agreements

Stationery and office supplies

UNSW's preferred stationery supplier provides a range of environmentally preferred goods as a 'Planet Friendly' sub-brand. Items include copy paper and other paper products with recycled content, remanufactured laser toner cartridges, janitorial equipment, Fair Trade teas, coffees and hot chocolate.

The supplier also encourages the return of their shipping packaging for reuse. A small order handling fee has also been agreed to encourage staff to consolidate stationery orders and reduce unnecessary delivery trips to campus.

Office furniture

UNSW's preferred supplier for office chairs offers a range of chairs certified by Good Environmental Choice Australia. The supplier is currently undergoing certification of an Environmental Management System compliant with ISO 14001.

Woollen fabric standards have been chosen. Woollen fabric is known for its long life and ease of cleaning as well as being a natural fibre capable of being recycled. Sustainable practices are conducted in the processing and manufacturing of these fabrics.

Travel / video conferencing

UNSW offers high quality video conferencing facilities as an alternative to staff travelling for meetings.



Smarter ordering for UNSW Merchandising

Thoughtful purchasing for incremental positive change

With a focus on smarter purchasing, UNSW Merchandising has changed their ordering patterns to reduce the amount of deliveries received from suppliers. This has resulted in an increase in manufacturer production efficiency and reduction in environmental impact.

By way of an example, they have almost halved the amount of deliveries from their T-shirt supplier. "During the printing process there is a setup and screen washout process," says Kenan Kuscu from UNSW Press Ltd. "By ordering more product less frequently, we have reduced this process which has obvious efficiency and environmental benefits."

Kuscu says they also purchase products from suppliers who have known links to factories with fair trade agreements and that are audited regularly by external companies.



Making knowledge readily available

UNSW Bookshop and Interdisciplinary Environmental Studies team up to make sure top environmental titles are available

The Interdisciplinary Environmental Studies (IES) sits at the vanguard of interdisciplinary environmental studies in Australia, offering specialised postgraduate environmental management coursework and research programs.

Environmental concerns, and more broadly sustainability, are providing both greater constraints and greater opportunities for businesses, governments and NGOs. Finding solutions to environmental problems, including climate change, water management and deforestation are now international imperatives. It has been recognised that the challenges are complex and interconnected, and that solutions cannot come from one single area of research, profession or sector of society.

This is why the UNSW Bookshop and the IES have teamed up to present a specialised selection of books and publications that address these urgent concerns.

Residential catering

UNSW has negotiated achievable environmental and sustainability standards become part of our Residential Catering Agreement. This includes initiatives on:

- water conservation
- waste disposal and recycling
- cooking oil, including reprocessing for bio-diesel
- food waste, including compost and food rescue
- packaging
- economical use of equipment (e.g. fridges in high functioning order), use of sustainable consumables (e.g. light globes), economical use of utilities and use of locally sourced and seasonal produce.

Green Print Centre

UNSW's Green Print Centre is our onsite printing centre providing staff and students with a variety of print solutions. The print centre has implemented a number of initiatives to reduce its environmental impact, including reduction in paper use, as well as recycling of consumables and paper. A range of papers certified by the sustainable forestry networks are also stocked.

Campus cleaning contracts

UNSW insists that all cleaning contractors implement and maintain a Green Cleaning Regime. Some of the requirements include:

- using methods that reduce environmental impact in relation to chemicals and equipment used; cleaning techniques; and waste and energy management practices
- not using any ozone-depleting substances, and ensuring that hazardous chemicals are only used where no viable alternatives exist (these must be approved by UNSW prior to use)
- using the minimum amount of power and utilities, and minimising resource consumption and waste generation including the use of chemical dispensing systems and colour-coding systems. Our contractors are required to keep abreast of emerging developments in industry best practice with regard to sustainability and expected to propose innovations which will further improve sustainability performance.

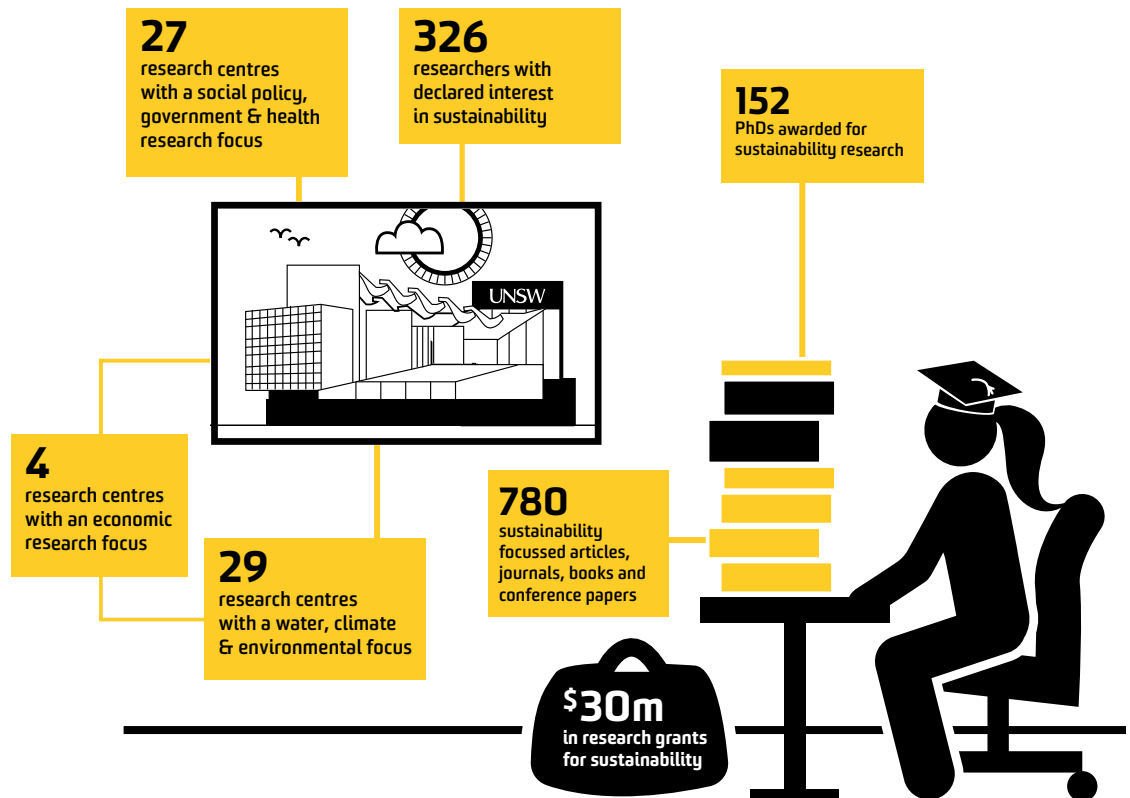
Community

UNSW is not simply a place to learn. It is a unique and diverse community of socially aware global citizens focused on creating positive change. UNSW's academics, researchers and students share a sense of compassion and appreciate that community service and public engagement is fundamental to the creation of sustainable communities.

In this section



Research



Information source: Research income number from UNSW's HERDC (Higher Education Research Data Collection) return

UNSW is leading the charge in sustainability research.

UNSW's 2025 vision is to be among the 50 leading research-intensive universities worldwide, known for innovative, pioneering research with a global impact. This means giving equal weight to both discovery research and its application. The implementation of UNSW 2025 Strategy has only just begun but promises a new era where the University not only becomes a magnet for the most talented researchers and research students worldwide, but sees new partnerships established with industry, international organisations, governments and other leading universities.

One of many initiatives in the Strategy is a recruitment drive to appoint up to 130 world-leading researchers and rising stars as well as 500 new outstanding PhD scholars over the next four years.

With a commitment to helping create equitable and just societies around the world, researchers interested in sustainability are increasingly attracted to UNSW as a place where they can see their high-quality research having a real-world impact. A place where they can actively improve the social, health and economic wellbeing of people, particularly from disadvantaged and marginalised communities.

In 2016, there were 326 academics at UNSW with a declared interest in environmental and/or sustainability research. This is a significant increase of 54% from 2013.

Research indicators

UNSW measures a number of research indicators that demonstrate the most active areas of interest for researchers at the University over the course of a year.

One of the top research topic areas in 2016 was Water, Environment and Sustainability which has showed an almost universally positive increase in sustainability related activities since 2013. Activities carried out under the umbrella of this research indicator:

- netted over \$30 million in research grants
- ranked third out of 10 for the percentage of income received by the University
- led to the publication of 780, books, journal articles and conference papers
- includes the award of 152 PhDs
- includes the enrolment of over 430 postgraduates, masters and PhD candidates.

	2013	2014	2015	2016
Publications*	629	687	1,275	780
PhDs awarded (Completions)	77	165	82	152
Enrolments** (HDR Load)	364	398	451	436.6
Total amount received for research grants (in millions)	\$33.20	\$35	\$30	\$30
Percentage of total income received by UNSW	10.82%	11%	11.62%	11.13%
Rank***	4th	4th	3rd	3rd
Full time employees		231	243	

Data is based on the HERDC (Higher Education Research Data Collection)

* Includes articles, books and book chapters, journal articles and conference papers

** Number of enrolled masters and PhD candidates

*** Rank out of 10 categories for the percentage of income received in total by the University in research grants

Research centres and institutes

Our academic staff and research students are at the forefront of sustainability research. UNSW has established or partners with more than 60 research centres and institutes in Australia and around the world that have a full or part focus on environmental, social or economic sustainability.

Water, climate and environment research focus

Expertise throughout these institutes includes: alternative energies and fuels; climate change; conservation and biodiversity; environmental modelling; marine biology and oceanography; microbial biofilms; rainfall, rivers and water; river wetland ecology; sustainable cities; sustainable materials and recycling; water use and re-use; and water purification.

- Advanced Environmental Biotechnology Centre
- ARC Centre of Excellence for Climate System Science
- ARC Research Hub for Green Manufacturing
- Australian Centre for Advanced Photovoltaics
- Australian Centre for Sustainable Mining Practices
- Australian Climate Change Adaptation Research Network for Settlements and Infrastructure
- Australian Poultry CRC
- Australian PV Institute
- Australia-US Institute for Advanced Photovoltaics
- Australian Water Recycling Centre of Excellence
- Centre for Ecosystem Science Blue Mountains World Heritage Institute
- Centre for Infrastructure and Engineering Safety
- Centre for Marine Bio-Innovation
- Centre for Sustainable Materials Research & Technology Centre (SMaRT)
- Climate Change Research Centre
- Connected Waters Initiative
- CRC for Greenhouse Gas Technology
- CRC for Low Carbon Living
- Evolution & Ecology Research Centre
- Global Water Institute
- Institute of Environmental Studies
- National Centre for Groundwater Research & Training
- Sino-Australian Research Centre for Coastal Management
- Sydney Institute for Marine Sciences (SIMS)
- The Environmental Research Initiative for Art
- UNESCO Centre for Membrane Science & Technology
- Universities Climate Consortium
- Water Research Centre
- Water Research Laboratory



Spoonful of sugar helps explain climate change

Everyday ingredients like sugar, clay and coffee create 3D printed art works from climate change data.

UNSW Art & Design lecturer Kate Dunn, a research leader and PhD candidate in Digital Fabrication and Material Innovation in the Creative Robotics Lab, is using sustainable materials to 3D print complex information, including the dense scientific data relating to climate change.

'I'd listen to climate scientist's talk and think, 'There must be a way to make this information more accessible,'" says Dunn. 'Climate change is our great global, environmental challenge, but I'm also hyper-aware that 3D-printed products will eventually contribute to landfill. I wanted to find out how to do what I love, but do it ethically.'

And so began her collaboration with UNSW climate scientist Dr Sarah Perkins-Kirkpatrick from the Climate Change Research Centre's extreme weather team.

Perkins-Kirkpatrick said scientists are familiar with charts and graphs but not everyone is comfortable with them. 'Kate's work is a really cool way of visualising actual climate data. You can see how heatwaves have changed with very little explanation necessary.'

This is an adaptation of a story written by Fran Strachan which originally appeared on the UNSW Newsroom.

Social policy, government and health research focus

Expertise throughout these institutes includes: ageing and retirement; city planning; community medicine; criminology; defence and national security; disability policy and planning; drug and alcohol policy; human rights; indigenous policy; mental health; risk management and safety; and the social impact of disease.

- ARC Centre of Excellence in Population Ageing Research
- Australasian Legal Information Institute
- Australian Centre of Research Excellence in Offender Health
- Andrew & Renata Kaldor Centre for International Refugee Law
- Australian Housing and Urban Research Institute
- Australian Human Rights Centre
- Australian Institute for Population Ageing Research
- Centre for Big Data Research in Health
- Centre for Primary Health Care & Equity
- Centre of Research Excellence in Mental Health and Substance Use
- Centre of Research Excellence in Population Health Research
- Centre of Research Excellence in Suicide Prevention
- Centre for Social Impact
- Centre for Social Research in Health
- City Futures Research Centre
- CRC for Living with Autism Spectrum Disorders
- Forced Migration Research Network
- Gilbert and Tobin Centre of Public Law
- Indigenous Law Centre
- Industrial Relations Research Centre
- Initiative for Health and Human Rights
- Lowitja Institute Aboriginal and Torres Strait Islander Health CRC
- National Cannabis Prevention & Information Centre
- National Drug and Alcohol Research Centre
- Nura Gili Indigenous Research Centre
- Social Policy Research Centre
- Research Centre for Integrated Transport Innovation
- Transport and road safety

Economic research focus

Expertise throughout these institutes includes accounting; business and management; capital markets and finance; economics; law, governance and regulation; and taxation.

- Centre for Applied Economic Research
- Centre for Energy and Environmental Markets
- Centre for Law, Markets and Regulation
- Institute of Global Finance

Research centre highlights**Indigenous Law Centre**

The Indigenous Law Centre contributes to the recognition, protection and development of the legal rights and freedoms of Indigenous peoples both in Australia and internationally. The Centre achieves this by conducting and disseminating innovative and high-quality research on Indigenous legal issues and through community legal education on issues of significance.

Australian Centre for Sustainable Mining Practices

The Australian Centre for Sustainable Mining Practices is recognised by both government and industry in Australia and internationally as a leading authority on sustainable mining practices. Key areas of expertise include mine site water, groundwater and seepage barriers; remote sensing to detect environmental impacts, subsidence and illegal mining; climate change adaptation and mining; and carbon management.

Global Water Institute

The Global Water Institute (GWI) is a world leader in water research, innovation and problem solving. Drawing on water expertise from seven faculties and 13 specialist centres across the University the Institute is Australia's most advanced water knowledge hub. Research activities span an incredible variety of water-related fields but GWI's researchers have one thing in common: they are driven by the urgent need to protect this essential resource in perpetuity.

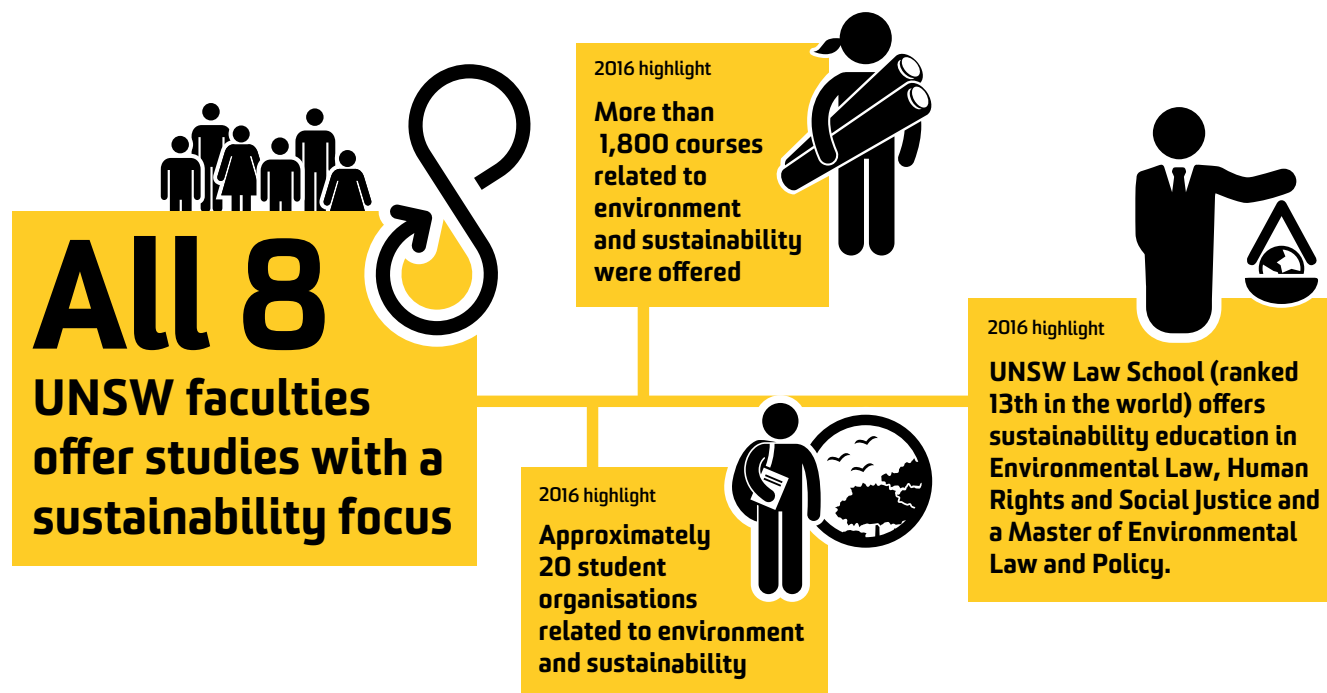
Australian Human Rights Centre

The Australian Human Rights Centre aims to promote public awareness and academic scholarship about domestic and international human rights standards, laws and procedures through research projects, education programs and publications. The Centre brings together practitioners, research fellows and student interns from Australia and internationally to research, teach and debate contemporary human rights issues.

Centre for Marine Bio-Innovation

The Centre for Marine Bio-Innovation is a leader in fundamental and applied research in microbiology and ecology, particularly the interactions between microorganisms and their eukaryotic hosts. It is now recognised that eukaryotes (ranging from humans to plants to invertebrates) are not individual organisms, but complex communities comprising the host and their associated microbial communities. This realisation is a paradigm shift across much of biology, and is influencing studies of everything from the functioning of marine ecosystems to diabetes in humans.

Education



Leading the way in sustainability education.

UNSW's 2025 vision is to be among the 50-leading teaching-intensive universities worldwide, known for the most innovative developments in digital and face-to-face learning to improve educational quality and the student experience. As traditional industries, professions and career pathways are transformed and replaced by new, previously unimaginable ways of working, making and doing, UNSW is actively preparing students for jobs that do not yet exist.

UNSW has a diverse range of formal education programs that critically address issues of sustainability. By educating its students about sustainability, UNSW is arming our future leaders, scholars, workers, and professionals with the skills to tackle the sustainability challenges we will face in the future, as well as those that we face today.

In 2016:

There were approximately 1823 courses related to environment and sustainability offered.

There were approximately 20 student organisations related to environment and sustainability

Sustainability curriculum

All eight faculties at UNSW offer opportunities to undertake studies with a sustainability focus. Sustainability can be taught as a subject in its own right, but increasingly UNSW's educators are embedding sustainability considerations into the fabric courses they develop.

Faculty of Art and Design

The Faculty of Art and Design is UNSW's hub of experimentation and exploration in art and design, fostering collaboration across science, engineering, the humanities and social sciences.

Sustainability is embedded as a component of many courses with notable cases including:

- Sustainable Design Theories and Practice
- Art and the Environment – Studies in the Field
- SPI Experimental Fieldwork
- Imperatives for a Sustainable Future.



Planning sustainable infrastructure on Mer Island

Students plan real life solutions.

Over two and a half thousand kilometres north of Sydney is a tiny island in the Torres Strait called Mer Island. The island has a community of 450 people who rely on diesel for electricity, desalination for water and import most of their food by barge from Cairns, eight hundred kilometres away. Their only waste disposal method is burning-off in a small open landfill.

The question posed to 70 students of the 2015 and 2016 fourth year Planning Sustainable Infrastructure course was: If you were an engineer, what would you do to improve the physical infrastructure to improve the quality of life on Mer Island?

The hands-on course saw UNSW student engineers engaging with Mer Islander people to deepen the dialogue about sustainable infrastructure and was devised by School of Civil and Environmental Engineering academics Stephen Moore and Professor Richard Stuetz, in association with Professor Martin Nakata from Nuri Gili (UNSW's Centre for Indigenous programs) and Doug Passi on the Island.

'The small scale meant students could easily see the direct impacts of these type of problems on both society and the economy, but we were also able to scale it up and say Mer Island is actually a microcosm of the whole of Australia,' says Mr Moore. 'The course was tremendously valuable for everyone involved.'

Faculty of Arts and Social Sciences

The Faculty of Arts and Social Sciences offers students a licence to explore and address the social issues of sustainability. Key programs and courses include:

- Environment and Social Process
- Environmental Humanities
- Women's and Gender Studies
- Indigenous Studies.

Business School

UNSW Business School has long recognised the importance of its role in sustainability and social responsibility and in 2015 published its commitment in the Principles of Responsible Management Education (PRME) Sharing Information on Progress (SIP) Report.

Key programs, initiatives and courses from the Business School include:

- Master of Business Administration (MBA) in Social Impact
- Creating Social Change: From Innovation to Impact
- Entrepreneurship Practicum
- the creation of new placement opportunities for students to work with Indigenous communities
- an initiative to introduce Indigenous perspectives into the curriculum
- the introduction of the new PRME Teaching Award.

Faculty of the Built Environment

Creating sustainable built environments that satisfy environmental, social and economic objectives requires critical thinking that considers the value systems and cultures that influence communities.

There is a growing body of principles and techniques to do this and most of the programs offered by the Built Environment have sustainability embedded into their courses. Key courses and programs include:

- Graduate Certificate of Sustainable Built Environment
- Graduate Diploma of Sustainable Built Environment
- Master of Architecture
- Master of Sustainable Built Environment.

Faculty of Engineering

As the best engineering faculty in the country, and achieving the 2015 QS Ranking

of #21 in the world, the Faculty of Engineering lives up to its promise of solving tomorrow's problems today. Engineers conceive, design and build the world around us and, as such, have a critical role in our sustainable future. It is no surprise that sustainability considerations are embedded into the majority of programs.

In addition to the School of Photovoltaics and Renewable Energy Engineering, which offers two full degree and masters programs in photovoltaics and renewable energy engineering, the Faculty offers a degree in Environmental Engineering from the School of Environment and Civil Engineering. Numerous other sustainability courses are offered across all nine schools.

Faculty of Law

Ranked 13th in the world according to the QS Ranking system, UNSW Law School is Australia's leader in progressive and rigorous legal education and research. Most courses have a distinct human rights and social justice focus. Throughout their law degree, students are invited to participate in a range of activities that provide opportunities to engage with communities on issues of critical social and economic significance.

Key courses and programs include:

- Environmental Law
- Human Rights and Social Justice
- International Law
- Master of Environmental Law and Policy.

Faculty of Medicine

UNSW Medicine is committed to improving healthcare delivery and outcomes for every patient.

Key courses and programs include:

- The Master of Public Health - UNSW Sydney is widely recognised as essential for a career in population health, including health promotion, primary health care, policy formulation, research, and management of health programs
- Society and Health – explores the inter-relationships between the health of people and the environment in which they live. The major themes include the societal determinants of health, the diversity of society focusing both on culture, systems that provide health care and the relationship between health and human rights.

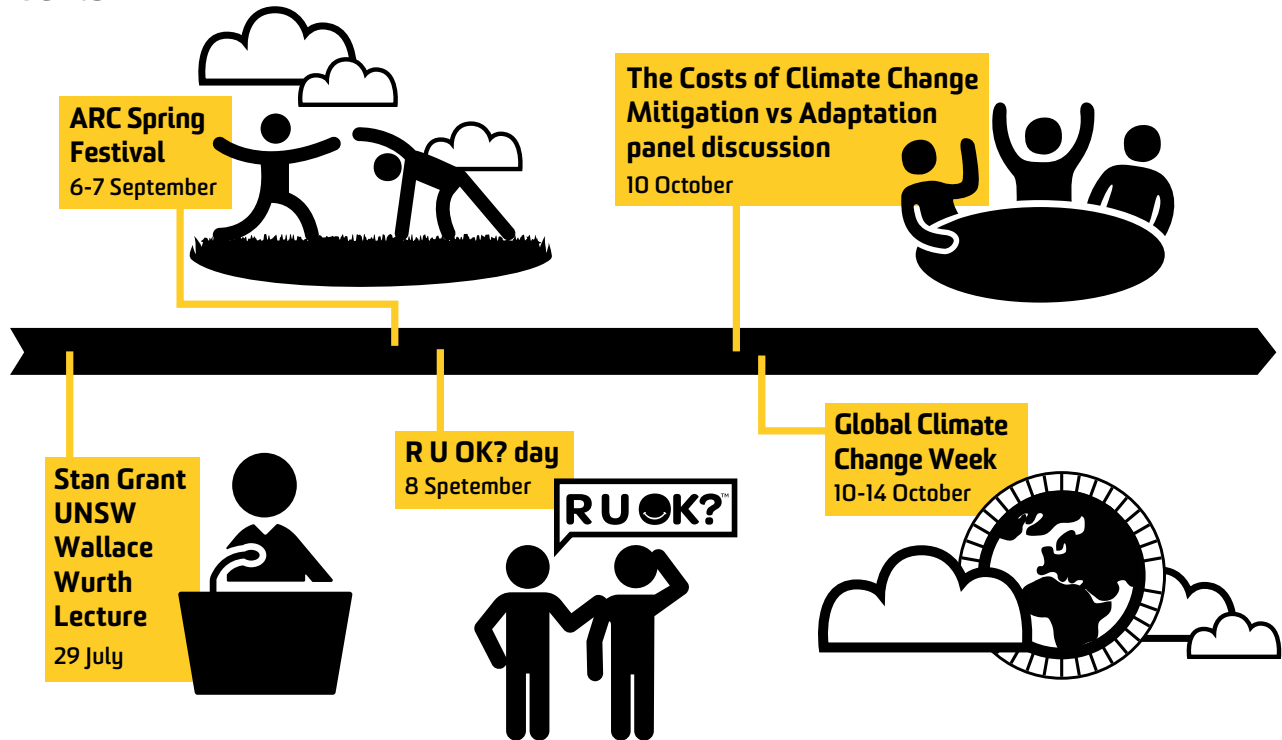
Faculty of Science

With a central part to play in understanding our impacts on the world around us, the Faculty of Science is at the forefront of sustainability education.

The School of Biological, Earth and Environmental Studies offers degree programs in Biology, Marine Science, Geology, Ecology, Earth Science, Paleontology, Geography, Climate Science and Environmental Management.

The Faculty also offers a Master of Environmental Management which provide students with the basis for the critical appreciation of environmental management frameworks and 'environmental literacy' in key disciplinary areas.

Events



Advocating for the environment, social justice and equity.

One of the three priorities in UNSW's 2025 Strategy is social engagement and improving lives through equality, diversity, open debate and economic progress. Harnessing UNSW's intellectual capacity to deliver expert contributions through a variety of timely events has established the University as a leading centre for discussion, debate and policy on the grand challenges facing humanity.

Grand Challenges Program

UNSW aims to lead the debate and shape the public discourse on the greatest issues facing humanity. The Grand Challenges Program has been established to facilitate these critical discussions, and in the process, raise awareness of the ground-breaking research and excellent initiatives undertaken by UNSW academics, staff and students.

There were three declared Grand Challenge topics in 2016 – Climate Change; Refugees and Migrants; and Inequality and each topic continues to be curated with a full program of events and activities for both staff and

students to contribute to. There are events, presentations and talks are often recorded and available to view on the Grand Challenges website. Future Grand Challenges to be addressed include: energy, water, equality, urbanisation, ageing, poverty and security.

Forum@UNSW

Forum@UNSW has been established as an overarching structure tasked with driving and promoting both the existing forums at UNSW and the new initiatives that arise from the Grand Challenges Program. Forum@UNSW brings community leaders, strategists and innovators together with academics and students to identify and explore the most appropriate actions and solutions to the problems facing humanity. Forum@UNSW has also forged links with external media partners and facilitates open digital platforms, community meetings, public lectures, debates and discussion groups.



International Women's Day breakfast

Plibersek's message to women: don't rest.

International Women's Day 2016 was both an opportunity to celebrate and a reminder to continue campaigning for gender equality, the Shadow Minister for Women Tanya Plibersek told a Women's Day breakfast at UNSW. 'The first thing to think about on International Women's Day is to feel a little bit of gratitude for the people who've fought these battles in the past, who've made our lives very different to the lives of our mothers and grandmothers,' said Ms Plibersek, the Deputy Leader of the Opposition, Shadow Minister for Education and Member for Sydney.

Those changes included equal pay test cases, affirmative action policies, the opening of the first women's refuges and the funding of rape crisis centres.

But being proud of those achievements and grateful to the people who won them 'should not for a moment make us content that we have achieved enough', Ms Plibersek said.

'my two pleas to you today are to celebrate what we've achieved and never ever be content because we have generations of young women who deserve to grow up in a country where they are respected for who they are.'

This is an adaptation of a story which originally appeared on the UNSW Newsroom.

Global Climate Change Week

Global Climate Change Week (GCCW) is a global movement that was established in 2015 and aims to encourage academic communities, including academics, students, and non-academic staff at universities; in all disciplines and countries to engage with each other, their communities, and policy makers on climate change action and solutions.

Held annually in October, GCCW provides an open-ended framework for voluntary activities aimed at raising awareness, inspiring behaviour change, and driving political transformation in relation to climate policy. Fourteen events were held at UNSW across the GCCW in 2016.

Other events

In addition to the above highlights, there were hundreds of sustainability focused events run throughout 2016 by the more than 60 UNSW research centres and affiliated institutes that have a full or part focus on environmental, social or economic sustainability.



Time for a truth and reconciliation commission

Journalist Stan Grant calls for a treaty with Australia's first peoples.

More necessary than a royal commission is a truth and reconciliation commission and a treaty with Australia's first peoples, journalist Stan Grant told a packed audience at UNSW's Wallace Wurth Lecture in July 2016.

In the wake of the ABC 'Four Corners' damning report on the incarceration of Indigenous children in the Northern Territory, journalist and 'proud Wiradjuri man' Stan Grant has called for a national truth and reconciliation commission, 'a full reckoning of our Nation's past that may set loose the chains of history that bind this country's first and today most miserably impoverished people.' He also called for a treaty with Indigenous Australians, similar to those in New Zealand, the United States and Canada.

Delivering the annual UNSW Wallace Wurth Lecture, titled 'From reconciliation to Rights: Shaping a Bigger Australia', Grant asked: 'How can I stand here and speak to the idea of our place in an indissoluble commonwealth when this week my people have been reminded that our place is so often behind this nation's bars?'

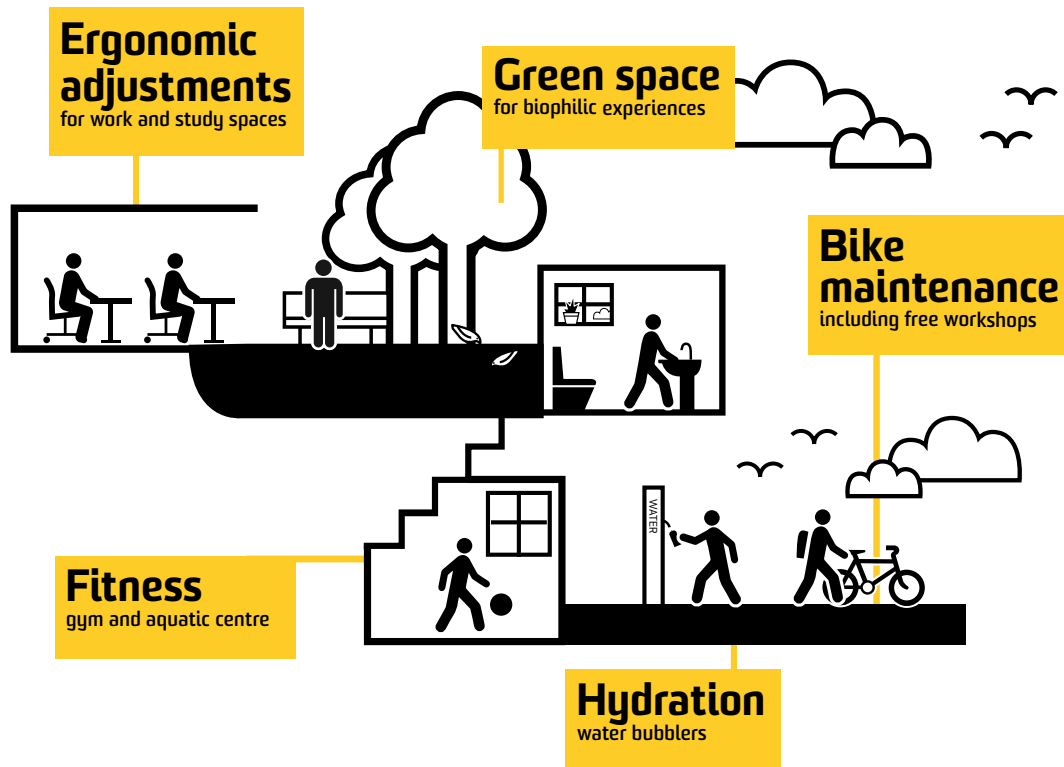
Prior to the lecture, Grant was awarded the honorary degree of Doctor of Letters by UNSW Chancellor David Gonski, in recognition of his eminent services to the community. Grant is currently Indigenous Affairs Editor at The Guardian Australia, and presents 'The Point with Stan Grant' on Indigenous television network NITV.

In 2015, he won the prestigious Walkley Award for Coverage of Indigenous Affairs.

Grant told a packed Clancy Auditorium he had intended to deliver a more careful speech, seeking less to inflame and more to comfort, but watching the 'Four Corners' report had left him struggling to contain a pulsating rage. 'Seeing images of a boy in a hood strapped to a chair, Aboriginal boys tear gassed, locked down and beaten,' he had rewritten his speech with his clenched fists hovering over the keyboard.

This is an adaptation of a story written by Tony Maniaty which originally appeared on the UNSW Newsroom.

Safety and wellbeing



The safety and wellbeing of UNSW staff and students is paramount.

UNSW provides its staff and students with access to a range of resources that promote a safe, active, healthy, happy and productive campus experience.

Safety

As one of the University's guiding principles, safety is central to everything we do. As well as working hard to ensure a safe campus experience, the University proactively manages risks with a series of risk management and continuous improvement strategies.

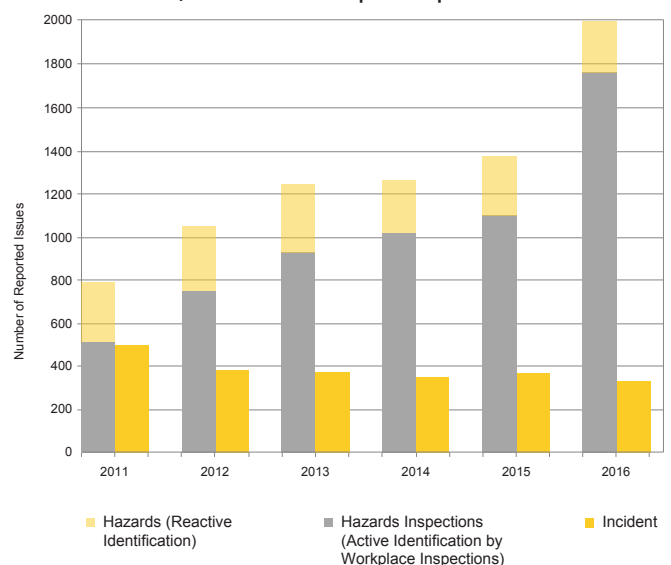
Health and safety management system

UNSW's Health and Safety management system (HSMS) is a set of plans, actions and procedures that are designed to systematically manage health and safety in the workplace.

More information on health and safety governance and training can be found at [UNSW Health and Safety](#).

Our safety performance

Hazards, incidents and workplace inspections 2006-2016



Maintaining a safe campus

UNSW's Campus Security provides the following essential services and facilities to keep staff, students and visitors safe on campus:

- StaySafe@UNSW app
- night shuttle bus
- safety escorts
- help points
- Cops on Campus initiative
- Gate 2 Security Office

Wellbeing

UNSW's Wellbeing website

UNSW Wellbeing is a gateway to the diverse suite of health and wellbeing initiatives across the University.

Global Corporate Challenge

The Global Corporate Challenge is an annual team-based walking challenge to help improve the health and wellbeing of workers through regular physical activity. The GCC is a 100-day virtual journey that kicked off in May and involves 370,000 people from around the world competing in teams of seven. Sections of the Challenge are devoted to sleep, nutrition and life balance and the journey as a whole improves both physical and psychological health.

In 2016, UNSW had 76 teams and 532 total participants in the Global Corporate Challenge. UNSW won the Australian University League and the title of most active university in Australia.



Respect.Now.Always.

New sexual assault and sexual harassment initiative launched.

The Respect.Now.Always. initiative was launched by Universities Australia to highlight the determination of universities to ensure that students and staff are safe from sexual assault and sexual harassment.

The campaign coincided with the Australian release of the critically acclaimed film *The Hunting Ground* a documentary film about the incidence of sexual assault on college campuses in the United States and what its creators say is a failure of college administrations to deal with it adequately.

It also coincided with the announcement and launch of Australia's first comprehensive national prevalence survey on university student experiences of sexual assault and sexual harassment, which has the support of all 39 Australian universities.

UNSW held a special student screening of the *Hunting Ground* and Q&A led by Professor Eileen Baldry, the Academic Chair of UNSW's Equity, Diversity and Inclusion Board. A dedicated website, UNSW Respect was also launched to provide easy access to advice about reporting sexual harassment, sexual assault and rape. Produced by the University's Sexual Harassment Working Group, which is comprised of student and staff representatives.



Stress less week

Arc-run initiative helps students manage their stress.

Stress Less Week is a three-day festival run towards the end of semester that comes from the understanding that it's not always easy for students to juggle the demands of this busy time.

Events are designed to promote wellbeing through a range of fun activities including puppy cuddling, healthy food workshops, yoga classes, free pancakes, Zumba and even free hugs.

R U OK? Day

UNSW partnered with Arc, SafeWork NSW and Beyond Blue to deliver a fantastic

R U OK? Day on Thursday 8 September. Several on-campus food outlets also came on board with generous donations of free coffees to participating staff members. Caffe Briosio, Bluestone, Bar Navitas and Coffee on Campus all offered 2-for-1 coffee deals.

Upper campus featured an information stall on the Library Walk with free Tai Chi on the Library Lawn at lunchtime. The CLB courtyard was transformed into 'Conversation Courtyard' with chairs and decorations encouraging passers-by to stop and engage with staff members. A variety of information brochures and useful resources including UNSW-branded 'Need Help?' cards were made available to all.

The CLB Courtyard also featured the Gratitude Tree – one of the CLB Courtyard trees decorated with yellow and gold cloth and hung with ribbons. Staff and students were invited to write something they were grateful for on the back of a special R U OK? Day postcard and clip it to one of the gold ribbons dangling from the Gratitude Tree. This was a popular activity with both staff and students and by the end of the day the tree looked spectacular.

Several speakers gave talks throughout the day including a special volunteer from Beyond Blue and an engineer who shared his own story of combating mental illness as a young employee of Sydney Water.

Four faculties ran yoga sessions for their staff and some faculties organised additional faculty-based events including a full-day line-up of impressive activities in Engineering, a speaker for Law, and a special faculty-funded 2-for-1 coffee deal for Arts and Social Sciences.

Safety and Wellbeing Month

During October, communities around NSW held events focusing on Mental Health Month. At UNSW, October was Safety and Wellbeing Month and we had a full month of activities, with three weekly events, four special events and three challenges. Each week, staff were encouraged to get out of their offices and get moving with the Campus Lunch Walk which circumnavigated the Kensington campus and Tai Chi held outdoors at various locations. Mindfulness meditation sessions were held weekly in collaboration with CAPS and proved to be the most popular event of the month.

Special events included the annual Wellbeing Celebration, a healthy recipe sharing day, a performance by Mind Blank Theatre to raise awareness of mental health issues in the workplace, and a poetry performance from UNSW recent graduate and spoken word poet Lewis-Alan Trathen. Our three challenges focused on sleep, mental health and kindness. The Sleep Smart Challenge encouraged participants to introduce good sleep hygiene practices (such as all devices off half an hour before bed and not taking them into the bedroom at all) and to aim to get to bed by 11pm each night. The Trivia Challenge tested knowledge and raised awareness of mental health issues. The Random Acts of Kindness Challenge is explained in more detail below.

Random Acts of Kindness

Random Acts of kindness have been shown to increase a feeling of connectedness and appreciation of humanity. It can also lower anxiety levels and improve positive mood, in both the giver and receiver of the act of kindness. In 2016, UNSW started a Random Act of Kindness Challenge as part of October's Safety and Wellbeing Month by encouraging acts of kindness and reporting them online in to inspire others. Staff members walked through campus handing out Kindness Cards and Keep Cups to encourage those who received these acts of kindness to consider performing their own acts of kindness. Eight random acts of kindness were reported by staff and listed on the Safety website. They included simple acts such as letting others go in front at the supermarket checkout. Some acts involved considerably more time and effort, such as one staff member who spotted a car with a flat tyre and waited two hours with the elderly driver, called the NRMA for her and found her a tyre store with the correct replacement tyres.

Wellbeing Celebration

The annual Health and Safety Wellbeing Celebration was held on Wednesday 12 October as part of Safety and Wellbeing Month. This event is a thank you to all those staff who work to keep us safe at UNSW by taking on additional roles as floor wardens, emergency team members and first aid officers throughout the University. The event also marks the end of the Global Corporate Challenge and is a time to celebrate the increasing success of this program with a range of prizes and awards.

Mindfulness Meditation

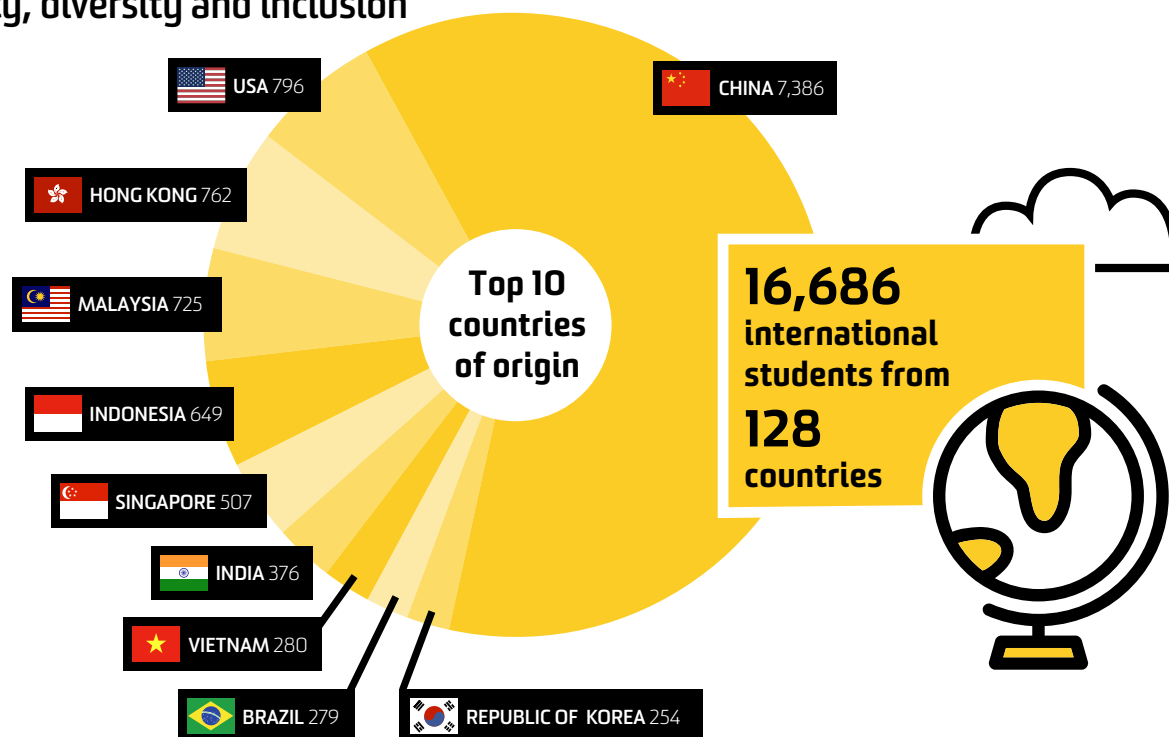
Mindfulness meditation is a simple, secular, scientifically validated exercise providing a valuable stress relief technique and proven benefits for mental health. During Safety and Wellbeing Month, weekly Mindfulness Meditation sessions were made available to staff in collaboration with Counselling and Psychological Services (CAPS). Of all the many activities planned during Safety and Wellbeing month in October, this was by far the most popular with all sessions completely booked out within a week.

Green space

In response to the growing amount of literature surrounding the importance of green space in physical health, mental health and overall wellbeing, UNSW has increased investment in the development of its green spaces.

With approximately 30% of the Kensington campus devoted to green space and 12 shady, intimate courtyards, the University provides a variety of opportunities to escape the built environment and enjoy a biophilic experience.

Equity, diversity and inclusion



Providing an equitable and inclusive environment for all.

Equity is a fundamental element of the UNSW vision and is a guiding principle in the University's strategic intent. The maintenance of an equitable and inclusive campus and workplace is fundamental to UNSW's mission to become one of the world's top 50 universities and an international exemplar in equity, diversity and inclusion.

Strategy 2025

The following high-level initiatives were announced in 2016 as part of Strategy 2025:

Staff Equity Program

The Staff Equity Program is designed to address differences in employment rates based on gender, disability, sexual orientation or gender identity, cultural background and Indigenous origin to ensure that such factors do not influence recruitment, hiring, promotion, pay level or retention. The Staff Equity Program aims to facilitate equity in employment across UNSW, and covers all

diversity groups and incorporates national and international benchmarking. Evidence-based plans and actions are being developed for specific diversity groups and will support the ability of both the University and its faculties and divisions to meet specified targets.

Student Equity Program

The Student Equity Program is being designed to deliver a systematic approach to the recruitment and support of students of high potential from diverse backgrounds. Given the limitations of relying solely on high school grades – entry criteria and processes will be a focus of review and reform. In addition, UNSW's Scholarship Program will include more 'equity-based' scholarships to support students from disadvantaged and under-represented groups and the number of scholarships for Indigenous and low socioeconomic status students will be increased. Support for students from disadvantaged backgrounds will be ongoing throughout their studies including a University-wide mentoring program.

Disability Inclusion Action Plan

UNSW's Disability Inclusion Action Plan has been developed with a focus on making the learning and teaching experience welcoming and inclusive, and the University's built and digital environments accessible to all staff and students with a disability. Using the principles of Universal Design, the measures will ensure the needs of students with disability are factored into curriculum development, design and delivery. 'Best practice' in building accessibility across our physical campuses and residential communities will ensure the needs of staff, students and visitors with a disability are met.

Indigenous Program

The Indigenous Program is being designed to acknowledge, respect and celebrate the important place of Indigenous Australians at UNSW. Respecting and learning about Indigenous knowledge will be integral to the UNSW educational experience. All staff joining the University will undertake cultural awareness training as part of their induction to UNSW. We will implement a University-wide scheme focused on continuously improving Indigenous students' access and degree completions and provide the opportunities for our Indigenous staff to build their careers. We will strengthen our commitment to Indigenous communities by expanding existing outreach programs and Winter School, and by new initiatives that partner UNSW with specific Indigenous communities.

Equity, diversity and inclusion champions

Five Diversity Champions were appointed from across the University in 2016. The Champions will help lead UNSW's equity, diversity and inclusion agenda and be advocates internally and externally. These champions are working with representatives from diversity groups to drive the agenda for equity and inclusion across UNSW and will oversee progress against strategies at the University and faculty/divisional levels.



UNSW wins award for gender diversity

Success of Women in Engineering Program recognised with industry award.

UNSW's Women in Engineering Program won an Engineers Australia Gender Diversity Award in August 2016. The program aims to increase the number of women in engineering by inspiring school-aged girls and working with female engineering students and professionals. The program's efforts – which focus on recruitment, retention, and recognition – were celebrated with this prestigious award.

Since the program began in 2014, recruitment events have brought over 850 young women on campus to experience engineering through hands-on activities, and reached out to hundreds more through school visits. Feedback has consistently shown that these initiatives increase the students' interest in studying STEM.

It's the program's aim to see this increased interest translate to increased enrolments in engineering courses – in 2013 they accounted for 19% of the first year students, growing to 23% in 2016. By 2020, UNSW Engineering hopes to see females representing 30% of all enrolments.

Workplace Diversity

UNSW's diversity commitment aligns to our strong sense of social responsibility and our belief that a diverse employee workforce enhances our ability to deliver world class research, teaching excellence and thought leadership.

Workplace Diversity supports UNSW to embrace the diversity and cultural richness of our communities, by ensuring that all staff can achieve their full potential in a supportive and inclusive work environment. The unit works with the University's internal and external stakeholders to develop initiatives that aim to improve UNSW's cultural, disability, flexibility, gender, and LGBTIQ (lesbian, gay, bisexual, transgender, intersex and queer or questioning) diversity and inclusion.

UNSW also partners with Australia's leading diversity organisations, networks and campaigns including:



AUSTRALIAN NETWORK
ON DISABILITY



NEEOPA
Supporting Diversity
Practitioners



RESPECT.
NOW.
ALWAYS.



Breastfeeding
Friendly
Workplace
An Australian Breastfeeding Association Initiative



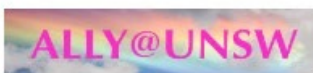
DIVERSITY
COUNCIL
AUSTRALIA



Athena
SWAN
Member



RACISM.
IT STOPS
WITH ME
@UNSW



ALLY@UNSW

Students

UNSW is one of Australia's most cosmopolitan universities. We are also Australia's first international university, having enrolled significant numbers of international students since 1951, with more than 128 countries now represented.

In the reporting period, enrolments numbered 56,085:

- 39,399 local students
- 16,686 international students

The top 10 countries of origin for students were Australia, China, Indonesia, Hong Kong, Malaysia, India, New Zealand, Vietnam, Singapore and the Republic of Korea.

UNSW Disability Services

UNSW Disability Services are available to help students with a disability, medical condition, learning disability or who are dealing with personal circumstances that are affecting their study. Disability Advisers can put in place services and educational adjustments to make things more manageable so student can complete their course requirements. Over 1000 students currently receive assistance because they have a disability, or are a carer of a person who has a disability.

Volunteering



Information source: Arc, UNSW's student union

Volunteering at UNSW: growing friendships, skills and community.

UNSW provides considerable support and resources for engaging students in sustainability learning experiences outside the classroom. Sponsored co-curricular offerings deepen students' understanding and application of sustainability principles and embeds this into the campus experience.

Volunteering on campus

Volunteering with Arc

The student organisation, Arc, is a hub of volunteering at UNSW. Under Arc's competent leadership, with guidance and support provided by the University, volunteering has grown steadily over the years. Volunteering activities complement the academic side of university life by providing a vibrant culture of 'giving back' and greatly enhance the experience of everyone at UNSW.

In this reporting period over 3,500 volunteers worked many thousands of hours running Arc's 26 volunteer programs, 270 clubs and over 400 volunteer and social events.

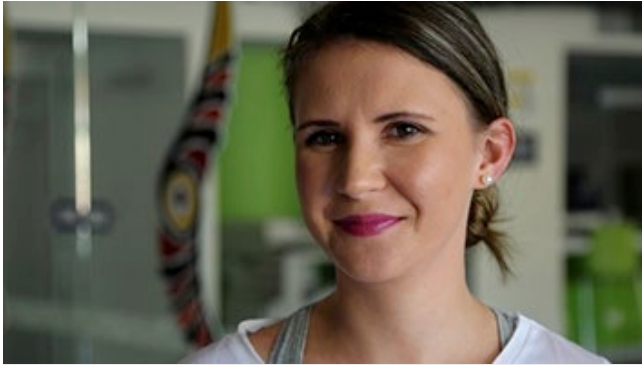
Arc student development committee

The Student Development Committee is Arc's student body responsible for overseeing the support provided to Arc-affiliated clubs, volunteer programs, courses, grants and relevant student events. Students are elected to represent the interests of Arc clubs and volunteer programs.

Arc volunteer programs with a sustainability focus

Bike-ology

Bike-ology holds bi-weekly maintenance workshops to diagnose and fix bicycle problems. They also hold second-hand bike sales and will give you all the info you need to know if you're in the market for a new (bicycle) best friend.



Young advocate finds her voice

Law student and Australian Federal Police cadet Danielle Hobday has been recognised for her achievements helping young Indigenous people.

When Danielle Hobday returned home one day from a student expo with a leaflet about studying law she didn't really think it was something she would pursue. But her father had other ideas. 'I remember the conversation with my Dad vividly,' says the 22-year-old UNSW student.

'He said "Why don't you apply and see how it goes. What have you got to lose?"'.

Fast-forward a few years and a career in the criminal justice system appears certain for Hobday. She is undertaking an Australian Federal Police Cadetship, works casually as a Youth Officer with Juvenile Justice, has received a scholarship with the Australian Government Solicitor's office, and looks set this year to complete a double degree in law and criminology.

Last week, her many efforts, including volunteering in remote communities, were recognised with an Indigenous Achievement Award at the NSW/ACT Young Achievers Awards.

This is an adaptation of a story written by Wendy Frew which originally appeared on the UNSW Newsroom.

eReuse

eReuse is a new Arc program that takes the unwanted computers of UNSW faculties, students and staff, refurbishes them and donates them to charitable organisations to distribute them to those in need.

Global Village

Between each semester, Global Village sends teams of students to developing nations to lend a helping hand with a local community project. Students have been to Malaysia, Thailand, Fiji, and Nepal to work on projects including building houses to teaching in local primary and high schools.

Mosaic Mentoring

This program offers both UNSW volunteers and local Sydney high school students the unique opportunity to come together and get talking about the social and cultural issues which shape and define us.

Phil'

Arc Philanthropy (Phil') is one of Arc's newest student-led programs. Their aim is to unite the entire UNSW community behind one common goal of raising awareness and money for a great cause each year. In 2016, their inaugural year, they raised over \$34,000 for the Child Life and Music Therapy Department at the Sydney Children's Hospital, Randwick.

Shack Tutoring

The aim of the program is to provide a free high school tuition service to local students who have been identified as disadvantaged, or who cannot access a required paid tuition service.

Stationery Reuse Centre

This ingenious, free program provides the UNSW community with good quality recycled stationery that has been previously used or discarded, preventing it from going to landfill.

The producers

The Producers is interested in sustainable practices and growing fresh produce. Producers get hands on experience in planting, maintaining and harvesting veggies and develop a greater appreciation of how easy it is to live and eat sustainably in this urban jungle.

Volunteer Army

The Volunteer Army helps to connect UNSW students with volunteering opportunities at UNSW Kensington Campus, Sydney CBD and Western Sydney locations. The aim is to foster community engagement while developing leadership, teamwork and communication skills.

Walama Muru

Walama Muru means 'a return of road or path' and offers an opportunity for UNSW students to travel to a regional Aboriginal community in order to learn and share in the local Aboriginal culture

Wellness Warriors

Arc Wellness is working towards raising awareness around mental health, helping students de-stress, and provide resources to foster the well-being of students. Events include Stress Less Week, R U OK? Day and Pat-a-Pooch puppy cuddling.

Volunteering with Student Life: Student Hub

UNSW Advantage accredits over 400 volunteering and professional development opportunities at UNSW and checks the quality of these opportunities to ensure that students are getting a great experience.

UNSW Advantage also makes sure these experiences are listed on a student's Australian Higher Education Graduate Statement (AHEGS) when they graduate.

In 2016, there were 464 AHEGS accredited volunteer opportunities for students, including leadership, skills development, cultural and mentoring programs. There were over 20 major events needing volunteers, including O Week, Info Day, Mental Health Month and the UNSW Careers Expo.

Student participation rates were more than 19,000 across all volunteering opportunities which is a dramatic increase of 192%. This is a result of two new student engagement tools that were launched in 2016 – a monthly newsletter called Student@UNSW (which goes out to all current students) and UNSW's official current student app, Uni-Verse.

**UNSW Advantage****How does it work?**

With over 400 volunteer and professional development opportunities across campus, the UNSW Advantage Program ensures that UNSW students are work-ready when they graduate. Simultaneously, being part of an Advantage accredited program encourages students to join a community at UNSW. They meet students with similar interests and stay motivated throughout their studies by complementing their classroom knowledge with real-world experiences and skills. Involvement in an Advantage accredited program is also recognised on a student's Australian Higher Education Graduate Statement (AHEGS) when they graduate.

In 2016, almost 6,000 students participated in at least one Advantage accredited program. A good example is the newly established Student@UNSW where student volunteers act as the 'faces' of student life. During 2016's O Week, over 40 volunteers helped over 3,000 new students through the provision of guidance and advice about settling into UNSW. This included personalising their O Week experience through the Orientation Event Planner; promoting the benefits of getting a Peer Mentor; providing information on where to go and who to ask for personal or academic support, promoting the Uni-Verse app for the timetabling functionality and campus maps and bookmarking key dates throughout the year.

Additional information

Building capacity in leadership, strengthening operations and maximising our resources to create the best possible campus environment for learning and research underpins the pursuit of our strategic priorities across the University.

Global Reporting Index

The following disclosure elements and indicators from the Global Reporting Initiative (GRI) G3 Reporting Guidelines have been used in the preparation of this report. In this section, we provide a table comparing information on this report to the guidelines of the GRI, entitled 'Sustainability Reporting Guidelines 2006.'

No.	Short Description / Title of Disclosure	Notes
1	Strategy and Analysis	
1.1	Statement from the most senior decision-maker of the organisation	See Overview.
2	Organisational Profile	
2.1	Name of the organisation	University of New South Wales
2.2	Primary brands, products, and/or services	Education and Research
2.3	Operational structure	See UNSW organisational chart
2.4	Location of organisation's headquarters.	Randwick, Sydney, NSW, Australia
2.5	Number and name of countries where the organisation operates	1
2.6	Nature of ownership and legal form	Body corporate under statute
2.7	Markets served	Main markets served are Australia, India, China, United States
2.8	Scale of the reporting organisation	See About UNSW
2.9	Significant changes	There were no significant operational changes in the past year
2.10	Awards received	See Appendix 3: Prizes
3	Report Parameters	
3.1	Reporting period	1 January 2013 to 31 December 2013
3.2	Date of most recent previous report	This is UNSW's first sustainability report

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No.	Short Description / Title of Disclosure	Notes
3.3	Reporting cycle	Calendar year to be consistent with UNSW's Financial Reporting period. It is UNSW's intention to produce an annual sustainability report.
3.4	Contact point	Aaron Magner, Director of UNSW Safety and Sustainability. a.magner@unsw.edu.au
3.5	Process for defining report content	See Overview
3.6	Boundary of the report	See Overview
3.7	State any specific limitations	None
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations	The reporting boundary includes controlled entities, subsidiaries, leased facilities, outsourced operations where these fall within UNSW's operational control. This report applies the definition for "operational control" in section 11 of the National Greenhouse and Energy Reporting Act 2007.
3.9	Data measurement techniques and the bases of calculations	See Overview
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement	Not applicable as this is UNSW's first report
3.11	Significant changes from previous reporting periods	Not applicable as this is UNSW's first report
3.12	Table identifying the location of the Standard Disclosures in the report.	See Appendix 1: GRI Table
4	Governance	
4.1	Governance structure	In accordance with the University of New South Wales Act 1989 (NSW), UNSW is governed by a Council of 15 members representing University and community interests.
4.2	Indicate whether the chair of the highest governance body is also an executive officer.	The Chancellor is the chair of the University Council, a non-executive position. The Vice-Chancellor is the Principal Executive Officer of the University and is responsible for the overall direction of corporate planning, budget activities and external relations. Under the University Council, the Vice-Chancellor manages and supervises the administrative, financial and other activities of the University.

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No.	Short Description / Title of Disclosure	Notes
4.3	For organisations that have a unitary board structure, state the number of members of the highest governance body	Of the 15 members of University Council, three are official members (the Vice-Chancellor, President of Academic Board and the Chancellor). Others include: <ul style="list-style-type: none"> • 2 ministerial appointments • 2 elected academic staff • 2 council appointees • 2 elected students (1 undergraduate, 1 post-graduate) • 1 elected non-academic staff.
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body	There is a Student Representative Council with elected student leader office bearers that meet the Vice-Chancellor and Executive Team to raise issues on behalf of students on a regular basis. The Vice-Chancellor also holds regular town hall meetings where members of staff are able to ask questions. The University also recognises and meets with the trade unions including the NTEU, CPSU and United Voice, as employee representatives.
4.12	Externally developed economic, environmental, and social charters, principles to which the organisation subscribes/ endorses	See Appendix 2: Declarations and charter
4.14	List of stakeholder groups engaged by the organisation	Stakeholder groups the university engages with include students, staff, alumni, donors, government, local councils, suppliers, other universities, student organisations and staff unions.
4.15	Basis for identification and selection of stakeholders with whom to engage	See Overview
4.16	Approaches to stakeholder engagement	See Overview
EC	Economic	
EC1	Direct economic value generated and distributed (Core)	The economic performance of the University is reported on in the UNSW Annual Report.
EC3	Coverage of the organisation's defined benefit plan obligations (Core)	No defined benefit super
EC4	Significant financial assistance received from government (Core)	See UNSW Annual Report
EN	Environmental	
EN2	Materials used that are recycled (Core)	See Environment, Purchasing
EN3	Direct energy consumption (Core)	See Environment, Energy

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No.	Short Description / Title of Disclosure	Notes
EN4	Indirect energy consumption (Core)	See Environment, Energy
EN8	Water withdrawal by source (Core)	See Environment, Water
EN16	Direct and indirect greenhouse gas emissions by weight (Core)	See Environment, Energy
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved (Additional)	See Environment, Energy
EN22	Waste by type and disposal method (Core)	See Environment, Waste
EN23	Significant spills (Core)	None
EN24	Waste deemed hazardous under the terms of the Basel Convention (Additional)	None
EN28	Significant fines and total number of non-monetary sanctions (Core)	None
EN29	Significant environmental impacts of transporting products (Additional)	None
LA	Labour Practices	
LA1	Total workforce (Core)	See Community, Equity and Diversity
LA4	Employees covered by collective bargaining agreements (Core)	UNSW Employees are covered by two enterprise agreements. The UNSW (Academic Staff) Enterprise Agreement 2011 and the UNSW (Professional Staff) Enterprise Agreement 2010. See UNSW Human Resources Enterprise Agreements.
LA7	Rates of injury, occupational diseases, lost days and absenteeism, and number of work related fatalities by region (Core)	See Community, Safety and Wellbeing
LA9	Health and safety topics covered informal agreements with trade unions (Additional)	The UNSW (Academic Staff) Enterprise Agreement 2011 and the UNSW (Professional Staff) Enterprise Agreement 2010 contains provisions relating to Occupational Health and Safety. See UNSW Human Resources Enterprise Agreements
LA13	Composition of governance bodies and employees according to gender, and other diversity indicators (Additional)	See Community, Equity and Diversity
HR	Human Rights	
HR3	Employee training on human rights (Additional)	See UNSW Equity and Diversity statement
HR4	Incidents of discrimination (Core)	None
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk (Core)	None

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No.	Short Description / Title of Disclosure	Notes
HR6	Operations identified as having significant risk for incidents of child labour (Core)	None
HR7	Operations identified as having significant risk for incidents of forced or compulsory labour (Core)	None
SO	Society	
SO4	Actions taken in response to incidents of corruption (Core)	No incidents during reporting period
SO5	Public policy positions and participation in public policy development and lobbying (Core)	See UNSW Code of Conduct. See also Community, Research and UNSW Newsroom
SO8	Significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations (Core)	In a decision of the NSW Industrial Court issued in March 2013, UNSW was found to have breached the Work, Health and Safety Act 2000 after a student suffered leg injuries and a broken wrist after falling from a boat while undertaking a research field trip on 31 July 2009. UNSW pleaded guilty and received a fine of \$100,000. See WorkCover NSW report.
PR	Product Responsibility	
PR2	Incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts (Additional)	None
PR5	Practices related to customer satisfaction (Additional)	UNSW undertakes a regular graduate satisfaction survey of all UNSW graduates approximately four months after they complete the requirements for their awards. For more information see UNSW's Business Reporting and Intelligence, and Data Governance.
PR7	Incidents of non-compliance with regulations and voluntary codes concerning marketing communications (Additional)	None
PR8	Substantiated complaints regarding breaches of customer privacy (Additional)	None
PR9	Significant fines for non-compliance with laws and regulations concerning the provision and use of products and services (Core).	None

GRI Application Table

We believe this report qualifies for application level C of the Global Reporting Initiative (GRI) G3 Sustainability Reporting Guidelines. Details of the profile disclosures and performance indicators addressed in this report can be found in the table at Appendix A and on the UNSW Sustainability website.

Declarations and charters

The following are the major declarations and organisations that are endorsed by UNSW and call for universities to make a strong commitment to the implementation of sustainability.

Declarations and Charters	Organisation or Event	Main Goal
Agenda 21 (see Chapter 36 'Education, Public Awareness and Training')	UNESCO	Set in place a range of activities to implement global sustainable development. Advocates a holistic approach to environmental education.
Australian Universities Ecological Development Charter	National Union of Students	Provide a strong framework to guide sustainability within Australian universities. Similar in content to the Talloires Declaration.
AVCC Policy on Education for Sustainable Development	Universities Australia	Commit to education for sustainable development and acknowledge the leading role played by universities in furthering the goals of the UN Decade of Education for Sustainable Development (DESD).
Kyoto Declaration on Sustainable Development	United Nations	Urge universities worldwide to seek, establish and disseminate a clearer understanding of sustainable development. It is recommended that each university have its own action plan that makes an institutional commitment to the principle and practice of sustainable development.
Sapporo Sustainability Declaration	G8 University Summit	Outline the responsibility of universities to contribute towards sustainability and the specific actions they must undertake to fulfil that responsibility. It recognises eight principles concerning the role of universities in global efforts to attain sustainability.
Talloires Declaration	University Leaders for a Sustainable Future	Outlines a 10-point action plan for incorporating sustainability and environmental literacy in teaching, research, operations and outreach at colleges and universities.
The Greenhouse Challenge	Australian Greenhouse Office	Reduce greenhouse gas emissions from buildings, waste products and plant and office equipment
United Nations Decade of Education for Sustainable Development (DESD) 2005-2015.	UNESCO	Implement environmental education globally, for everyone's benefit, while working to build the community's capacity to co-create a sustainable future

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Declarations and Charters	Organisation or Event	Main Goal
Universitas 21 Statement on Sustainability	Universitas 21 (U21)	<p>Member network of 20 research-led universities that benchmark against each other and commit to progressing global sustainable development in five areas:</p> <ol style="list-style-type: none">1. research towards sustainable futures2. education for sustainability3. universities as living laboratories for sustainability4. enhancing citizenship and engagement5. building capacity through cross-network collaboration and action.
Sustainability Collaboration Agreement	Randwick City Council	<p>Enables UNSW students to access internship and placement opportunities with Randwick Council and for the council to access a number of specialist sustainability activities underway across the University. It facilitates practical student learning and the application of particular areas of research and teaching into on-ground sustainability related projects or strategy areas being delivered through Council programs.</p>

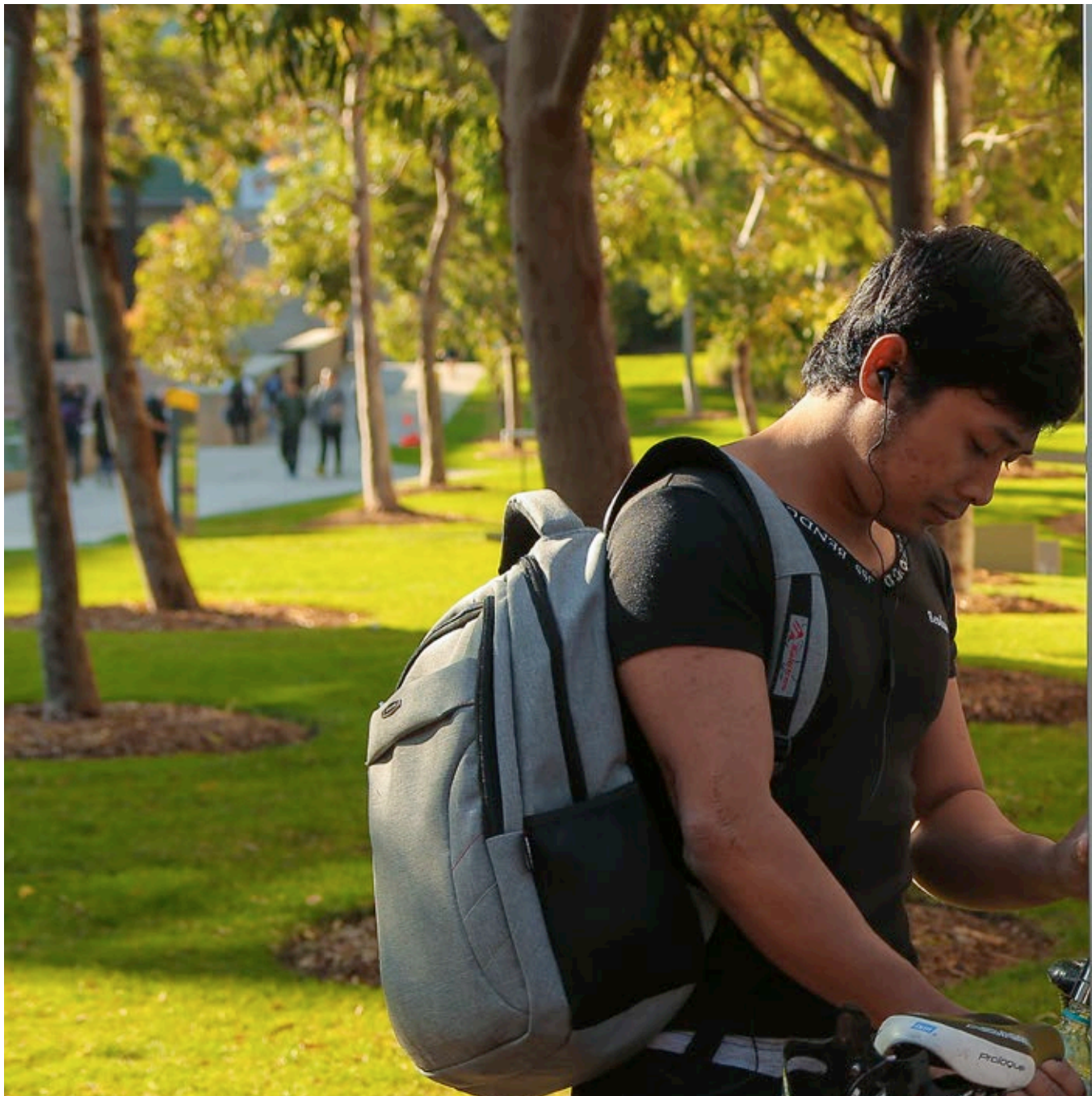
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UNSW Sustainability, UNSW Sydney NSW 2052 Australia
Telephone +61 2 9385 1038 | Email sustainability@unsw.edu.au
Authorised by Director of UNSW Safety and Sustainability
Provider Code: 00098G ABN: 57 195 873 179

