



# Sustainability Report 2019

**“To declare human-induced climate change an emergency is the correct and morally right thing to do. It’s our most wicked problem, but the transformational shift required to combat climate change offers so many positive opportunities to create a brighter and more sustainable future”**

Professor Stuart White, director of the UTS Institute for Sustainable Futures

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Our commitment  
to sustainability



Professor Attila Brungs  
Vice-Chancellor and President

## Statement from the Vice Chancellor

2019 was a year of renewal and transformation for UTS, as we began implementing our UTS 2027 Strategy, with a commitment to deliver a sustainable future as we work towards our vision of being a leading public university of technology recognised for our global impact. We have continued to embed sustainability into our core activities – from research on the impacts of climate change to equipping our students with the knowledge and skills they need to become the next generation of leaders.

This year our research continued to grow in strength and profile. UTS was ranked in the Top 150 universities in the world, 10 of our academics were on the Clarivate Analytics Highly Cited Researchers list and the Engagement and Impact Assessment outcomes recognised UTS as having the greatest impact of any university in the country. I am especially proud of the opening of the new Climate Justice Research Centre, the Biologics Innovation Facility and the Centre for Green Technology. All three are already making a valuable contribution to our capacity for world leading sustainability research.

The opening of the UTS Central Building in August represented an important milestone, the completion of the final new building in our billion-dollar-plus UTS City Campus Master Plan delivering world-class facilities for teaching, learning and collaboration. The 5 Star Green Star certified building includes roof top gardens, recycled water for irrigation and toilet flushing, and a plastic free food court.

Students always provide me with the greatest source of inspiration and optimism and this year was no exception. Here at UTS and around the world the voice of students put climate change front and centre with calls for urgent, meaningful action. In September, UTS supported that call becoming the first university in Australia to sign the United Nations climate emergency declaration. A move strongly recommended by our own Faculty of Science. The new website UTS4Climate is a great window into some of the innovative and dynamic responses from the UTS community to this wicked challenge.

It's been a big year and I look forward to working with our students, staff and community partners to develop more innovative solutions and responses in the future.



Benjamine Duncan  
Head of Sustainability

## Statement from the Head of Sustainability

This report charts our sustainability performance for the 2019 calendar year. Over the past 12 months work has focused on continuing to deliver the UTS Sustainability Strategy 2017 – 2020, with a range of initiatives across Teaching and Learning, Research, Campus Operations, and Engagement.

We began implementing the UTS Plastic Free Plan, a road map to phase out single use plastics on campus. Our big achievement this year was opening the food court in UTS Central in alignment with our Plastic Free Plan. All take-away containers are certified compostable and drinks are sold in glass, metal or cardboard. Collaborating with the retailers to find suitable packaging was a highlight and the feedback from our community – staff, students and visitors, has been extremely positive.

It was a challenging year with much of the country impacted by drought and bushfires. At UTS we renewed efforts to save water, complying fully with the water restrictions and increased our use of recycled water. To counter the impact of growing the campus, we continued to focus on energy efficiency initiatives and controls, smart technology and renewable energy generation on campus. Overall consumption of potable water was down 2.6% despite an increase in floor space and staff/student numbers. Another positive trend has been the ongoing shift to more sustainable transport. We conducted a travel survey this year confirming that 83% of students and 71% of staff use public transport for their commute to UTS, up 7% from the previous survey in 2016.

Engagement and participation in sustainability also grew with almost 3000 people attending 65 events throughout the year. This year we ran the Green Impact behaviour change program for the first time, recruiting 14 teams of 84 volunteers, who between them undertook 260 sustainability actions – from organising events to switching to recycled paper. Small steps taken by many people combine to make big achievements.

Finally, I'd like to thank staff and trainees in the Sustainability team, the UTS Sustainability Steering Committee, the senior executive, and all the staff and students who champion sustainability across the university every day. Thank you for your contribution and support.



## About UTS

**The University of Technology Sydney (UTS) is a dynamic and innovative university in central Sydney.**

UTS has a distinct model of learning, strong research performance and a leading reputation for engagement with industry.

With over 46,000 students (35,890 EFTSL) and 4,174 staff, UTS offers over 510 undergraduate and postgraduate courses across disciplines such as architecture, built environment, business, communication, design, education, engineering, information technology, international studies, law, midwifery, nursing, pharmacy and science.

One of the University's five values is to sustain our local and global environment, organisational health and our ability to create a positive, viable future. The university is committed to integrating sustainability principles into its key functional areas of teaching and learning, research, operations, and community engagement.





Highlights and  
awards

# 2019 highlights

## Partnerships



**34%**

annual increase in people attending sustainability events



UTS4Climate  
**1st university**  
in Australia to declare a  
**Climate Emergency**



New behaviour  
change program  
**14** teams did **260**  
sustainability actions



**20%**  
annual increase in  
**Walk to UTS Day**

## Operations



Opened the  
**plastic free**  
**food court**



**11%** of students  
**16%** of staff  
walk or cycle to UTS



Recycling  
**87 tonnes**  
of green organic waste  
processed on campus



Making  
**19 tonnes**  
of soil conditioner

## Teaching and Learning



**Ranked 69th**  
in the world for  
**graduate employability**



**8 new**  
**green micro businesses**  
hatched at UTS Startups



**Ranked highest**  
**performing university**  
in Australia  
under 50 years

## Research



**3 new**  
**research centres**  
open this year



**10** UTS academics  
on the  
**highly cited**  
**researchers list**



**New Think Tank**  
**E-waste Watch**  
launched

# Awards and recognition



Natalie Lau accepting the TEFMA Clever Campus Award

## Winner

- TEFMA Clever Campus Award, Continuous Improvement category, in recognition of the university's consistent and demonstrated improvements in the energy and carbon sector over a five year period from 2013 – 2018.
- UTS Early Career Research Excellent Award, Dr Emma Camp for her work on resistant corals and coral reef affected by climate change.
- UTS Research Leadership and Development Award, Professor Justin Seymour for his work on marine microbes and ocean health.

## Finalist

- Green Gown Award, Benefiting Society category for the work being undertaken by the Centre for Social Justice and Inclusion.
- UTS Medal for Research Impact, Associate Professor Kate Barclay for her work researching the social and economic aspect of sustainable fisheries.
- ACTS Award of Excellence (staff), Emma Camp for her work as a United Nations SDG Young Leader.
- ACTS Award of Excellence (student) Tom Hume for his work as a youth advocate for renewable energy.
- Australian Museum Eureka prize for outstanding early career researcher, to Dr Qilin Wang for his invention of a closed loop system to convert sewerage to bio energy.

# United Nations SDGs

The United Nations Sustainable Development Goals (SDGs) provide a framework for action on sustainability

The 17 goals have been designed to help guide governments, businesses, and the community towards creating a more just and sustainable world. Within the 17 high level goals are 169 targets to guide and evaluate progress.

In 2016 UTS was one of the first universities in the Asia Pacific region to become a signatory to the University Commitment to the SDGs. In 2017 the UTS Institute for Sustainable Futures (ISF), in collaboration with Australasian Campuses Towards Sustainability (ACTS) produced a Guide for Universities Getting Started with the SDGs.

In the same year, we began to incorporate the SDGs into the university’s research and teaching. This will be an ongoing process, becoming more comprehensive and systemic each year.

This year UTS signed the UN Global Compact, the world’s largest corporate sustainability initiative, with a mission to support action on the SDGs. As a signatory and member of the Global Compact Network Australia

(GCNA), the UTS Business School is playing an active role, deepening engagement with business.

The university also participated in SDG forums and engaged senior leaders to identify existing UTS initiatives that align with the SDGs across teaching and learning, research, operations and engagement. The outcome of this mapping exercise demonstrated good SDG coverage, and produced recommendations to inform UTS’ future institutional response to the SDGs. The recommendations will be further implemented in the 2020 reporting year.

In 2020, we will review and update the UTS Sustainability Strategy and align our strategic focus and activities to the SDGs. From 2020, UTS Sustainability Reports will detail how UTS activities are contributing towards specific SDG goals and targets.

In the meantime, this year’s report includes individual SDG icons in the body of the document indicating work that aligns with specific SDGs.



**“The UN Global Compact provides both a practical framework for action to advance the UN Sustainable Development Goals, and a platform for demonstrating corporate commitment and leadership.”**

UTS Adjunct Professor David Cooke,  
Chair of Global Compact Network Australia





# Teaching and learning

# Teaching and learning

The *Times Higher Education Young University Rankings 2019* rated UTS the highest performing university in Australia under 50 years old, and UTS ranked 69th in the world for graduate employability in the *QS Graduate Employability Rankings 2020*.

## UTS Startups

UTS Startups supports and nurtures budding entrepreneurs by providing intensive training, mentorship and introduction to potential collaborators. The program helps students and staff with an idea to solve a problem, bring their vision to life. Many UTS Startup projects have strong sustainability themes, including this year;

- **Ornella & Co** by student Ornella Byak is a peer-to-peer garment rental service allowing women to rent items of clothing. A similar service Gecko by student Ben Kennedy allows people to rent all kinds of gear from electronics to furniture. Both of these new business are facilitating the share economy.
- **Aggie Global** connects small-scale farmers in the Asia Pacific direct to global customers, expertise and the resources to help them improve farm productivity and sustainability.
- **Ardea Waste** helps companies classify their waste and find upcycling and recycling options for commercial waste materials.
- **Ruff Sleepers** is a free mobile dog washing and grooming service for homeless people, allowing socially disadvantaged people to keep their best friend healthy.

## Case study



Urban plant growers harvesting home-grown basil.  
Credit: Andy Roberts

Urban Plant Growers provides the equipment and advice for everyday people to grow food at home without sunlight or soil by using hydroponics. Students Dilhan Wickremanayake and Peter Cole participated in the UTS Startups program to develop their idea into a fully-fledged business. The two were subsequently accepted into Mirvac's Impact Accelerator Program for their innovative approach to growing food in confined city environments. Hydroponics use up to 90% less water than conventional growing and while their products are designed primarily for urban settings Urban Plant Growers are finding an increasing number of their customers come from drought-affected parts of rural Australia.

The team have also been working with schools including the Indigenous charity Deadly Science to engage school kids in growing food in the classroom.

“Starting a company that engages people in sustainability – while also reducing food miles, water use, and food waste has been tremendously rewarding,” said Wickremanayake.

**More here**







## Sustainability internships

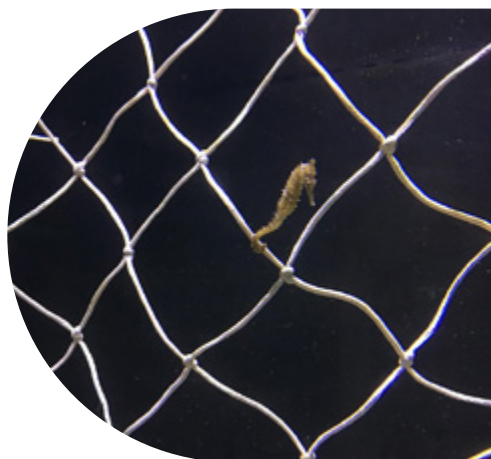
Internships and industry placements are a critical way for students to prepare for the workforce. UTS Careers support students in finding and arranging placements. To assist those wanting sustainability related internships, UTS Careers created a list of relevant companies – as identified by ISO14001, BCorp certification, and green company listings from the ASX, Forbes and EcoCitizen. The number of UTS students finding placements with ‘sustainable companies’ rose from 4.3% of all placements in 2018 to 5.5% in 2019.

## Australian native foods

The National Indigenous Bush Food Symposium held in November at the UTS Business School examined the booming Indigenous and bush food market in Australia. Held in collaboration with First Hand Solutions Aboriginal Corporation, the symposium explored topics including analysing market trends, establishing supply chains, identifying international opportunities and asserting legal rights over knowledge, plants and foods.

[More here](#)

## Student leading lights



One day old baby sea horse.  
Credit: Jillian Chambers

The perfect summer job for UTS science graduates Jillian Chambers and Taylah Starc was caring for a new brood of baby sea horses at SEA LIFE Sydney aquarium. The partnership program with the NSW Department of Primary Industries raises endangered White’s seahorses in captivity to release back into the wild, then support and study their long-term recovery. Jillian and Taylah oversaw a number of breeding pairs including four pregnant males. Taylah recalls arriving in the morning and noticing two little babies, “I spent the next two hours waiting in anticipation of the birth. It was so exciting when it finally happened,” she said.





The UTS Deep Green crew at Splendour in the Grass

## New roof top city farm

Indigenous graduates Clarence Slockee and Christian Hampson launched Australia's first Indigenous rooftop farm. Based at South Eveleigh, within walking distance from the main UTS campus, the farm grows native and medicinal plants and bush foods. The project aims to teach people about Indigenous culture, with items also available for sale. Produce from the farm includes saltbush, native mint, finger lime, warrigal greens, rosella, midyim berries, muntries and native elderberry. The farm aims to be a complete eco-system, utilizing native bees for pollination and native indigo as a nitrogen-fixer in the soil. Both Slockee and Hampson are graduates of the UTS Business School, collaborating on the project with the property developer Mirvac.

## Online citizen science portal

Microscopic ocean organisms are the largest biomass in the oceans, consuming almost 50% of the planet's carbon dioxide through photosynthesis. A new online citizen science project launched this year called Adrift is helping scientists study how marine organisms are impacted by climate change. The project is a collaboration between scientists and designers at UTS and the Otago University in New Zealand. The on-line tool allows members of the public to drop cyber microbes into a virtual ocean anywhere on the planet and the tool simulates ocean currents and climatic conditions to generate data. The project allows members of the public to learn more about the important role these microbes play, while at the same time acting as citizen scientists to generate data used by researchers.

[More here](#)



## Taking science to music festivals

A science tent is not your typical music festival line up but that's exactly what the UTS Deep Green Biotech Hub did at the 2019 Splendour in the Grass festival. An algae 'forest' tent provided an oxygen-rich chill out space for festival goers to learn more about the potential of algae in a sustainable world. There were talks from UTS researchers, and UTS Startup Myimpact showcased their new app to help festival goers track their personal carbon footprint. People entering the tent could calculate their carbon emissions, choose an algae species to help offset their carbon footprint, and contribute to growing algae within the tent. Outside, people could interact with the UTS Living Lights installation that debuted at Vivid Sydney festival in 2018. The installation was made of living algae and used LED lights and different colours of various algae species to provide vibrant glowing tubes of different hues to add to the festival's night time vibe.



# Public lectures

## Future of Food Forum

This event asked the question: can the future of food be tasty, sustainable and profitable? Hosted by UTS Startups and the Deep Green Biotech Hub and aimed at innovators and entrepreneurs, the event explored how food security, population growth, climate change and technology means that innovation is critical. One of the attendees was UTS Startup

participant Oleksandra Rybalko co-founder of the app True Origin. His app allows consumers to access detailed information about a food product's origins, inputs, carbon foot print and more, with the simple swipe of the label. Tools like this will be vital in the near future to allow consumers to make more informed choices about their food.



## New faces



**Elizabeth Tomc** joined the Faculty of Engineering and IT, teaching in the areas of systems thinking, sustainability and leadership.



**Dr Klaus Gebel** joined the Faculty of Health as a Senior Lecturer in Public Health. His focus area is the relationship between the built environment, physical activity and public health.



**Mark Goodhew** joined the Faculty of Health as a lecturer in Nursing, teaching in the area of mental health and drug and alcohol. He has a research interest in participatory action research which aims to empower vulnerable and marginalised people.



**Kylie-Anne Richards** joined UTS Business School teaching sustainable finance, with a research interest in green bonds.





Research

# Research

UTS was ranked in the Top 150 universities in the world by the QS World University Rankings 2020, recognising the quality of our research, and Clarivate Analytics named 10 UTS academics on their list of Highly Cited Researchers 2019, with two researchers named in two categories.

**2019 was a big year for research at UTS with the establishment of three new research centres focusing on different areas of sustainability.**

## New Climate Justice Research Centre

This year the Faculty of Arts and Social Sciences launched the Climate Justice Research Centre, bringing together researchers from sociology, politics, anthropology, cultural studies, environmental science and journalism.

The Centre focuses on the socio-political drivers of climate justice, exploring the collision between the science of climate change and the politics of social change.

[Link](#)



## New Biologics Innovation Facility

The Faculty of Science opened the Biologics Innovation Facility, a hi-tech lab containing state-of-the-art bio-manufacturing equipment for use in the biotech and pharmaceutical sectors.

Designed for inventing, testing and manufacturing cleaner greener bio-products, the facility is a collaboration with GE Healthcare, with support from the NSW Department of Industry.

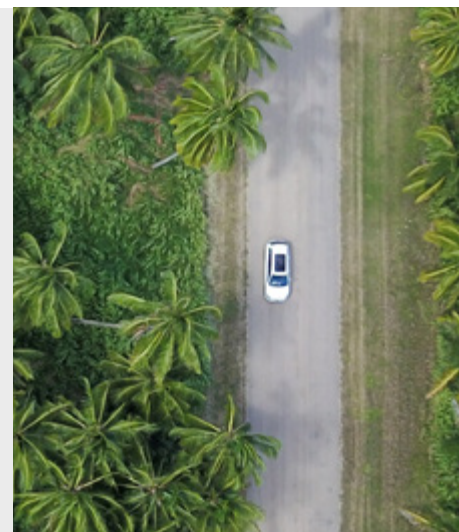
[Link](#)



## New Centre for Green Technology

The Faculty of Engineering and IT launched the Centre for Green Technology researching new fuels including hydrogen and biofuels, to improve vehicle emissions and environmental decontamination.

[Link](#)



## Other Research Centre activity this year

### Centre on Persuasive Systems for Wise Adaptive Living (PERSWADE)

held a roundtable on the COP24 climate meeting. Visiting Polish professor Celina Olszak who attended COP24 shared her reflections on the conference, along with suggestions for progressing climate policy in Australia.

**C3 Climate Change Cluster** hosted its first open day with interactive workshops including “How well do you know what’s living in the ocean?”, “Discover Living Algae in Action” and “Uncovering how corals cope with climate change”. The day was about exploring how human societies can work together to better understand ecosystems and our impacts on them.

### Centre for Compassionate Conservation

continued its work on critical conservation challenges such as resolving human-wildlife conflict, ending wildlife trade, enhancing the welfare of wild animals, and promoting coexistence between animals and humans.

### Centre for Technology in Water and Wastewater

- the Centre’s Professor Huu Hao Ngo was recognised as a world Field Leader for his work in biotechnology. Online data analytics was used to assess 250 fields of academic endeavour, singling out biotechnology where Australian researchers are world leaders and positioning UTS as a global lead institution.

### Centre for Clean Energy Technology

hosted the International Symposium on Frontier Materials, exploring aspects of emerging energy materials, smart materials, quantum materials and advanced materials characterisation.

### Institute for Sustainable Futures (ISF)

- hosted the Organix19 Summit in partnership with the NSW Environment Protection Authority (EPA), bringing together sixty five leaders in organics waste management to examine current and emerging policy, technological innovation and practices in organic waste management.
- On World Water Day, 22nd March, ISF in partnership with eight other organisations launched the Global Urban Water Security Network, a knowledge-sharing network that will work to achieve equitable, accessible and secure water systems in urban centres around the world.
- Ran two workshops and launched a new handbook in Papua New Guinea to help local communities adapt to a changing climate.

## Case study

In April ISF launched a new independent think-tank – Ewaste Watch. Designed to act in the public interest to protect human health and the environment by accelerating improved stewardship and circular solutions for electronics. The think-tank is in response to the sluggish pace of regulatory and industry action with only 20 percent of the 35 million pieces of electronic equipment imported into Australia each year currently being recycled. Ewaste Watch will help to inform, educate, engage and advocate, working with industry, government and the public.

**“We are facing an e-waste tsunami and this requires a fundamental rethink of the systems and standards governing electronics in society. The establishment of E-waste Watch is exciting, as it provides a platform to achieve real change in Australia, NZ and further afield,”**

Professor Damien Giurco, ISF.



## UTS 4 Climate - Research

This year saw a new wave of climate related activity across the globe and on campus under the banner UTS4Climate our researchers showcased the breath of climate related activity underway at UTS.

### ■ Pathway to a stable climate

A two-year scientific collaboration led by the Institute for Sustainable Futures produced a roadmap to keep global temperature rises under 1.5°C, using 100% renewables and natural climate solutions such as re-forestry. With the destructive impacts of climate change becoming apparent, this new framework for action provides tangible hope for the future, showing a pathway to stabilising the climate within a generation. Undertaken with the German Aerospace Center and the University of Melbourne, and funded by the Leonardo DiCaprio Foundation (LDF), the project was part of the One Earth initiative.

The research produced the most detailed energy model to date, detailing a pathway to 100% renewables by mid-century, creating millions of permanent jobs along the way. All achieved at about a third of the cost of current subsidies for fossil fuels.

### ■ Climate Change: Health and Resilience in the Pacific

A joint event with the World Health Organisation Collaborating Centre for Nursing, Midwifery & Health Development, showcasing research on how Pacific Island countries are building resilience in the face of climate change.

### ■ Saving coral reefs

Mangroves might seem like an unusual place for a coral scientist to work, but reef researcher Emma Camp is looking for the unexpected. Her research focuses on finding corals living in harsh unlikely locations and finding out why – to explore whether the same hardy corals might be resistant to the impacts of climate change.

Recognised as a United Nations Young Leader and named an Associate Laureate in the 2019 Rolex Awards for Enterprise, Camp’s research is making waves. She was awarded the UTS Early Career Research Excellent Award, and in August won the NSW Tall Poppy Science award.

### ■ Climate Justice

The Climate Justice Research Centre held a one-day seminar Dimensions of Climate Justice, Correlating an Upsurge? The day explored research agendas across multiple fields from the democratisation of energy, to heat stress in the workplace, and the politicisation of climate impacts.

### ■ Book Launch

Superpower: Australia’s low-carbon opportunity, economist Ross Garnaut argues Australia could be a renewable energy superpower. At the launch, presided over by UTS Professor Bob Carr, the two discussed the necessary steps to get there.



### Real world impact

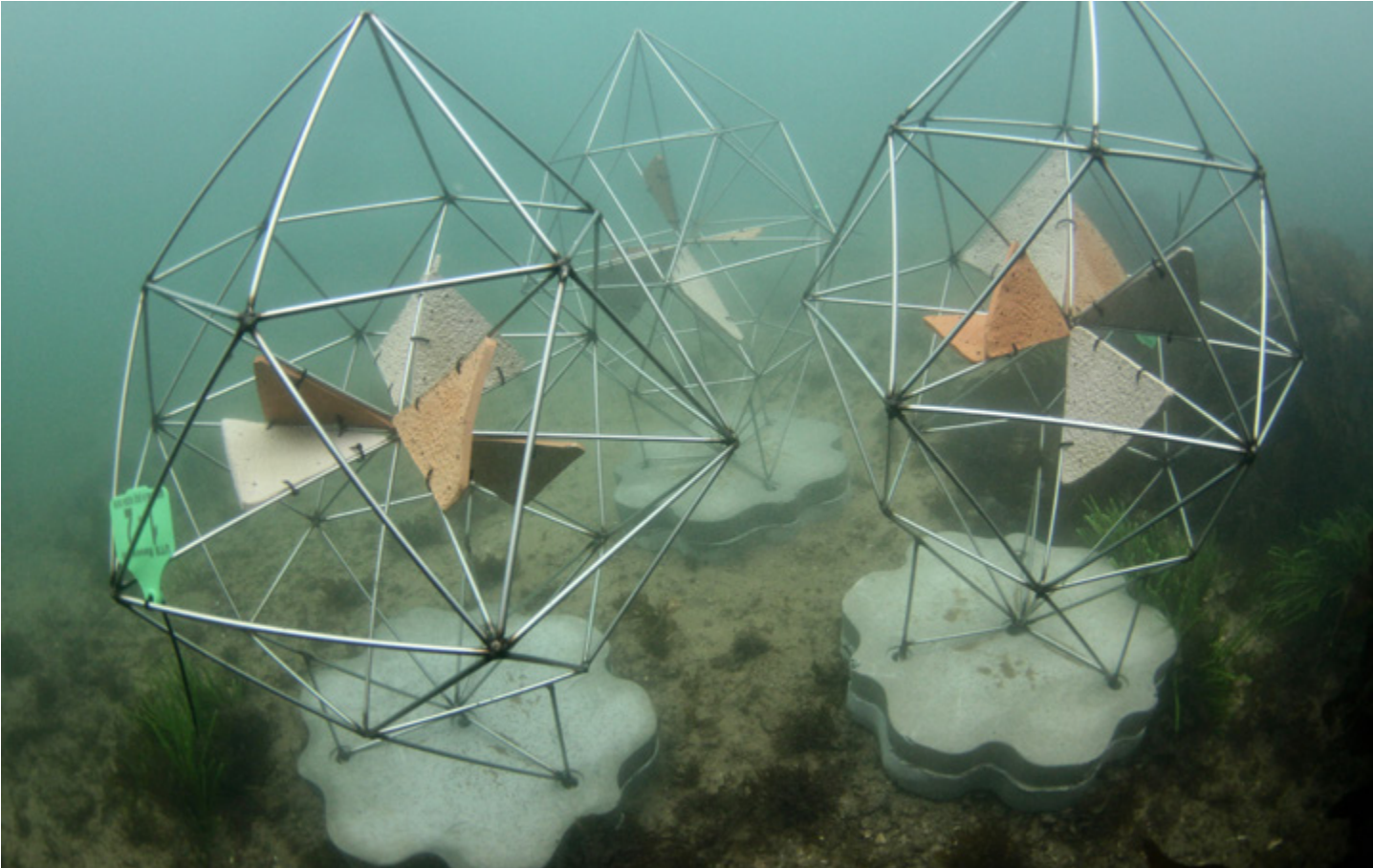
A new project working with partners in Vietnam to improve water management won a \$1 million Federal Government innovation grant. UTS engineers will collaborate with colleagues from partner universities at the Vietnam National University, University of Engineering and Technology (VNU-UET), and the Ho Chi Minh City University of Technology (HCMUT). The project will introduce new technologies to deliver safe drinking water to local communities, introduce water monitoring systems to improve local aquaculture, and utilise data analytics to help improve sustainable water management in the Mekong Delta.



### Sydney Opera House pods

In collaboration with the Sydney Opera House researchers from the Faculty of Science installed eight hexagonal shaped pods on the sea floor beside the sea wall of the Sydney Opera House at Bennelong Point. The initiative coincided with United Nations World Environment Day in June and creates purpose-built artificial reef structures to provide habitat for marine species.

The project will test materials and structures from different models to inform the design of future artificial reef structures with the hope of attracting targeted species. "After only a few weeks the pods are attracting the interest of the types of species we hope will be drawn to this new habitat such as leatherjackets, bream and octopus," said lead researcher Professor David Booth.



Artificial reef pods installed on the sea floor beside the Sydney Opera House

## Staff leading lights



Dr Helen Lewis

Dr Helen Lewis from the Institute for Sustainable Futures was winner of the 2019 Waste Management Association of Australia (WMAA) Women in the Environment Award. Recognised for her years of work on product stewardship and waste management, Dr Lewis has spent much of the past 30 years advocating life cycle thinking and design for sustainability to reduce the environmental impacts of products.

China's ban on plastic waste has raised public awareness and highlighted the need for improved cradle to grave thinking. "We need to get rid of problematic and unnecessary single use plastics and find more durable, reusable alternatives. We should stop our waste leaking into the environment as a result of littering or poor waste management practices, both here and elsewhere," says Dr Helen Lewis

[More here](#)



## Staff leading lights



Associate Professor Kate Barclay

Associate Professor Kate Barclay won the NSW Sydney Fish Market seafood industry award for research examining the social aspects of fisheries. Focusing on fisheries, aquaculture and marine conservation in the Asia Pacific, the win recognises Barclay's work using multidisciplinary models to evaluate the social and economic aspects of fisheries. Her work is helping government agencies and primary producers manage local environmental resources more sustainably.



## Student leading lights

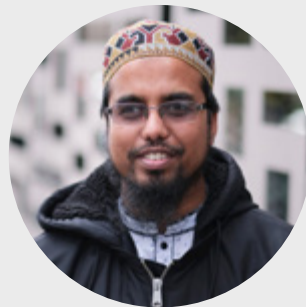


Reannan Honey and furry friend

UTS PhD student Reannan Honey received a grant from Lake Macquarie City Council to undertake research into the restoration of native tree hollows as habitat for native animals. The research involves long-term population monitoring of endangered squirrel gliders, installing specially made insulated nesting boxes and monitoring their use to record patterns of usage. Honey's research is being used to help inform Council's land management practices, and to hopefully ensure better habitat restoration for key native species in the region.



## New faces



**Mofijur Rahman** joined the Faculty of Engineering and IT as a postdoctoral fellow. His research interest is waste to energy conversion and biofuels for internal combustion engines.



**Stephen Northey** joined the Institute for Sustainable Futures as a postdoctoral fellow. His research focuses on the sustainability of mineral and metal supply chains, especially scenario modelling, resource consumption, and water management.





# Facilities and operations

# Facilities and operations

## UTS Central

This year saw the opening of the UTS Central Building, home to the new UTS library, Faculty of Law and Australia's first plastic free food court. The building achieved a 5 Star Green Star certification incorporating sustainable design principles including;

- **Recycled water** – an innovative precinct partnership with our neighbour at Central Park provides recycled water for landscape irrigation and toilet flushing.
- **District cooling** – the same partnership with Central Park provides district cooling. Chilled water is pumped beneath Broadway to power the air-conditioning system, saving space and helping reduce the building's greenhouse gas emissions by approximately 2%.
- **Plastic free food court** – level two houses eateries offering the convenience of take away food, with compostable packaging. Single use plastic is avoided and drinks sold in the vending machines come in glass, aluminium or cardboard.
- **Indoor quality** – the building scored well for overall environmental quality, incorporating naturally-lit spaces, materials and furnishings with low VOC/air pollutant ratings.
- **Roof top gardens** – the building has three roof top gardens, two large terraces on level eight providing accessible green space from the library, and on level 17 a garden deck for functions and events. This level includes a grove of mature olive trees rescued from a disused olive oil farm, while the library level has a dozen mature fig trees rescued from an abandoned nursery. The gardens help provide habitat for urban biodiversity.
- **Building construction** – the building's highest Green Star certification score was in the management category, scoring 13 out of a possible 14 points. This captures sustainability in the construction process, including water, energy and waste management during construction.



## Plastic free food court



Plastic Free Ambassadors

A team of students acted as Plastic Free Ambassadors during opening week, providing face-to-face waste education. Roving in the food court during the busy lunchtime period they engaged fellow students in conversations about the different types of waste, how waste is processed, the recycling system and potential end uses, and the importance of putting waste items in the correct bin.

[See the video here](#)



## Transport

This year we undertook a comprehensive travel survey to better understand the travel choices of staff and students commuting to UTS. The results showed;

- 83% of students choose public transport
- 71% of staff choose public transport
- 11% of students walk or cycle
- 16% of staff walk or cycle

While around 10% of staff and students drive to UTS, there has been a positive shift away from car transport towards public and active transport. Between 2016/17 and 2019 public transport use grew from 64% to 71% for students, and from 76% to 83% for staff. In the 2019 travel survey 11% of walkers and 18% of cyclists said the main reason for their choice of transport was 'I want to reduce my environmental footprint.'

The university continues to support the shift to active transport with cycling and walking promotion events throughout the year including Ride to UTS Day and Walk to UTS day in October. Walk to UTS Day this year saw a 20% increase in participants with ten people walking more than 10km on the day. The longest distance prize went to student Bhahuka Dolapihilia who walked a staggering 43.1 km – longer than a marathon!

## Electric vehicle charge network

We continued to roll out our Electric Vehicle charging network across campus with 2-type chargers installed in building 10, adding to existing chargers in building 6. The system uses the **Every smart control and payment platform**, a Startup from the UTS hosted EnergyLab Cleantech accelerator. Drivers can use this website and app to book a parking space and pay online for recharging.



## Waste and recycling

2019 was a challenging year for waste management with total volumes rising 37% from 958.5 tonnes in 2018 to 1,310.2 tonnes in 2019. There were a number of drivers for this increase. Firstly, total floor space rose by 5.7% with the opening of the new UTS Central building and the Faculty of Health facilities at 100 Broadway. The University also experienced a 1.7% increase of Full Time Equivalent (FTE) student and staff numbers. Another factor was the opening of the new UTS Central food court where we changed the way we report waste. The new food court includes the retailers' waste volumes, which were not included in previous years. While this centralisation resulted in a jump this year, it means the figures now have greater data integrity with all waste streams being captured and reported. This year's increase should be a one-off anomaly necessary to improve waste management, reporting and performance.

In 2019 we recycled;

- 384.6 tonnes of paper
- 670.8 tonnes of mixed recyclables (glass, plastic, aluminium, etc.)
- 87 tonnes of green organics (mostly food waste), processed on campus to make 19.1 tonnes of soil conditioner
- 1.7 tonnes of Styrofoam
- 1.3 tonnes of batteries
- .9 tonnes of cabling

We continued our participation in the national FluroCycle program, committing to recycle 100% of our florescent lamp waste, which in 2019 was 1.7 tonnes.

## Closed loop food waste

All food waste from offices and back-of-house retail outlets is separated and collected in dedicated food bins. This waste stream is processed on campus in two de-hydrator machines, and in 2019 produced 19.1 tonnes of soil conditioner. This year the output of these machines was approved by the NSW EPA for application on gardens and UTS began supplying the material to an organic garlic farmer on the edge of the Blue Mountains. This December the first crop was harvested grown using UTS soil conditioner – a genuine closed loop cycle with food waste being used to produce more food.





## Sustainable campus tours

Throughout the year we ran 24 tours for 280 staff, students, industry groups and visitors showcasing sustainable buildings and systems on campus. With the opening of UTS Central with its three roof gardens, bring the total on campus to five, we started ‘green roof’ tours to explore the benefits of building green roofs – from insulating the building and reducing air-conditioning load, to reducing stormwater run-off, and providing recreational green space and habitat for urban biodiversity.

## Water

Potable water consumption this year fell by 2.6% from 159,438kL in 2018 to 155,247kL in 2019. This is a positive achievement with the reduction achieved despite an increase in floor space of 5.7% and total staff

and student numbers of 1.7%. The savings were achieved through the use of recycled water for toilet flushing and irrigation in the UTS Central building. Another significant driver was the use of chilled recycled water from Central Park for cooling on the main campus. Running our own chillers for air-conditioning would have used more water.

Due to the drought across much of South Eastern Australia level two water restrictions were introduced across greater Sydney towards the end of the year, and UTS fully complied with the restrictions, limiting our use of water for irrigation and operational uses.

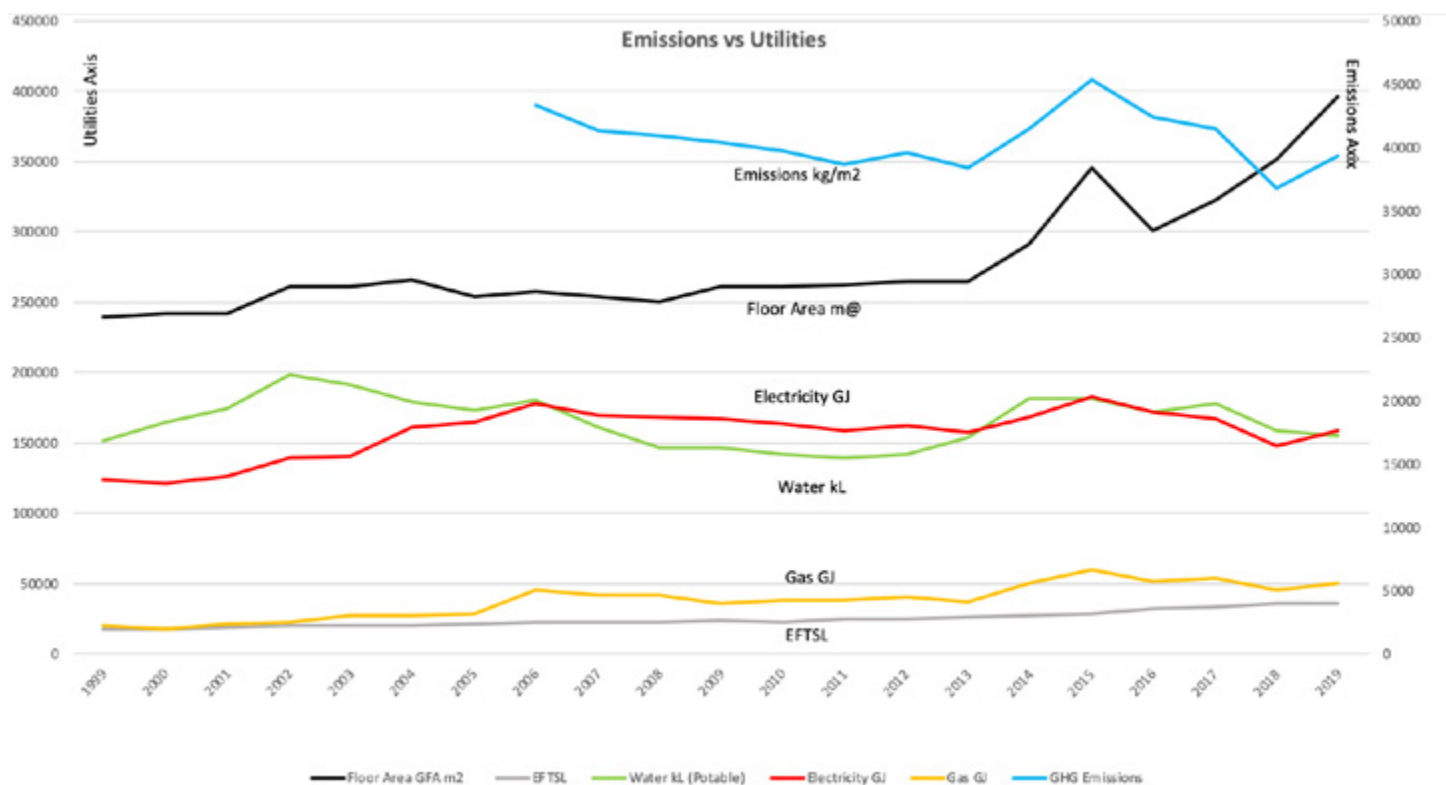
## Solar energy

UTS has entered a Power Purchase Agreement (PPA) to finance a new solar farm in regional NSW near Walgett that will provide the equivalent of 50% of the university’s electricity demand. The project developers are working through

grid connection issues and bottlenecks in the transmission supply network that have delayed construction to 2020. In the meantime, PV solar installations on five of our existing city building rooftops produced 358,076 kWh, which is equivalent to the electricity consumption of 24 households for an entire year.

## Energy and greenhouse

The largest contributor to greenhouse emissions is energy use from electricity and gas. Total greenhouse emissions rose 7.1% from 36,760 tonnes in 2018 to 39,380 tonnes in 2019. This was mostly due to an increase in electricity consumption of 1.7% and gas consumption of 9%. This gas rise was partly due to the commissioning of the new UTS Central building during the cooler winter months, with gas providing heating.





# Partnerships and engagement

# Partnerships and Engagement

Engaging staff, students and visitors in sustainability improved significantly this year with a 35% rise in people attending sustainability events, from 2159 in 2018 to 2994 in 2019. A further 2000 people participated in on-line initiatives. We held 65 events throughout the year including those listed below.

## Green week

Our annual green themed week of sustainability events held in collaboration with Ultimo TAFE had 16 events this year including free plant give-aways, documentary films, stalls and workshops, a sustainable cocktail night using native ingredients, and a talk on bees and honey followed by a guided honey tasting.

[See photos here](#)

## World Environment Day

Each year the Deputy Vice Chancellor (Resources) hosts a morning tea to celebrate World Environment Day on 5 June, with winners of the UTS Green Hero Awards announced at the event. The awards recognise and celebrate staff, students and alumni doing great work to progress sustainability, with all nominations made by fellow staff and students. This year's winner was staff member Tom Wilson for his leadership role advocating sustainability in the UTS social justice team and, as a keen surfer, also in the surf community. Second place went to student Tom Hume for his role as a renewable energy champion, including traveling to Canada as the Australian youth delegate to the United Nations Clean Energy Young Leaders Ministerial Forum. Third place went to student Lucy Chen for her passionate work leading student clubs including three years as president of the Eco Society club, and then helping to energise the Enviro Collective, leading campaigns on fossil fuel divestment and Adani.





## UTS 4 Climate

This year students led the way on climate change, with rallies, marches and associated events in more than 40 countries around the world calling for meaningful action on climate change. UTS was no exception with our students taking a leadership role at large public rallies in September and March. In September UTS was the first university in Australia to sign the Climate Emergency Declaration, part of the SDG Accord representing a collective response from the tertiary education sector. Multiple events were organised by staff and students including;

- **Sharing Climate Responses**

A TedX style event with UTS researchers from a wide cross section of disciplines giving snappy presentations on topics from high tech energy solutions, to saving coral reefs, creative urban design responses, and the power of storytelling and sense-making in times of upheaval and transition.

- **We Stand with You workshops**

Workshops for staff and students unable to attend the climate rallies but wanting to show their support, decorating footprints to display in public places (made from recycled materials of course).

- **Emergency Response: Climate Change and the Future**

A panel conversation with The Hon Bob Carr and leaders from industry and the community exploring the scale and scope of the challenges, along with adaptation and mitigation responses.

- **Climate Policy Forum**

This event with one of Australia's most senior public servants, Martin Parkinson AC and former ABC reporter and journalist Marian Wilkinson explored how and why climate change policy has become one of the most divisive issues in Australian political history.

- **UTS Big Thinking Forum – Saving the Climate**

In July UTS academics with leading thinkers from industry and government discussed the ambitious journey ahead transitioning from the current climate crisis, to a planet that is safe and prosperous for everyone.

[More here](#)



**“Universities have an important role to play in not simply researching the impacts of climate change, but also taking an active role helping to shape how society responds”**

Charles Cranfield, biophysicist in the School of Life Sciences and founding member of the Science Faculty Sustainability Committee.



BYO Cup Day

## BYO Cup Day

As part of our plan to phase out single-use plastics on campus we ran BYO Cup Day in April. Across the entire campus approximately 5000 disposable cups are used every week, so even small improvements can make a big difference. Seven cafes participated offering 'buddy up - two for the price of one', with the aim to encourage people who already use BYO cups to recruit new BYO buddies. The day included stalls across campus staffed by student volunteers selling BYO cups with free vegan treats.

## Social sustainability

An inaugural UTS Sustainable Christmas market was held with stallholders from the not-for-profit and 'social good' sectors, raising funds for environmental and social justice groups. Stall holders included Anti Slavery Australia, a Turkish/Syrian Refugee group, the Many Food Coop, and Surf Sock Australia who make surf gear from recycled sails.



## Science Sustainability Committee

Staff in the Faculty of Science formed a new internal Sustainability Committee to undertake activities to improve sustainability operations within the Faculty. The Committee meets every few weeks and has already developed guidelines to improve catering. The next step is a 'de-carbonisation plan' focusing on ways to reduce energy consumption in science labs and scientific research. Supported by Faculty management, the Committee offers the potential to utilise internal scientific capacity to help inform decision-making.

## Green Impact program

Developed originally in the UK where approximately 50% of universities run the program, Green Impact this year ran in 14 institutions across Australia and New Zealand, including UTS. A behaviour change program designed to engage staff and students, the program provides a framework for teams to compete with each other by undertaking sustainability activities. Fourteen teams at UTS, made up of 84 staff and students who between them undertook 260 sustainability actions. Based on this year's success, the program will be run at UTS again in 2020.

## Green Staff Network

The Green Staff Network is a loose group of professional and academic staff interested in sustainability who meet quarterly and explore ways to make the campus more sustainable. This year they helped promote BYO Cup Day and ran a pilot of reusable take-away food containers. Data from the pilot will help inform strategies to encourage higher uptake of BYO take-away food containers.



Dr Emma Camp  
Credit: Rolex(c)/Frank Gazzola

## United Nations Youth Ambassador

Dr Emma Camp is a coral reef researcher who spends almost as much time talking to school children and members of the community about her work as she does time in the lab. Named a United Nations Youth Ambassador for the SDGs she is passionate about engaging young people in scientific discovery. Her research focuses on how certain coral species thrive in hostile unexpected places such as mangrove lagoons. Camp is exploring whether these hardy resilient corals may be used to help re-populate parts of the Great Barrier Reef damaged by warming oceans and coral bleaching. Along the way, she uses her impressive communication skills to take young people on the journey with her.

[More here](#)



“One of the biggest impacts that universities can have in driving innovation is facilitating collaboration and providing opportunities for people to bump into one another,”

Professor Attila Brungs  
(Vice Chancellor and President)



## Sustainability radio

Think Sustainability is a radio and podcast program produced in collaboration with radio 2SER. Audience and subscriber numbers grew this year to 100,000 weekly radio listeners and over 80,000 podcast downloads. The most popular download was a two part series on the rise of eco-fascism with over 11,000 downloads.

[Listen here](#)

## External engagement

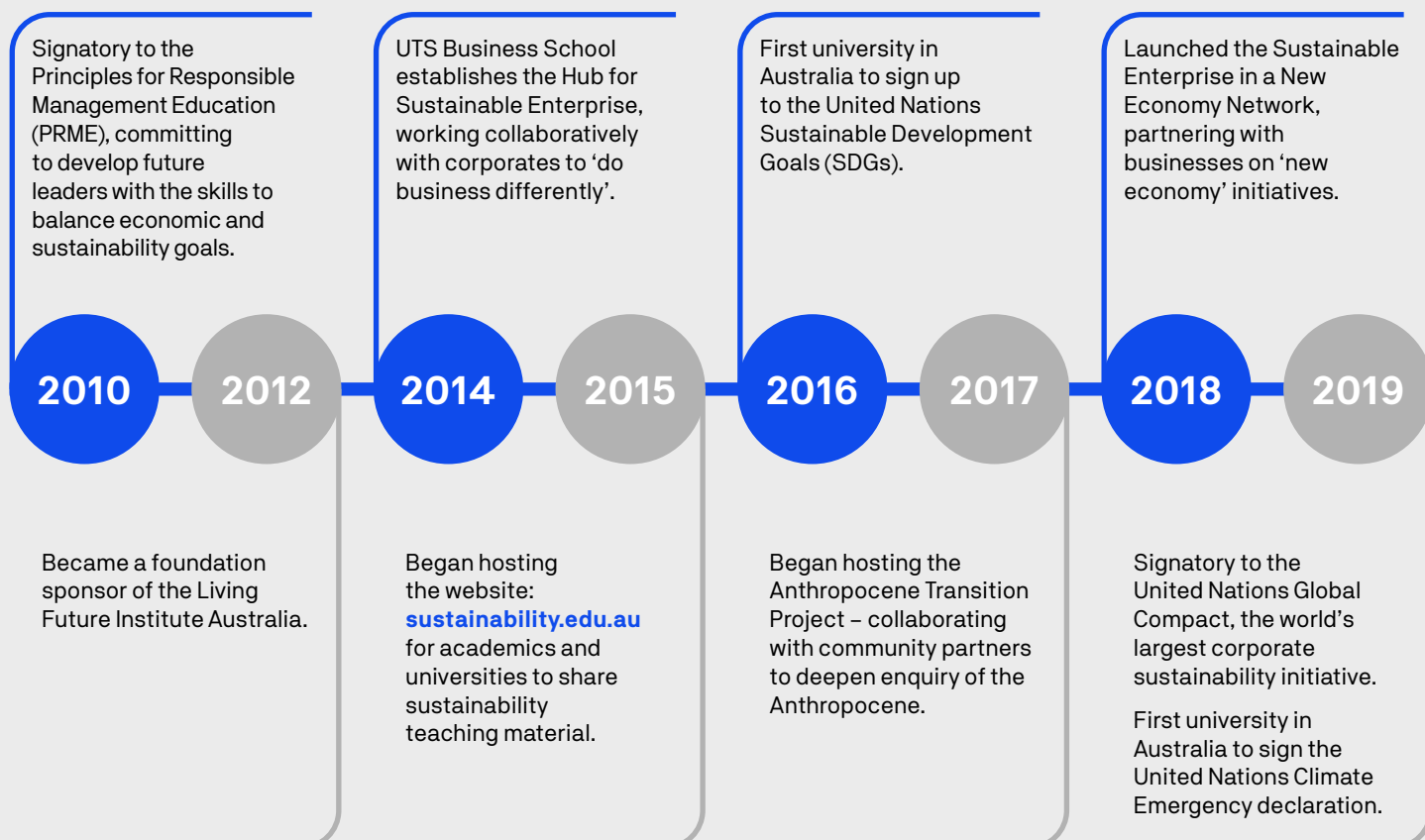
Our ongoing collaboration with other universities continued with our membership and active participation in Australasian Campuses Towards Sustainability (ACTS). Staff from the Sustainability team attended the ACTS annual conference in Dunedin New Zealand and team members are on the ACTS Executive Board and the Learning in Future Environments (LiFE) index working group.

Our membership of the City of Sydney Council's Better Buildings Partnership (BBP) continued, collaborating with other large building owners in the CBD to improve the sustainability performance of commercial buildings. The Head of Sustainability represents UTS on the BBP Leadership Panel, and the Manager of Central Services participated in the BBP Waste Working Group.

The voice of UTS academics talking about sustainability continued to feature in mainstream media with 279 distinct stories. Dominant themes this year were fossil fuels and the transition to renewable energy, climate change impacts on the Great Barrier Reef, and recycling.

Our social media sustainability engagement rose 9% compared to the previous year and the number of people subscribing to our UTS Sustainability newsletter rose 20%.

## A decade of partnerships and collaboration







# Leadership and governance

# Leadership and governance

Implementation of the UTS Sustainability Strategy 2017 – 2020 continued to guide our daily work. The strategy outlines the University's sustainability vision, goals, and the mechanisms to achieve those goals through to 2020. The Strategy sits under the UTS Sustainability Policy and UTS 2027 Strategy. The Strategy outlines planned initiatives, success indicators, and responsibilities for key staff across the organisation in the four key areas of teaching and learning, research, operations and community engagement.

This year we also focused on implementing the UTS Plastic Free Plan, a strategy document to help the university transition away from single use plastics. Priorities this year were plastic bags, straws, cutlery and plastic lined coffee cups. A highlight of the year was the opening of the plastic free food court where all take-away packaging is certified compostable.



## Sustainability Steering Committee

The Sustainability Steering Committee is the high-level body within the university that oversees the implementation of the UTS Sustainability Strategy 2017 – 2020, and guides sustainability activity. The Committee meets quarterly with membership this year;

- **Patrick Woods**, Deputy Vice-Chancellor (Resources)
- **Glen Rabbitt**, Director, Facilities Management Operations
- **Nigel Oliver**, Director, Program Management Office
- **Danielle McCartney**, Head of Sustainability
- **Benjamine Duncan**, (acting) Head of Sustainability
- **Dr Paul Brown**, Senior Lecturer (Faculty of Transdisciplinary Innovation)
- **Professor Stuart White**, Director, Institute for Sustainable Futures
- **Professor Peter Scott**, Pro Vice-Chancellor (Education)
- **John Chalmers**, Director, Marketing and Communications
- **Mehmet Musa**, President UTS Students Association
- **Professor Dianne Jolley**, Dean, Faculty of Science
- **Dr Melissa Edwards**, Senior Lecturer, (Business School)
- **Murray Hurps**, Director, Entrepreneurship, Innovation & Entrepreneurship
- **Associate Professor Natalie Lloyd**, Academic Director Teaching and Learning (FEIT)
- **Verity Firth**, Executive Director, Centre for Social Justice and Inclusion
- **Dr Charles Cranfield**, Senior Lecturer, (Faculty of Science).

# The UTS Sustainability team



**(From left to right):**


Jyotish Joseph: Sustainability Assistant Engineer  
Eric Liyanage: Sustainability Engineering Manager  
Abbey Cummins: Sustainability Assistant  
Benjamine Duncan: (acting) Head of Sustainability  
Seb Crawford: Sustainability Engagement Manager  
Jonathan Prendergast: Green Infrastructure Project Manager

## Contact us

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**“As a public purpose institution,  
UTS is committed to driving  
social change and transforming  
communities through research,  
education and practice”**

Verity Firth