



Sustainability Action Plan Progress Report 2022

JUNE 2023



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Welcome to the second progress report for QUT's Sustainability Action Plan.

This report provides a snapshot and a summary of the actions QUT has taken during 2022 to achieve its sustainability goals.

For full details on all actions listed in the Sustainability Action Plan (SAP) email sustainability@qut.edu.au

Contents

The SDGs – What are they and why are they important?.....	4	Procurement.....	8
Sustainability progress at a glance.....	5	Built environment	9
Carbon.....	6	Climate adaptation and resilience.....	9
Energy.....	6	Environmental compliance.....	9
Transport and travel	6	Education for sustainability	9
Water	6	Research for sustainability	10
Waste.....	7	Engagement and behaviour change	12
Biodiversity	7		

The SDGs – What are they and why are they important?

The Sustainable Development Goals (SDGs) were adopted by all United Nations Member States in 2015 in the *2030 Agenda for Sustainable Development*. The agenda provides a blueprint for peace and prosperity for people and the planet, now and in the future. Click on the 17 SDG icons to find out more.

QUT reports on progress against these goals through the Times Higher Education Impact Rankings and the QS World University Sustainability Rankings, as well as through the Sustainability Action Plan progress reports and the QUT Annual Report.



Sustainability progress at a glance

LEGEND

- NOT STARTED
- IN PROGRESS
- COMPLETED

CARBON
Carbon emissions down 21%
When compared to 2019

ENERGY
Energy consumption down 21%
When compared to 2017/2018

TRANSPORT and TRAVEL
Active travel down 2%
When compared to 2019

WATER
Water consumption down 16% per person to 3.38 kL/ (EFTSL + FTE)
when compared to 2021

WASTE
Waste to landfill down 36.7%
When compared to 2018

BIODIVERSITY
Biodiversity audits identified a vulnerable grey headed bat at the Kelvin Grove campus in 2022

PROCUREMENT
Templates updated to include sustainability questions for internal users and suppliers

BUILT ENVIRONMENT
Public Realm and Landscape plan will be developed in 2023













CLIMATE ADAPTATION and RESILIENCE
Crisis Management Plan has been updated to reflect extreme weather events









ENVIRONMENTAL COMPLIANCE
Zero notifiable incidents

EDUCATION for SUSTAINABILITY
The proportion of undergraduate degrees including sustainability content increased from 35% to 58%
When compared to 2021

RESEARCH for SUSTAINABILITY
\$15 million investment from QLD Gov to expand National Battery Testing Centre

ENGAGEMENT and BEHAVIOUR CHANGE
Green Impact Program implemented at QUT, with approximately 275 sustainability actions undertaken across QUT

Progress	Sustainability Theme	Related Sustainable Development Goals	Sustainability Targets	Progress towards targets
 IN PROGRESS	CARBON 		1. Carbon neutral by 2030 (Scope 1, 2, 3 emissions).	<ul style="list-style-type: none"> A Carbon Strategy Working Group has been established in 2022 to revise the QUT Carbon Management Plan associated targets and pathways, due to be released in 2023.
			2. Scope 1 and 2 emissions to zero by 2023.	<ul style="list-style-type: none"> The Columboola Solar Farm began commercial operations on 1st Dec 2022, giving QUT a 50% reduction in Scope 2 emissions. QUT has placed a hold on plans to purchase further Large Generation Certificates (LGCs) from the open-market (remaining 50%) to achieve Scope 1 & 2 net zero emissions by 2023, pending a review by the Carbon Strategy Working Group. An overall emissions reduction of 10% was achieved in 2022 when compared to 2019
 COMPLETED	ENERGY 		1. Reduce energy consumption by 10% from 2017/18 levels of 0.57 GJ/m ² (GFA) by 2023.	<ul style="list-style-type: none"> Energy consumption in 2022 fell to 0.45GJ/m², which is 21% lower than 2018 consumption, exceeding the goal of 10% reduction by 2023.
			2. Maximise deployment of solar PV on campus by 2022	<ul style="list-style-type: none"> Completion of the Banyo Pilot Plant Precinct 100kW array in 2022 brings the total installed on-site PV to over 1MW. This brings to completion the current roll-out of PV on existing buildings across QUT sites.
 IN PROGRESS	TRANSPORT and TRAVEL 		1. Measure travel-related emissions and develop an Emissions Reduction Strategy by 2022.	<ul style="list-style-type: none"> QUT currently collects emissions data for travel (business related flights) and Campus Services (Travel) is working with Digital Business Solutions to create a dashboard for reporting travel related emissions including for hire vehicles, taxis and accommodation. A target for emissions reductions will be aligned with the Carbon Management Plan.
			2. Reduce single occupancy car trips to campus by 10% by (Dec) 2023 (2019 base yr)	<ul style="list-style-type: none"> Based on the 2021 QUT Transport Survey, single car occupancy trips have increased by 5.5% since 2019.
			3. 5% more QUT staff and students use public transport to commute to campus by (Dec) 2023 (2019 base yr).	<ul style="list-style-type: none"> Based on 2021 QUT Transport Survey, public transport use has decreased by 4% since 2019.
			4. 5% more QUT staff and students use active transport to commute to campus by (Dec) 2023 (2019 base yr).	<ul style="list-style-type: none"> The QUT Transport Survey highlights that active transport in 2021 was down by 2% when compared to 2019.
 IN PROGRESS	WATER 		1. Maintain or reduce water consumption at 0.63kL/m ² GFA and 5.41kL/ student and staff (EFTSL+FTE).	<ul style="list-style-type: none"> 2022 water consumption was reduced to 0.44kL/m² and 3.38kL/student and staff (EFTSL + FTE). This is a 16% reduction when compared to 2021.
			2. Increase total campus rainwater capture and storage capacity by 10% by 2023.	<ul style="list-style-type: none"> Capacity did not increase in 2022. Storage capacity will be increased as buildings are refurbished or built.
			3. Use 100% non-potable water (captured or recycled) for irrigation and external cleaning (wherever possible).	<ul style="list-style-type: none"> Non-potable water is used for irrigation and external cleaning wherever available. This is reflected in the Design Guidelines.

Progress	Sustainability Theme	Related Sustainable Development Goals	Sustainability Targets	Progress towards targets
 <p>COMPLETED</p>	<p>WASTE</p> 	  	<ol style="list-style-type: none"> 1. Reduce waste to landfill by 15% of 2018 levels by 2022. 2. Reduce recyclables going to general waste by 5% of 2018 levels by 2021. 3. All green and back-of-house organic waste to be composted by 2021. 4. Understand quantity of construction waste generated and have guidelines in place to ensure correct disposal. 	<ul style="list-style-type: none"> • In 2022, the reduction in waste to landfill managed by Facilities Management was 36.7% below 2018 waste levels, exceeding the target of 15%. • There is no data for Target 2, however we do know: <ul style="list-style-type: none"> > an average of 34% of waste managed by Facilities Management was diverted from landfill in 2022 (includes grease trap, comingle, paper, cardboard and green waste) > 100% IT waste managed by Digital Business Solutions was refurbished and sold or recycled in 2022, a total of 5053 devices. • Facilities Management installed organics bins in all kitchens and with retailers in 2021 and in 2022 has taken it a step further, introducing organic waste bins in retail areas on campus. • Construction waste will be considered when reviewing QUT's Scope 3 emission inventory as part of the development of the Carbon Management Plan in 2023. Priorities for management of Scope 3 emissions will be assigned based on materiality.
 <p>IN PROGRESS</p>	<p>BIODIVERSITY</p> 		<ol style="list-style-type: none"> 1. Increase interpretive signage around Gardens Point and Kelvin Grove campuses to promote campus biodiversity and its importance for traditional owners and current users. 2. Actively enhance campus biodiversity through activities that protect and enhance habitat for flora and fauna, and plantings that showcase Australia's unique ecosystems. 3. Actively monitor and report on campus native flora and fauna using tools such as campus biodiversity audits, and promotion of the use of app technologies such as eBird and Quest-a-Game. 	<ul style="list-style-type: none"> • Planning is currently in progress for interpretative signage to identify trees on campus and a sustainability walk that will identify significant landscape features, plants, sustainability initiatives etc. • Tree planting includes species to support local fauna. Trees on campus are managed through the tree management plan. Tree planting activities were undertaken at the Kelvin Grove campus with staff and students during Sustainability Week 2022. Facilities Management (Grounds) are planting a green corridor between QUT and Victoria Park to increase habitat for flora and fauna and create a protected movement corridor between the sites. • A fauna survey was completed in October 2022 showing again that the majority of nesting boxes on both campuses were occupied or had been used recently. 9 grey-headed flying foxes, listed as vulnerable under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), were identified at the Kelvin Grove campus.

Progress

Sustainability Theme

Related Sustainable Development Goals

Sustainability Targets

Progress towards targets



PROCUREMENT



1. Roll out training to at least 200 key users and staff (annually) on sustainable procurement practices.

- Templates have been updated to include sustainability questions for internal users and suppliers.
- Information about sustainability has been included on the Procurement Digital Workplace.
- Training to continue in 2023.

2. Achieve the priority actions identified, including visible evidence in place:

- a. An impact assessment will be developed in 2024 (in line with the Carbon Strategy Working Group). This will include supply chain carbon emissions identified as being material for carbon reporting purposes as part of the development of QUT's Carbon Management Plan.
- b. QUT's internal approvals and tender/quotation documentation for purchasing above \$100,000 have been updated to include questions on sustainability and ask suppliers how they are achieving sustainability directly or indirectly.
- c. QUT has a decentralised approach to Contract Management and as a result the implementation of this in a consistent manner is proving challenging. This target will now form part of QUT's Responsible Procurement Plan, with a focus on QUT's strategic vendors in 2023 and wider roll out expected in 2024.











- a. Embed a sustainability impact assessment into QUT's strategic procurement planning process for significant procurement activities (high value/high risk) to build an understanding of the whole-of-life environmental and social impacts associated with the goods and services being procured.
- b. Update QUT's Request for Offer and Quotation templates (and associated procurement documentation) to ensure suppliers must respond to questions on their sustainability management (directly and throughout the supply chain) for significant procurement activities (high value/high risk).
- c. Embed sustainability management strategies, targets and outcomes within QUT's contract management and strategic supplier relationship management practices to ensure suppliers deliver against their commitments.







3. Develop an action plan for five key suppliers across QUT (including Winc) that demonstrate clear achievement of sustainable outcomes achieved through good procurement practices.




- QUT continues to work with a number of strategic suppliers to embed sustainable outcomes. The formalisation of this is under development.
 - This has been included in the Planning and Performance Review process as a target for the four Procurement Partners with Strategic Procurement.
 - Questions have been included in QUT's tender and quotation documents, and a local / social benefit weighting (that includes sustainability) is encouraged as part of the tender process.
 - A Responsible Procurement Plan is being developed for each procurement category:
 - >Technology
 - > Properties and facilities
 - > Research and equipment consumables
 - > Business and teaching services.
- A strategic supplier per category will be selected and focused on in 2023 with wider roll out expected in 2024.






4. Develop case studies of achievements to influence additional outcomes across procurement activities.

- Digital Business Solutions is currently working on a dashboard for Procurement which will include tracking sustainable outcomes. This is progressing and is expected to be completed in 2024. The data collected will help to build reports identifying achievements, which will then be used in communications and training to influence additional outcomes across procurement activities.

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 IN PROGRESS	BUILT ENVIRONMENT 		<ol style="list-style-type: none"> All new developments to be designed and built to the intent of a minimum five-star Green Star – ‘Design and As Built’ and aiming toward six-star Green Star rating as applicable. All new furniture procured for QUT will have certification from the Good Environmental Choice Australia (GECA) and/or the Australasian Furnishing Research Development Institute (AFRDI) Green Tick certification schemes or an equivalent. Utilisation, flexibility and adaptation of space will be continually improved. Update the University’s Estate Master Plan, Asset Management Plan and Design Standards and Guidelines to reflect the targets of the Sustainability Action Plan by end 2022. 	<ul style="list-style-type: none"> No new developments in 2022. Included in Design Guidelines. A desktop audit on QUT’s top four furniture suppliers and their currently available certified products was completed in 2022. This identified the number and types of furniture items available with a certification from those suppliers. Further consultation to be undertaken with QUT users to identify if certified products can easily replace non-certified products currently purchased. A space audit was completed in 2022 to review the utilisation of space following the change process. The University’s Estate Master Plan is currently being reviewed and is expected to be completed in 2023. The Design Guidelines were updated in 2022.
 IN PROGRESS	CLIMATE ADAPTATION and RESILIENCE 		<ol style="list-style-type: none"> Climate adaptation reflected in QUT’s Design Standards and Guidelines. Extreme weather events reflected in Emergency Management, Counter Disaster, Crisis Management and Business Continuity Plans. Signal detection systems identified and implemented. Updated emergency communications and alert systems. 	<ul style="list-style-type: none"> Climate adaptation is reflected in the Design Guidelines, which were updated in 2022. Crisis Management Plan was re-written in 2022 to include severe weather events. All plans reviewed annually and updated to reflect current requirements. Extreme weather risks are continually assessed and monitored. Weather systems and warnings, news alerts and relevant information are monitored on a 24/7 basis in the Operations Centre. Investigations are ongoing into open-source intelligence notifications to assist in advance notification. Security systems are currently under review by the Digital Transformation Advisory Committee (DTAC).
 COMPLETED	ENVIRONMENTAL COMPLIANCE 	 	<ol style="list-style-type: none"> No notifiable environmental incidents (ongoing). 100% compliance with environmental license, permit and approval conditions (ongoing). Year-on-year increase reporting of environmental hazards and near misses identified in the HSE Hub. 	<ul style="list-style-type: none"> Zero notifiable environmental incidents in 2022. Health, Safety, Environment (HSE) Management System maintained and available. Community access extended by migration of standards and guidelines to HSE Sharepoint from Digital Workplace. No environmental licenses or permits held in 2022. HSE Framework (including environmental risk management) is implemented under MOPP A/9.1. Reporting of incidents increased from 6 to 8 from 2021 to 2022.

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 <p>IN PROGRESS</p>	<p>EDUCATION for SUSTAINABILITY</p> 		<ol style="list-style-type: none"> In 2021, establish Education for Sustainability Project, a five-year, university-wide project to inspire and support the inclusion of sustainability into curriculum. Map level of current teaching of sustainability in curriculum and implement sustainability as a 'design feature' in CourseLoop to identify units and modules. Develop university-wide interdisciplinary curriculum exploring sustainability, drawing upon the expertise from all faculties and institutes. By 2026, all QUT undergraduate degrees demonstrate (at the course or major level) that core curriculum elements enable students to develop and apply sustainability knowledge and values in their field. 	<ul style="list-style-type: none"> The project commenced in 2021 with the formation of the university-wide Education for Sustainability Working Group, which has met quarterly throughout 2021 and 2022. The working group developed the project plan and is overseeing the project's progress. Sustainability has been included as a design feature in CourseLoop, which enables the creation of a map identifying which units of a course include sustainability. Curriculum Quality and Standards has developed a PowerBI dashboard that maps QUT units against the United Nations Sustainable Development Goals (SDGs). This action might be addressed through the QUT Curriculum Development Project (QUT You), which is developing a new QUT curriculum model ready for teaching by Semester 1, 2024. It is likely to use sustainability as a theme in several of the units, projects and festival events and activities that make up the QUT You curriculum. From 2021 to 2022, the percentage of core QUT units (both undergraduate and postgraduate) tagged with the sustainability design feature in CourseLoop increased from 4% to 7%. Of QUT's 60 undergraduate degrees, the number that include units tagged with the sustainability feature increased from 21 (or 35%) in 2021 to 35 (58%) in 2022, though for 8 courses the sustainability-tagged unit is an elective.
 <p>IN PROGRESS</p>	<p>RESEARCH for SUSTAINABILITY</p> 		<ol style="list-style-type: none"> Establish the first phase and develop strategy for a renewable energy hydrogen pilot plant. Demonstrate a toluene electrochemical hydrogenation procedure with industry partners. 	<ul style="list-style-type: none"> QUT conducts a wide range of clean energy research projects, primarily through the Centre for Clean Energy Technologies and Practices. 2022 highlights include: (1) A research partnership involving Professor Sara Couperthwaite and Australian company Lava Blue received \$5.24 million funding from the Federal Government's Critical Minerals Accelerator Initiative to support the development of world-leading processes for refining critical minerals used in the lithium-ion battery supply chain. The funding will accelerate the research and development program led by QUT at the Redlands Research Park. Related to this, our Faculty of Engineering also created an Industry Research Training Group called STRATA: Sustainable Transformation of Resources for Advanced Technology. Led by Prof Couperthwaite, STRATA includes funding for seven PhD students and \$1M+ funding from industry partners. (2) QUT renewed its International Cooperation Agreement with the University of Tokyo to develop joint venture projects and facilitate joint academic and scientific activities. Collaborations will continue to focus on the development of renewable energy technology and provision of next generation fuels to meet future global energy needs.

Progress	Sustainability Theme	Related Sustainable Development Goals	Sustainability Targets	Progress towards targets
	RESEARCH for SUSTAINABILITY (continued) 		<p>3. Develop and implement sustainable practices in agriculture.</p>	<ul style="list-style-type: none"> • QUT conducts a wide range of research projects focused on sustainable agricultural practices, primarily through the Centre for Agriculture and the Bioeconomy. 2022 highlights include: (1) Dr Julia Bally and Professor Peter Waterhouse received a \$408,531 ARC Linkage grant to work with researchers from Boston's GreenLight Biosciences to develop environmentally friendly crop protection tools against a catastrophic pest, the fall armyworm, which causes US\$2 billion in annual global crop losses. (2) QUT researchers led by Professor Peter Grace and Associate Professor David Rowlings have partnered with agri-tech company Agrimix and industry group Meat & Livestock Australia to develop a new toolkit to accurately measure carbon soil sequestration in real time, which will reduce the cost for farmers looking to participate in carbon credit offset schemes. The technology is being trialed across a number of large grazing farms. The research team received a \$3.2 million Commonwealth Government grant in December 2022 to facilitate further trials and refinement of the soil carbon model. Complementing this project, Dr Marguerite Renouf is co-leading with CSIRO a project to develop a consensus approach for reporting greenhouse gas emissions from Australia's agriculture sectors, to be used as the baseline for reporting carbon reductions and neutrality. (3) QUT's Mackay Renewable Biocommodities Pilot Plant is undergoing a \$14.7M upgrade with Australian Government funding through the Regional Recovery Partnerships program along with other government and QUT funding. The facility's new capabilities – including PC2 large-scale fermentation capacity up to 2000L, biomass processing and extrusion capabilities – will enable the facility to demonstrate a broader range of biomanufacturing technologies and processes
			<p>4. Contribute towards the creation and maintenance of sustainable environments for humans and other life forms.</p>	<ul style="list-style-type: none"> • QUT conducts a wide range of research projects focused on sustainable environments, primarily through the Centre for the Environment. 2022 highlights include: (1) QUT will host a new \$5 million ARC Training Centre for Advanced Building Systems Against Airborne Infection Transmission. The centre, to be led by Distinguished Professor Lidia Morawska, aims to reduce airborne infection transmission by improving indoor air quality while maintaining comfort and energy efficiency. (2) Wildseek, a conservation project led by Associate Professor Grant Hamilton in collaboration with Landcare Australia and Wildlife Rescue NSW, was launched in June 2022 and received extensive media coverage in Australia and internationally. QUT will serve as the National Conservation AI Analytics hub, where infra-red drone footage collected around the country will be analysed using an algorithm created at QUT to identify wildlife populations.
			<p>5. Develop innovative ways to reduce waste and communicate to industry and schools.</p>	<ul style="list-style-type: none"> • QUT conducts a wide range of research projects focused on waste reduction and the circular economy, primarily through the Centre for a Waste-Free World. 2022 highlight included: (1) QUT was part of an Australian Fashion Council (AFC)-led consortium receiving \$1 million from the Commonwealth Government's National Product Stewardship Investment fund to design Australia's first National Product Stewardship Scheme for clothing textiles. The initiative aims to improve the design, recovery, reuse and recycling of textiles, providing a roadmap to 2030 for clothing circularity in Australia in line with National Waste Policy Action Plan targets. (2) The Centre held a one-day symposium called 'A Waste-Free World: Research for a Sustainable and Just Future' during QUT Sustainability Week 2022. The program included research talks, poster presentations and a keynote lecture by world-renowned sustainability change agent and former Dutch minister for spatial planning and the environment, Professor Jacqueline Cramer.
			<p>6. Ensure strong links between QUT's sustainability research community and campus operations.</p>	<ul style="list-style-type: none"> • QUT researchers and operational staff are collaborating on various initiatives. One 2022 highlight was the formation of the QUT Carbon Strategy Working Group, which includes a mix of academic and professional staff and a student representative.

Progress	Sustainability Theme	Related Sustainable Development Goals	Sustainability Targets	Progress towards targets
 IN PROGRESS	RESEARCH for SUSTAINABILITY (continued) 		7. Showcase the work of QUT research centres through engagement events and promotion of sustainability research.	<ul style="list-style-type: none"> The sustainability research of QUT's research centres was showcased through various events and communication channels in 2022, including QUT Sustainability Week, QUT media releases, the Research Update newsletter, the Research in Focus image competition, the Sustainability Research and Innovation Congress 2022 Oceania Satellite event, hosted by QUT, and the Sustainability and Science Showcase at the Queensland Museum.
			8. Translate QUT research into practice, both internally and externally.	<ul style="list-style-type: none"> All of the research projects cited above are focused on translating research into practical results.
 COMPLETED	ENGAGEMENT and BEHAVIOUR CHANGE 		1. Develop an annual Engagement and Behaviour Change Program.	<ul style="list-style-type: none"> The Green Impact Program was launched at QUT in 2022.
			2. Update Sustainability website to align with Sustainability Action Plan	<ul style="list-style-type: none"> Website updates are ongoing. In 2022, a webpage for the Sustainable Development Goals was created linking QUT's research to the relevant goals, highlighting the sustainability research being undertaken across all areas of QUT. The first Sustainability Action Plan Progress Report was published and included on the webpage.