



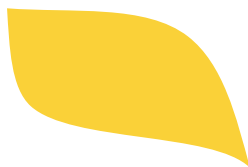
DIVISION OF ADMINISTRATIVE SERVICES, FACILITIES MANAGEMENT, SUSTAINABILITY

Sustainability Action Plan Progress Report 2023

JUNE 2024



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Welcome to the third progress report for the QUT *Sustainability Action Plan*.

This report provides a snapshot and a summary of the actions QUT has taken during 2023 to achieve its sustainability goals.

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

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The Sustainable Development Goals (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



CARBON

Carbon emissions down 33%

when compared to 2019



ENERGY

Energy consumption down 20%

When compared to 2017/2018



TRANSPORT and TRAVEL

Active travel down 2%

When compared to 2019



WATER

Water consumption has increased 56% and in 2023 is 6.63 k/person (EFTSL + FTE)

when compared to 2022



WASTE

Waste to landfill down 32%

When compared to 2018



BIODIVERSITY

Biodiversity audits show continued use of habitat boxes on both campuses in 2023



PROCUREMENT

A responsible procurement action plan was completed in 2023



BUILT ENVIRONMENT

New Master Plan being developed in 2024



CLIMATE ADAPTATION and RESILIENCE

Crisis Management Plan has been updated to reflect extreme weather events



ENVIRONMENTAL COMPLIANCE

Zero notifiable incidents



EDUCATION for SUSTAINABILITY

Sustainability included in all undergraduate degrees



RESEARCH for SUSTAINABILITY














QUT received \$5 million from the Australian Research Council to fund the ARC Research Hub in Zero-emission Power Generation for Carbon Neutrality



















ENGAGEMENT and BEHAVIOUR CHANGE












Green Impact Program sustainability actions undertaken across QUT 451, an increase of 61% since 2022










ALL SCGs









Progress	Theme	Related SDG	Targets	Progress towards targets
IN PROGRESS 	CARBON 	 	1. Carbon neutral by 2030 (Scope 1, 2, 3 emissions).	<ul style="list-style-type: none"> In 2023, a carbon inventory was completed and options to determine pathways to net zero and gross reductions in carbon are currently being reviewed. The <i>QUT Carbon Management Plan</i> will be finalised in 2024.
			2. Scope 1 and 2 emissions to zero by 2023.	<ul style="list-style-type: none"> In 2023, the emissions savings from the purchase of Large-Scale Generation Certificates (LGCs) was 33%, the expected 46% savings wasn't achieved due to bushfires affecting operation of the Columboola solar farm. QUT has placed a hold on plans to purchase further LGCs from open market to achieve Scope 1 & 2 net zero by 2023, pending a carbon strategy review.
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 2023 fell to 0.46GJ/m², which is 20% lower than 2018 consumption, exceeding the goal of 10% reduction by 2023. This is slightly higher than 2022 which was 21% lower than 2018 consumption.
			2. Maximise deployment of solar PV on campus by 2022.	<ul style="list-style-type: none"> This goal was completed in 2022. QUT on-site PV is over 1MW.
IN PROGRESS 	TRANSPORT and TRAVEL 		1. Measure travel-related emissions and develop an <i>Emissions Reduction Strategy</i> by 2022.	<ul style="list-style-type: none"> Emissions for business travel measured and reports are now provided to QUT faculties monthly. Reduction strategies will be considered in 2024 in alignment with the development of the <i>QUT Carbon Management Plan</i>. Commuter travel has been impacted by COVID-19 and we have not yet seen a full return of commuter numbers to public transport in Brisbane.
			2. Reduce single occupancy car trips to campus by 10% by (Dec) 2023 (2019 base year).	<ul style="list-style-type: none"> Based on the <i>2021 QUT Transport Survey</i>, single car occupancy trips increased by 5.5% since 2019. The transport survey will be completed again in August/September 2024.
			3. 3. 5% more QUT staff and students use public transport to commute to campus by (Dec) 2023 (2019 base year).	<ul style="list-style-type: none"> Based on the <i>2021 QUT Transport Survey</i>, public transport use has decreased by 4% since 2019. The transport survey will be completed again in August/September 2024.
			4. 4. 5% more QUT staff and students use active transport to commute to campus by (Dec) 2023 (2019 base year).	<ul style="list-style-type: none"> The <i>2021 QUT Transport Survey</i> highlights that active transport in 2021 was down by 2% when compared to 2019. The transport survey will be completed again in August/September 2024.
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"> 2023 reported water consumption increased to 0.62kL/m² and 6.63KL/student and staff (EFTSL + FTE). This represents a 56% increase when comparing kilolitres used and is due to a large underground water leak and an underreporting of data in 2022 due to an Urban Utilities metering error. The actual increase is estimated to be closer to 12%.
			2. Increase total campus rainwater capture and storage capacity by 10% by 2023.	<ul style="list-style-type: none"> Capacity did not increase in 2023. 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 <i>Design Standards and Guidelines</i>.





Progress	Theme	Related SDG	Targets	Progress towards targets
COMPLETED 	WASTE 		1. Reduce waste to landfill by 15% of 2018 levels by 2022	<ul style="list-style-type: none"> In 2023, waste to landfill managed by Facilities Management increased when compared to 2022 levels but remains around 33% below 2018 waste levels, exceeding the target of 15%.
			2. Reduce recyclables going to general waste by 5% of 2018 levels by 2021.	<ul style="list-style-type: none"> There is no data for Target 2, however we do know: <ul style="list-style-type: none"> > an average of 41% of waste managed by Facilities Management was diverted from landfill in 2023 (includes grease trap, comingle, paper, cardboard and green waste) > 100% IT waste managed by Digital Business Solutions was refurbished and sold or recycled in 2023, a total of 2,387 devices.
			3. All green and back-of-house organic waste to be composted by 2021.	<ul style="list-style-type: none"> In 2023, 196.93 tonnes of organic waste were collected from QUT. An increase of 17% on 2022.
			4. Understand quantity of construction waste generated and have guidelines in place to ensure correct disposal	<ul style="list-style-type: none"> Strategies to measure construction waste will be considered when developing scope three emissions priorities in 2024.
IN PROGRESS 	BIODIVERSITY 		1. Develop and implement a public realm and landscape plan by 2022.	<ul style="list-style-type: none"> Landscape design is considered in the QUT <i>Campus to Country Strategy</i>. A draft master plan is due for release in August 2024.
			2. Develop and implement a tree management plan by 2021.	<ul style="list-style-type: none"> This action has been completed. A tree management plan is in place.
			3. Implement a campus biodiversity monitoring and reporting program by 2021	<ul style="list-style-type: none"> A biodiversity audit is completed on both QUT campuses annually. A fauna survey completed in 2023 showed that the majority of nesting boxes on both campuses were occupied or had been used recently.

Progress	Theme	Related SDG	Targets	Progress towards targets
<p>IN PROGRESS</p> 	<p>PROCUREMENT</p> 	    	<ol style="list-style-type: none"> 1. Roll out training to at least 200 key users and staff (annually) on sustainable procurement practices. 2. Achieve the priority actions identified, including visible evidence in place <ol style="list-style-type: none"> a) Embed a sustainability impact assessment into the QUT 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) Embed sustainability management strategies, targets and outcomes within QUT 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. 4. Develop case studies of achievements to influence additional outcomes across procurement activities. 	<ul style="list-style-type: none"> • Responsible procurement training continued in 2023. Training modules are being developed to facilitate a more detailed understanding of responsible procurement in 2024/2025. • In line with the <i>QUT Responsible Procurement Action Plan</i>, metrics will be developed to measure and track the impact of responsible procurement initiatives as they are rolled out across QUT in 2024/2025. • Strategic supplier engagement and contractual relationships are critical to the success of delivering responsible procurement. Work is being undertaken throughout 2024–2025 to identify and progress strategic initiatives with key suppliers, including development of key performance indicators and targeted contract clauses to further drive contract compliance and the long-term implementation of responsible procurement. • Through the development of the <i>QUT Responsible Procurement Action Plan</i>, specific actions and opportunities have been identified to engage with strategic suppliers and collaboratively develop responsible procurement initiatives suited to the category and type of procurement activity. • This will be progressed through the implementation of the Sievo data cube (due June/July 2024) to establish a baseline that will drive the development of metrics to measure and track the impact of responsible procurement initiatives as they are rolled out across QUT in 2024/2025.

Progress	Theme	Related SDG	Targets	Progress towards targets
IN PROGRESS 	BUILT ENVIRONMENT 	 	1. 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.	<ul style="list-style-type: none"> This requirement is included in the <i>QUT Design Standards and Guidelines</i>. No new buildings constructed in 2023.
			2. 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.	<ul style="list-style-type: none"> This goal is currently being reviewed. A desktop audit of the top four furniture providers for QUT was completed in 2022.
			3. Utilisation, flexibility and adaptation of space will be continually improved.	<ul style="list-style-type: none"> Space utilisation is reviewed regularly by Campus Services, Estate Planning.
			4. Update the university’s Estate Master Plan, Asset Management Plan and Design Standards and Guidelines to reflect the targets of the <i>Sustainability Action Plan</i> by end 2022.	<ul style="list-style-type: none"> The university’s <i>Estate Master Plan</i> is due to be released in 2024. The <i>QUT Design Standards and Guidelines</i> are updated annually.
IN PROGRESS 	CLIMATE ADAPTATION and RESILIENCE 		1. Climate adaptation reflected in the <i>QUT Design Standards and Guidelines</i> .	<ul style="list-style-type: none"> Climate adaptation is reflected in the <i>QUT Design Standards and Guidelines</i>, which were updated in 2022.
			2. Extreme weather events reflected in <i>Emergency Management, Counter Disaster, Crisis Management</i> and <i>Business Continuity</i> plans.	<ul style="list-style-type: none"> The <i>Crisis Management Plan</i> was re-written in 2022 to include severe weather events. All plans reviewed annually and updated to reflect current requirements.
			3. Signal detection systems identified and implemented.	<ul style="list-style-type: none"> 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.
			4. Updated emergency communications and alert systems.	<ul style="list-style-type: none"> Security systems were reviewed in 2023.
COMPLETED 	ENVIRONMENTAL COMPLIANCE 	 	1. No notifiable environmental incidents (ongoing).	<ul style="list-style-type: none"> Zero notifiable environmental incidents in 2023.
			2. 100% compliance with environmental license, permit and approval conditions (ongoing).	<ul style="list-style-type: none"> No environmental licenses or permits held in 2023. HSE Framework (including environmental risk management) is implemented under Health, Safety and Environment Policy.
			3. Year-on-year increase reporting of environmental hazards and near misses identified in the HSE Hub.	<ul style="list-style-type: none"> There was one environmental incident reporting in the 2023 calendar year.

Progress	Theme	Related SDG	Targets	Progress towards targets
IN PROGRESS 	EDUCATION for SUSTAINABILITY 	 	1. In 2021, establish Education for Sustainability Project, a five-year, university-wide project to inspire and support the inclusion of sustainability into curriculum.	<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 to 2023. The working group developed the project plan and is overseeing the project's progress. Project achievements in 2023 included the introduction of a Community of Practice (faculty led).
			2. Map level of current teaching of sustainability in curriculum and implement sustainability as a 'design feature' in CourseLoop to identify units and modules.	<ul style="list-style-type: none"> 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 SDGs. This action was completed in 2022.
			3. Develop university-wide interdisciplinary curriculum exploring sustainability, drawing upon the expertise from all faculties and institutes.	<ul style="list-style-type: none"> QUT You was implemented at QUT in 2023, and QUT003 QUT You: Real Action for Real Change (an elective) embeds sustainability. In 2023, 22 QUT staff completed the Global Sustainability online module, originally designed for research students and early career researchers, providing an opportunity to develop a broad understanding of the key concepts, problems and pathways of sustainability and sustainable development.
			4. 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"> In May 2024, 782 core undergraduate units included UN SDGs and 312 units are tagged with the sustainability RWL design feature in CourseLoop. In 2024 all undergraduate courses will include sustainability.
IN PROGRESS 	RESEARCH for SUSTAINABILITY 	  	1. Establish the first phase and develop strategy for a renewable energy hydrogen pilot plant.	<ul style="list-style-type: none"> While a pilot plant has not been implemented, work on developing hydrogen technology continues at QUT. Professor Ting Liao from the QUT School of Mechanical, Medical and Process Engineering and Dr Juan Bai from the QUT School of Chemistry and Physics are co-investigators on a \$404,530-funded project titled, High entropy metal organic frameworks for sustainable hydrogen production. This project aims to design novel high entropy metal organic frameworks (HE-MOFs) using advanced high throughput computational screening integrated with experimental validation for sustainable hydrogen production. The project's outcome will be discovery of a new class of HE-MOFs materials with superior hydrogen-generation efficiency, while it will also provide rational design principles for the exploration of high-efficient catalysts in sustainable fuel generation. The successful project will help achieve the zero-carbon target and contribute to the development of a sustainable society with low-cost and renewable energy supply. In 2023, QUT received \$5 million from the Australian Research Council to fund the ARC Research Hub in Zero-emission Power Generation for Carbon Neutrality. Its aim is to develop sustainable zero-emission power generation technologies to convert gaseous waste into valuable products and create scalable pathways to market for driving industry transformation. The research hub has significant support from industry, with a further \$8.55 million cash and in-kind contributions from national and international industry partners. Hub director is Professor Zhi-Gang Chen, from the QUT School of Chemistry and Physics and Centre for Materials Science. The hub includes 19 researchers from six Australian universities whose aim is to develop a new energy, storage and carbon conversion system which would contribute to Australia's goal of net-zero emissions by 2050.

Progress	Theme	Related SDG	Targets	Progress towards targets
<p>IN PROGRESS</p> 	<p>RESEARCH for SUSTAINABILITY (continued)</p> 	     	<p>2. Develop and implement sustainable practices in agriculture.</p> <p>3. Contribute towards the creation and maintenance of sustainable environments for humans and other life forms.</p> <p>4. Develop innovative ways to reduce waste and communicate to industry and schools.</p> <p>5. Ensure strong links between the QUT sustainability research community and campus operations.</p>	<ul style="list-style-type: none"> QUT scientists have discovered how to produce the vital agricultural fertiliser, urea, at room temperature without the large energy input of the traditional production process of synthetic urea. Dr Junxian Liu, first author on the study, with co-researchers Professor Yuantong Gu and Associate Professor Liangzhi Kou from the QUT School of Mechanical, Medical and Process Engineering, published their findings from the study, CN Coupling Enabled by NN Bond Breaking for Electrochemical Urea Production, in the journal, Advanced Functional Materials. Dr Daniella Teixeira, from the QUT School of Biology and Environmental Science, has received a \$474,000 ARC Early Career Industry Fellowship to investigate eco-acoustic technologies to transform ecological monitoring that will provide robust data to inform conservation efforts. Dr Teixeira is partnering with Bush Heritage Australia to develop new acoustic metrics to measure biodiversity from individual species through to whole communities. In 2022 and 2023, a consortium led by the Australian Fashion Council (AFC) with Charitable Recycling Australia, QUT (led by Dr Alice Payne), Sustainable Resource Use (SRU) and WRAP Asia Pacific funded from the Commonwealth Government's National Product Stewardship Investment fund designed Australia's first National Product Stewardship Scheme for clothing textiles. In 2023, a number of key consortium outputs included the Seamless Scheme Design Full Report, the Global Scan Report, the Clothing Data Report, and the Roadmap to Clothing Circularity in Australia. This work 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. QUT Advisory group included: Professor Rowena Maguire, Associate Professor Tiziana Ferrero-Regis, Kath Horton, Professor Gary Mortimer, Professor Clevo Wilson, Dr Madeline Taylor, Lydia Pearson, Dr Frederic Maire. QUT Research Assistants included Paige Street, Dr Lydia Manieson, Cait Hopper, Dr Jeremy Webb, Anna Bousgas, Centre for a Waste-Free World and Professor Leonie Barner, TextileR Group. Dr Judith M Herbst and Professor Leonie Barner from the Centre for a Waste-Free World have worked with the Gold Coast City Marina (GCCM) to create a strategic action plan for closing the loop on waste, concluding in 2023. Boating is an immense global industry, that has experienced phenomenal growth since COVID 19, predominantly due to increased sales of recreational vessels and greater demand for marine products and services. An escalation in registered boat owners in Australia has led to an increase in associated waste. This project was funded through the Department of Industry, Science, Energy and Resources Entrepreneurs Programme, Australian Government, and GCCM and addressed how the GCCM could reduce waste to landfill and eliminate single-use plastics through initiatives, innovations and partnerships that would present efficient and cost-effective methods to close the loop on waste. While this case study was limited to implementing better practices at a regional mariner, evidence revealed that companies can make circular inroads to create positive impacts and that short-term interventions spark rethinking, redesigning and repurposing that can lead to greater capabilities. The Carbon Strategy Working Group has continued the work on developing the university's carbon strategy and action plan due to be finalised in 2024.

Progress	Theme	Related SDG	Targets	Progress towards targets
IN PROGRESS 	RESEARCH for SUSTAINABILITY (continued) 		6. 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 the QUT research centres was showcased through various events and communication channels in 2023, including QUT Sustainability Week, QUT media releases and the Research Update newsletter.
			7. Translate QUT research into practice, both internally and externally.	<ul style="list-style-type: none"> All the research projects cited above are focused on translating research into practical results.
COMPLETED 	ENGAGEMENT and BEHAVIOUR CHANGE 	ALL SDGs	1. Develop an annual Engagement and Behaviour Change Program.	<ul style="list-style-type: none"> The QUT Green Impact Program resulted in 451 actions being implemented for sustainability from March to September, with 85 staff participating across 11 teams. A 61% increase on the previous year. As part of Green Impact, a webinar series called Acts of Connection was made available to QUT staff and students on sustainability-related topics monthly throughout the program. Sustainability held events for staff and students throughout the year, including recycling, composting and gardening workshops. Students were engaged as volunteer auditors for the Green Impact Program and completed training for which they received a digital badge. Students gained insights into the QUT actions for sustainability and interviewed QUT staff who are a part of the program to verify actions had been completed. Sustainability Week 2023 included two main events—one on each campus plus activities during the week across all QUT faculties, research, teaching, campus operations and the community. A ‘Did you know?’ series of digital posters was created for the HiQ screens. The SHED was completed in 2023, providing an engagement space for sustainability and all QUT areas including student groups.
			2. Update sustainability website to align with <i>Sustainability Action Plan</i> .	<ul style="list-style-type: none"> All sustainability websites were updated in 2023 and a new HiQ sustainability site was developed for QUT students to increase engagement across all areas of sustainability at QUT. <p>https://qutvirtual4.qut.edu.au/group/student/student-life/sustainability/take-action-for-sustainability</p>