



Artwork Story – Billabong Camp

Billabong Camp depicts time-worn tracks that lead to a shady place of water, Clans gather under paperbark trees after a long, hot journey.

The design places people at its centre – referencing students, researchers, people and community. Tracks, a place by water and paperbark trees symbolise the energising, holistic values of the learning journey. The motifs depict people, tracks and meeting places, a story which relates to each individual, a journey which holds limitless pathways of learning, growth, and connection.

ANNUAL SUSTAINABILITY REPORT 2022





ACKNOWLEDGEMENT TO COUNTRY

CQUniversity acknowledges the many Traditional Custodians of the land and sea Countries on which we work and learn. We pay our respects to their traditions, languages, cultural practices and knowledges of the lands and seas. We pay our respects to all the Elders, past, present, and emerging.

For over 75,000 years Aboriginal and Torres Strait Islander peoples have been caretakers of lands and seas.

Aboriginal and Torres Strait Islander languages, culture and customs are as broad as the country we live in, it is the strength of connection to family and the connection to Country that is at the heart of all Aboriginal and Torres Strait Islander cultures.

FOREWORD FROM THE VICE-CHANCELLOR AND PRESIDENT – PROFESSOR NICK KLOMP

Since the development of the Sustainability Policy and Framework in 2016, CQUniversity has significantly progressed in our commitment to be an organisation that is socially and environmentally responsible. Our sustainable approach is underpinned by the United Nation's Sustainable Development Goals, which guide the actions we take in our everyday operations, interactions, and relationships to make a sustainable difference.

The emphasis on CQUniversity's commitment to sustainability is reflected within our Strategic Plan 2019-2023: Our Future Is You, with 'Our Sustainability' featuring as a core pillar guiding the University's direction in sustainable practice.

As Australia's most engaged university, we are proud of our partnerships with the communities we serve, particularly those that service our sustainability agenda, like 'Clean Up Australia Day' across our national footprint. In fact, we provide the highest level of support to the Clean Up Australia campaign of any University.

We have also established ourselves as sustainable leaders with our 'Ditch the Disposables' campaign which, since 2019, has limited the use and sale of single-use plastics across our nation-wide campuses and communities.

In our classrooms, we have launched a new, free short course that is available to all of our students and staff on climate science, titled 'A Beginner's Guide to Environmental Science: Wicked Problems and Possible Solutions.'

We are proud of our role as changemakers who lead our communities through our sustainable commitment and approach, and we are certainly proud of what we have achieved as a university, in a short time period. We've built a strong foundation to drive further innovations and we are excited about what we will achieve in coming years.

Professor Nick Klomp
Vice-Chancellor and President
CQUniversity Australia



2021 HIGHLIGHTS SUMMARY

Despite a difficult year with continuing pandemic impacts and restrictions, including limited financial resources, CQUniversity was able to deliver good results against some major milestones in our sustainability journey.

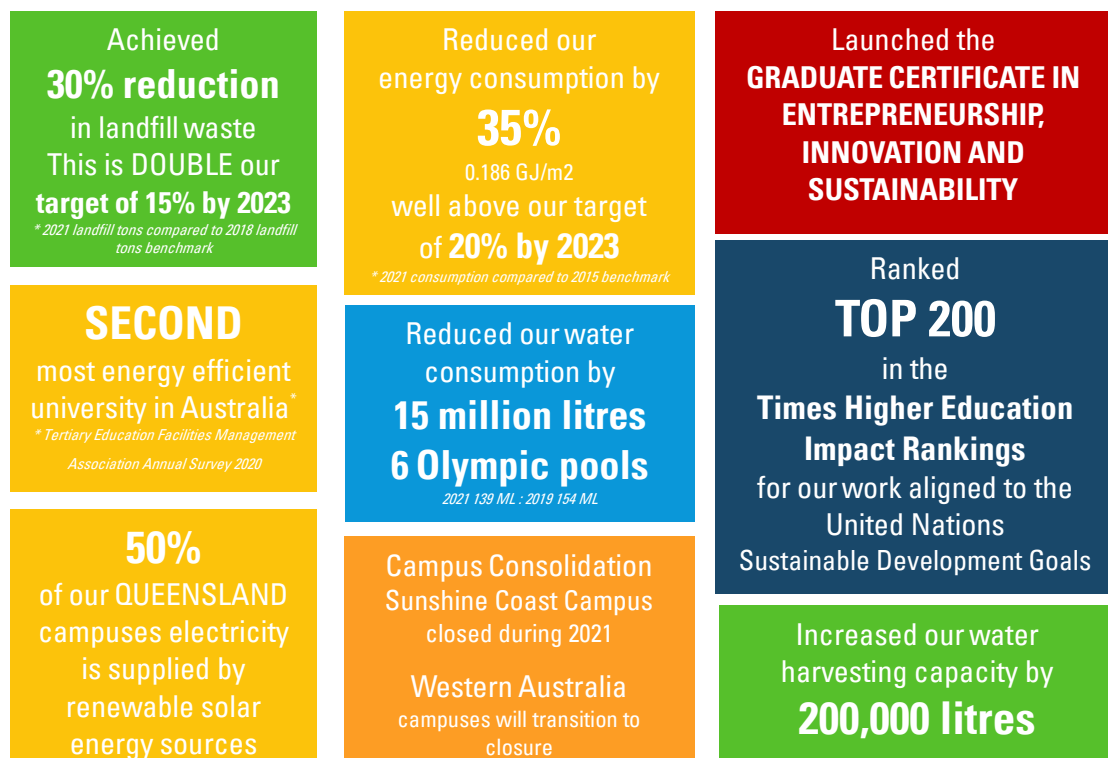
A number of areas are continuing to strive and gain recognition, our Coastal Marine Ecosystems Research Centre based in Gladstone is a great example of this. They have been involved in numerous key studies along the coast, not just the Capricornia coast. This is an area where CQUniversity believe there is strong potential for growth in support of the important studies of our marine habitats and environment for future sustainability.

Another area where we are reaching out across our wider community with sustainability is through our Social Innovation team. The CQUniversity Festival of Change, hosted by the Social Innovation team was a great success with more than 500 people attending events on campus and online. The Festival explored big ideas and big impacts in sustainability, social change and social innovation education.



Below is a snapshot of the diverse range of items discussed at the Festival of Change 2021.

- Big Ideas Design Sprint – focussed on UN SDG12: Responsible Consumption and Production
- Female Champions of Sustainability – Balancing People and Planet
- Reduce, Reuse, Recycle - the Circular Economies Panel discussion
- Food Waste Solutions Photo Challenge



Times Higher Education Impact Rankings

The Times Higher Education University Impact Rankings recognises universities across the world for their work aligned to the 17 United Nations' Sustainable Development Goals. In the 2021 Impact rankings, CQUniversity was ranked in the TOP 200 universities participating in the rankings.

The University also achieved notable results in the eight SDG categories we participated in.



Some of the challenges encountered on our sustainability journey in 2021 included NAIF funding for capital projects which imposed restrictions on the cash available to support Sustainability related projects. The NAIF funding also imposes geographic restrictions on spend to only campuses from Gladstone north, limiting activity on nationwide sustainability campaigns.

The Government's Job Ready Graduates Bill (passed in October 2020) had a significant impact by changing the mix of government funding and student contributions for certain courses in 2021 and beyond, meaning that some courses with low government contributions became less viable to deliver beyond the funding cap. Whilst the University chose to still support some of these courses, our financial sustainability required us to rationalise our course offerings.

During 2021 we suffered a period of over three months where we were without a Sustainability Officer. This had an impact of slowing down our delivery and during the year and planning for 2022.



This graphic has recently been developed to better communicate our ongoing commitment to sustainability by acknowledging the nine elements of our framework linking to the 17 Sustainability Development Goals.



MOVING FORWARD *OUR* FUTURE DIRECTION

Progressing the University's future sustainability agenda will continue with enthusiasm, despite continued challenges we face. Efforts will be refocused to activities that can be actioned with existing resources and provide most benefit for our investment. Below are some of our projects for 2022 and beyond in support and planning of the 2050 targets.

In October 2021, the Australian Government communicated an updated and enhanced Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) secretariat.

The updated NDC:

- adopts a target of net zero emissions by 2050
- commits to Australia's 7 low emissions technology stretch goals
- reaffirms Australia's target to reduce emissions by 26 - 28% below 2005 levels by 2030

The plan includes the following ideas to help achieve the targets.

- Grow Australia's hydrogen industry
- invest in large-scale energy storage
- reduce our steel and aluminum industries' emissions reduction costs
- improve soil carbon storage and measurement
- reduce emissions through carbon capture, use and storage
- invest in future fuels and vehicles to reduce transport emissions.

The University is already realising potential opportunities to become involved in some of the emerging technologies through our School of Manufacturing in Gladstone as a location for Hydrogen energy development.

In addition to the 2050 zero emissions target the University is enacting many new ideas including those outlined below.



Water Harvesting on Rockhampton North campus: rainwater tanks purchased in 2021 will be installed and activated.



Carbon modelling: analysis and benchmarking of our CO² footprint will be undertaken, and a baseline established for future reporting and data capture.




Sustainable buildings: construction will wrap up on our first 5-star green star designed buildings. Funded by the Federal Government the School of Mining in Rockhampton and the School of Manufacturing in Gladstone have been designed and constructed with these principles. We will continue to reduce the impact of our aging HVAC assets on the Rockhampton North campus with works being undertaken considering and planning on the central chilled water plant as part of our backlog maintenance. Our already highly successful LED lighting replacement program will continue.



Clean Up Australia Day and Tree Planting Day: we will continue our successful community engagement days during 2022. Our support of the iconic Clean Up Australia Day will reach four years and we plan to collaborate with the Rockhampton Regional Council to use some of campus grounds to create food plantation areas by planting tree species to help feed the koalas and primates in the local Zoo.



Know  4 You Throw: our Sustainability Officer will be launching a new campaign to educate the CQUniversity community on the impact of our waste disposal choices.



Sustainability related research: CQUniversity has already received notification of successful funding research grants in 2022. We will continue to create new knowledge on the issues that impact our world.



Extension of our recycling program: the waste recycling program has seen the rollout of new bins across our campus footprint. In 2022, the next phase of this program continues with improved bin stations in our food retail areas, continuation of our organics collection trials and more communication and education content will be shared.



Responsible consumption of scarce resources: our agreement with the Queensland University Energy consortium will continue into 2022. This agreement sees 50% of our electricity sourced from renewable solar, committing a pathway for a reduction of ~9,000 tons of CO²-e offset annually.



APPENDIX

FRAMEWORK ELEMENT 1: TEACHING



Holistic, Progressive, Applicable

FRAMEWORK ELEMENT OBJECTIVE: “We will produce graduates who have the knowledge, skills and drive to apply global and sustainable thinking to address complex social, economic and environmental challenges.”

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Introduce the concept of innovative circular economy aspects to our students at CQU	<p>There is a need for more discussion and focus on this as a developing practice. How can CQUniversity adopt or implement this idea into our normal operations and share this concept across the community?</p> <p>CQUniversity's annual Festival of Change was held both on campuses and online, with a big program celebrating and inspiring social innovation and included circular economy.</p> <p>The launch event, Female Champions of Sustainability, was facilitated by CQUniversity Deputy Chancellor Dr Robyn Minchinton, with an engaged online audience.</p>
SHORT TERM GOAL: At CQUniversity open days at Rockhampton organise a desk for information dissemination on Sustainability activities supported by the Sustainability officer.	Open day events were affected by COVID-19 in 2021. DFM will investigate the most effective means to communicate with our students and inform them of our activities.
SHORT TERM GOAL: Organise discussion forums and speakers in sustainability topics at various CQUniversity campuses	<ul style="list-style-type: none"> The Festival of Change is a free learning festival, hosted by CQUniversity Australia and designed to celebrate and inspire changemaking. During 2021 a local Sustainability forum was held in Rockhampton with high schools where staff from CQUniversity presented. This event is also planned to take place again in 2022.
SHORT TERM GOAL: Encourage Student involvement to a point where students are helping drive the direction of our sustainability framework	The Office of Social Innovation has continuously engaged with students and Change Champions to run projects with dual themes of social innovation and sustainability.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Provide options for student-initiated projects, where appropriate	Hosted on CQU's Centre for Professional Development platform, the iActivate – (Design and Grow Business) is a first for Australia, an online social enterprise course developed by a university and an industry leader offering a digital badge. The 12-module course content is curated to give students clear and actionable steps in defining goals and impacts, understanding business for good ecosystems, applying sustainable and innovative business models, prototyping a social enterprise start-up, pitching and storytelling, collaborating, scaling, and measuring impacts.
LONG TERM GOAL: Encourage a holistic approach to sustainability through the inclusion of circular economy concepts in relevant courses where academic expertise exists	As previously mentioned, there is more work required in the area of promoting and developing circular economy.
LONG TERM GOAL: Deliver sustainability related content, where relevant and where academic expertise exists.	<p>A strong focus on sustainability has seen CQUniversity recognised in the top 20 per cent of universities, globally, in the third edition of the <i>Times Higher Education</i> (THE) Impact Rankings. CQUniversity maintained its inaugural ranking of 101-200, despite an increase in the number of officially ranked universities - a true testament to its sustainable global impact agenda.</p> <p>The rankings are the only global performance tables that assess universities against the United Nations' Sustainable Development Goals (SDGs).</p> <p>A university's overall ranking is based on its performance in SDG 17: Partnerships for the Goals (the only mandatory goal), along with its three best results on the remaining SDGs.</p>
LONG TERM GOAL: Encourage student initiatives and projects in sustainability, where relevant and appropriate.	DFM Sustainability Team and the Office of Social Innovation continues to work towards developing this long-term goal.
KPI: By end of 2021 have an active student champion at eight of our campuses in Australia.	This has been greatly impacted by COVID and some campus closures. This item is to be reviewed given changes to students and campus activities. It could be that this idea is delayed.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- The Forestview Community Kindergarten in Bundaberg in partnership with local Indigenous organisation Gidarjil Development Corporation has opened a bush tucker garden, with the co-director attributing success of this project was attributed to the completion of an innovative micro-credential from CQUniversity.
- A CQUni online micro-credential course "Leading education for global competence" was developed with funding from the Queensland Government and promotes a deeper understanding of how diversity and inclusion can build social cohesion.
- CQUniversity in partnership drives upcycle village for Rockhampton initiative is being supported through (QSEC's) Queensland's Social Enterprise Council Reset and Recovery with Impact project,

working with emerging entrepreneurs across Far North Queensland, Central Queensland, and the Western Darling Downs, with \$200,000 in funding support from the Queensland Government.

FRAMEWORK ELEMENT 2: RESEARCH




Innovative, Collaborative, Practical

FRAMEWORK ELEMENT OBJECTIVE: CQUniversity is fast becoming a well-known and respected research-based university. As an institution, we value our interactions with society, particularly in terms of direct and indirect knowledge exchange. As our research portfolio grows in the future, we should be cognizant of sustainability principles and practices that may be included in research projects to better support all communities.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Create awareness among CQUniversity research and academic employees of the focus on research that addresses sustainability issues within our society, environment, and industry, through regular communication and practice.	<p>CQUni researchers contributed to many Journal and Conference papers on sustainability-related topics.</p> <p>CQUni clean energy research is internationally recognised as leading research in energy.</p> <p>Clean Energy research is providing solutions to reuse landfill waste and tyres through the generation of Australian-standard diesel. Research has completed its pilot testing for a method that turns everyday waste product that is difficult to recycle such as polystyrene, tyres, particle board, agriculture waste, other used plastics, and solid waste into commercial-grade petrol and diesel fuel.</p> <p>CMERC</p> <p>The Gladstone Healthy Harbor Partnership (GHHP) commissioned CQUniversity's Coastal Marine Ecosystems Research Centre to develop mud crab, fish health, and social, cultural, and economic indicators "The program, delivered in partnership with the Gidarjil Development Corporation Sea Rangers.</p>
SHORT TERM GOAL: Promote the applied research and subsequent innovative outcomes undertaken by CQUniversity that has improved the sustainability of our society, environment, and quality of life	<p>CQUni News articles regularly feature content on sustainability topics. Science, Technology, Engineering and Mathematics (STEM)- CQUniversity's Agri-tech Education and Extension researchers are inspiring a new generation to get passionate about agriculture, with a fun school's program highlighting STEM careers in primary production.</p> <p>The RACE – Gippsland project has visited primary and secondary schools across the Victorian region this month, connecting hundreds of students with new ideas about the science and technology behind food production.</p>

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Work with CQUniversity Clean Energy Academy to increase opportunity for sustainability focussed research and education for our communities	<p>National Science week CQUni researchers outlined how hydrogen – particularly ‘green hydrogen’ is one of the cleanest alternatives of energy.</p> <p>As Academic Lead in Engineering Foundation and Lecturer in Mechanical Engineering in CQUniversity’s School of Engineering and Technology since 2010, Dr Chowdhury has been working on numerous projects into hydrogen.</p>
LONG TERM GOAL: CQUniversity is recognised for its innovative applied research that makes a difference and improves the sustainability of our world.	<p>CQUniversity continues to be recognised for its innovative applied research, example: Researchers at CQUniversity’s Coastal Marine Ecosystems Research Centre have been working with passionate citizen scientists to engage communities and regenerate ecologically important seagrass meadows. Their flagship citizen science project involves engaging community volunteers to collect seagrass flowers so that seeds can be germinated and transplanted to regenerate existing meadows and establish new ones.</p> <p>The Graduate Certificate in Entrepreneurship, Innovation and Sustainability allows you to gain knowledge of contemporary sustainable management principles and practices while gaining practical, transferable skills that support you in your entrepreneurship and innovation career.</p>
LONG TERM GOAL: Embedded sustainability research approach in relevant fields.	<p>CQUniversity Australia has secured \$2.1 million in Commonwealth funding to research and develop hydrogen applications for Central Queensland’s burgeoning regional hydrogen industry. Funded through the Government’s Regional Research Collaboration Program, the project will see CQUniversity collaborate with industry to determine research and innovations required to drive the adoption of green hydrogen for export in Gladstone and to develop the zero emissions technologies required by industry.</p>
LONG TERM GOAL: Potential that CQUniversity research can influence our own decision making to develop a sustainable future for the University	<p>A strong focus on sustainability has seen CQUniversity recognised in the top 20 per cent of universities, globally, in the third edition of the <i>Times Higher Education</i> (THE) Impact Rankings.</p> <p>CQUniversity maintained its inaugural ranking of 101-200, despite an increase in the number of officially ranked universities - a true testament to its sustainable global impact agenda.</p> <p>The rankings are the only global performance tables that assess universities against the United Nations’ Sustainable Development Goals.</p> <p>A university’s overall ranking is based on its performance in SDG 17: Partnerships for the Goals (the only mandatory goal), along with its three best results on the remaining SDGs.</p> <p>CQUniversity played to its strengths, submitting on eight SDGs, with evidence resulting in first-time recognition for SDG 14: Life</p>



FRAMEWORK TARGET	2021 PERFORMANCE
	Below Water, as well as improved performance on SDG 4: Quality Education, SDG 10: Reduced Inequalities, and SDG 17.
KPI: The number of community-engaged research and social innovation projects aimed at improving the local community, environment, and global sustainability.	<p>Several community-engaged research and social innovation projects aimed at improving the local community, environment and global sustainability were achieved in 2021- Indigenous innovator and award-winning CQUniversity Bundaberg alumnus Leslie Yulang Lowe shared his experience of First Nations' sustainability practices with a global audience, as part of CQUniversity's Festival of Change.</p> <p>Experienced social entrepreneurs, CQUni's Social Innovations team and Impact Boom are leading the iActivate short courses at CQUniversity, the iActivate – Design and Grow Business for Good is a national first, an online social enterprise course developed in collaboration by a sector leader and Australia's only Changemaker University, accredited by Ashoka U global social innovation network.</p>
KPI: Adoption of research outcomes into the normal operations of the University.	This KPI is being achieved and will be no longer reported against.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- CQUni researcher, Dr Flavia Santamaria is delving into the chemical make-up of koala poo in key areas of Queensland to determine how stressed the species may be. The study has the potential to inform koala habitat management to ensure the survival of koala populations in the future.
- Coastal Marine Ecosystems Research Centre continues to conduct research in the areas of seagrass restoration and sea scape habitats.
- Charles Darwin University (CDU), Central Queensland University (CQUniversity) and James Cook University (JCU) will partner on projects that support the social, environmental, and economic development of Northern Australia through the establishment of the Northern Universities Alliance. The three universities will seek joint funding opportunities, share knowledge, deliver integrated education and training courses, and work on research projects that benefit agriculture, regional health, water security, renewable energy, and indigenous leadership outcomes in the north.
- CQUni is providing technical scientific advice and coordination through the Fitzroy Partnership for River Health (FRPH) Independent Science Panel, to drive research to support the continuous improvement of the Fitzroy Basin Report Card. The project involves implementation and review of data-based reporting products, including the annual Ecosystem Health Index, as well as general advice and review around water chemistry and environmental monitoring and reporting aspects within the Fitzroy River Basin.
- CMERC has partnered with Reef catchments, Great barrier reef foundation University of Queensland and James Cook University for the Reef Islands Initiative (RII) Whitsundays Program. The aim to develop a scientific, data-driven basis to support resilience-based management and to guide restoration activities for seagrass, in the Whitsunday Islands.
- Researchers from the Department of Agriculture and Fisheries (DAF) Queensland, CQUniversity and the Department of Primary Industries (DPI) NSW Fisheries are collaborating on a Fisheries Research and Development (FRDC) co-funded research project on mud crab populations in Queensland. Critical to the Harvest Strategy for the Qld Mud Crab Fishery are processes for monitoring and assessing fishery performance.



FRAMEWORK ELEMENT 3: WASTE




Reduce, Reuse, Recycle

FRAMEWORK ELEMENT OBJECTIVE: In 2018 CQUniversity created approximately 723 tons of solid waste (based on the University Waste Services report), of which 24% was recycled. With a target to grow our student population it would be expected this figure would also grow. We are committed to reduce waste production through a variety of methods while also increasing our recycling efforts across our campuses. Based on the National Waste Policy 2018 of the Department of Environment, some of the guidelines that CQUniversity will adopt include:

- Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal.
- Manage waste as a resource.
- Seek to increase use of recycled and renewable materials.
- Ensure that waste treatment, disposal, recovery, and re-use is undertaken in a safe, scientific, and environmentally sound manner.
- Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land.
- Increase the use of recycled and renewable materials.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Implement a program to stop use of single use plastics across the University by end of 2020.	This long-term, nationwide campaign designed to reduce single-use plastics across all CQUniversity campuses continued during 2021. The Australian National Plastics Plan 2021 has further implemented changes that will be applied across the University goals of reductions in plastic materials. CQUni has been supported by Plastic Free CQ and the Rockhampton Regional Council (RRC) in this space.
SHORT TERM GOAL: Liaise with the various local Councils to develop recycling programs for each campus. Have all University campuses with basic recycling (Stage 1) in place by 2022.	DFM is working towards this goal and with the RRC and our industry partners. Almost all campuses have basic recycling and ongoing final works have commenced to achieve this goal. further advancements in the collection and further separation of waste types are a major focus in 2022.
SHORT TERM GOAL: Establish base line annual data – weight and M3 of waste types including recycling, cardboard, organics, and general waste for annual reporting	Base line data capture of waste is critical to understand types and volumes of waste. Waste audits are forecasted for 2022 across several key areas of the campus supported by the Rockhampton Regional Council.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Initiate a robust waste reduction, reuse, and recycling awareness campaign	Further planning has started in late 2021 to further develop Phase 2 of the CQUniversity's 'Ditch the Disposables' campaign. Targeting further waste reduction, reuse and recycling awareness campaign will be informed and supported by the Zero Waste Strategy, the National Plastics Plan 2021, and our partners DFM is working with our partners Plastic Free CQ and Rockhampton Regional Council.
LONG TERM GOAL: Work on long term strategy to zero landfill waste. Develop a strategy for approval by end of 2022.	A draft of the CQUni Zero Waste Strategy has been developed by the Sustainability team at DFM and is on target for approval by the end of 2022.
LONG TERM GOAL: Throughout QLD and NSW campuses Recover 85% recyclables m3 (volume) by the end of 2030.	<p>Short term actions include the purchase of Bin stations that provide a wider scope for a range of recyclable materials for reuse and diversion from landfill.</p> <p>High level efforts related to this have commenced, informed through the the National Plastics Plan 2021. DFM is working with our partners Plastic Free CQ and Rockhampton Regional Council on waste audits across the Rockhampton campuses.</p>
<p>LONG TERM GOAL: Investigate and develop waste management systems to recover 100% of compostable material from total waste generated throughout QLD and NSW campuses</p> <p>Conduct a Feasibility study for the on-campus composting system (regional campuses only).</p>	<p>The DFM Sustainability Officer has initiated a six-month investigation into weight and volume of organic waste materials from Rockhampton North campus food retailers and the residential commercial kitchen commenced in December 2021 and will continue into 2022. The organic materials are currently being intercepted from landfill and being redirected - reused into a circular economy arrangement with a local permaculture business. This data capture will further inform direction towards further management of this resource across the campus into the future.</p> <p>A feasibility study for the on-campus composting system (regional campuses only) has not progressed. Initial investigations towards indicated that cost estimates for the system are currently prohibitive. Further investigations are continuing around base line data capture through the Organics trial that will inform future opportunities.</p>
LONG TERM GOAL: Adopt the end of a life assessment plan for capital major and minor projects.	The new SOMM project building at Rockhampton North campus has been designed to a 5-star green star rating.
KPI: Increase our recycling to 35% m3 (volume) of total waste by end of 2023, throughout QLD and NSW campuses	<p>DFM has purchased several bin stations targeting recycling, landfill and 10 cent deposit containers late in 2021. These bin stations will be installed in 2022 across the food court areas of the Rockhampton North campus.</p> <p>Further actions to meet this KPI include a communication and education initiative and the implementation of a waste strategy.</p>
KPI: Successful implementation of an educational program to stop the use of single use plastics across the University, with a review in 2021.	Whilst this KPI has been achieved through the Ditch the Disposable campaign, the DFM Sustainability Team have planned for additional efforts during 2022 and will work with external organisations Plastic Free CQ and Rockhampton Regional Council for further reductions of single-use plastics across the campus informed through the National Plastics Plan 2021. Further actions outlined in the Zero Waste Strategy will help us achieve our sustainability goals.



FRAMEWORK TARGET	2021 PERFORMANCE
KPI: Steady reduction of total waste M3 (volume) going to landfill annually to meet 15% reduction by end of 2023 throughout QLD and NSW campuses	<p>Ongoing investigations are continuing to achieve this goal. Currently, based on 2020 – 2021 annual waste data, we have achieved a total reduction of 9.5 % of total weight against the KPI target weight of 15%.</p> <p>2020- Waste data total waste 10,972 m3 2021- Waste data total waste 9,933.3 m3</p> <p>Note: Annual waste volumes can be influenced negatively by external public dumping of waste, thus inflating our actual waste data.</p>

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- CQUniversity marine researchers shared in \$1 million of Queensland Government grants to clean up beaches, rivers, and creeks, with an innovative project to trap and monitor microplastics in Central Queensland drains.
- The Drain Buddies project, led by CQUniversity Coastal Marine Ecosystems Research Centre will modify, and install microplastic traps across Rockhampton and Livingstone shires, with monitoring to determine where the littering is occurring.
- Over 80 staff and students across several CQUniversity campuses participated in Clean Up Australia Day events, together collecting over 1 tonne of rubbish.
- CQUniversity is the first university to join Clean Up Australia as a Platinum Business Supporter and we will be continuing our support to the organisation.
- DFM and the Digital Services Directorate collaborated late into 2021 - discussions were focused on reducing paper waste - in particular the casual use of photocopying paper across the campus. Further educational information will be produced in 2022, supported by DFM.

FRAMEWORK ELEMENT 4: ENERGY



Avoid, Reuse, Produce

FRAMEWORK ELEMENT OBJECTIVE: CQUniversity is committed to energy efficiency and conservation in its facilities and operations. The Framework identifies energy conservation as a significant issue for the campuses and outlines steps to conserve energy and achieve sustainable goals of the University. Our guiding principles are:

- To reduce energy usage incrementally over the years by utilising alternative methods of energy conservation.
- To encourage energy-saving behaviour on campus through technical assistance, awareness campaigns and studies.

FRAMEWORK TARGETS	2021 PERFORMANCE
KPI: Reduce energy use by 20% by end of 2023 (based on 2015 benchmark) (<i>this new target is included in the 2020 Framework review</i>)	During 2021, the total energy use was much lower than 2020 because of COVID and a reduction in staff. Year on year we have been able to exceed the reduction target set due to energy efficient improvements introduced. For 2021 the target was 0.451 GJ/m ² and the actual achieved was 0.344 GJ/m ² .
SHORT TERM GOAL: Introduce energy monitoring equipment to allow for measurement and targeted saving areas	Rockhampton North campus buildings are equipped with Energy meters. These meters are monitored and managed via the HVAC Technical Officer and Facilities Compliance Officer to find target areas for energy savings. All new projects will include the energy meters to monitor energy consumption.
SHORT TERM GOAL: Engage staff, students, in a robust awareness campaign on effective electricity and fuel saving tips.	Due to COVID-19, campaign activities were not pursued. Further detailed engagement and an awareness campaign is being developed and is scheduled for roll out in 2022, informed through our Zero Waste Strategy with the support of RRC and our industry partners, including Phase 2 of Ditch the Disposables.
SHORT TERM GOAL: Continue to introduce energy efficient equipment such as LED lights and energy efficient	DFM Operations and Maintenance Team proactively manage this goal with the LED light replacement project. As existing lighting reaches its end of life, it is replaced with LED technology. Implementation and resourcing of energy efficient chillers is expected in 2022.
SHORT TERM GOAL: Identify “after the meter” opportunities to develop renewable energy on our campuses.	Due to cutbacks this goal has been put on hold; further opportunities are being considered.

FRAMEWORK TARGETS	2021 PERFORMANCE
SHORT TERM GOAL: Introduce electric cars to the university vehicle fleet.	Initial investigations have shown that the return on investment at this stage is not good. Factors currently impacting this is the mostly regional location of our campuses and related limited charging stations for campus-to-campus travel. We are certain in the future this will become a more viable option. In addition, we are investigating electric powered ride on mowers. These would be quite food for the university to use considering 50% of our power is from renewable sources.
SHORT TERM GOAL: Reduce the cost of energy through identifying new opportunities	From January 2021 CQUniversity's electricity purchase will be part of the Queensland Energy Consortium. This long-term contract (8 years) provides a significant cost saving (cents/kWhr) as well as providing 50% of the energy from renewable sources.
LONG TERM GOAL: Utilise maximum renewable energy source.	Further to our Queensland campuses being powered from solar power providing 50% of our power, we are continually looking to install solar panels on our own buildings to help reduce grid demand. There is a plan for our Emerald campus to be supplied by solar power however internal funding restrictions has delayed this project.
LONG TERM GOAL: Centralised chilled water plants and thermal storage, combined with solar power or a geothermal source.	This project was an element of the Rockhampton Centre of Excellence project, however the recent business case has removed this significant element from the project in order to provide more teaching space.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- The School of Mines and Manufacturing new project build design incorporates energy savings through 5 star energy design, lighting, and solar energy.
- CQUniversity has signed a deal that will see 50 percent of its energy for its Queensland campuses sourced from renewable solar, committing to a pathway for a reduction of about 9,000 tons of CO2-e offset annually the renewable energy contract will take effect from 1 January 2021. We continue to realise the benefits of this agreement.
- The DFM Operations and Maintenance team continued activities related to energy efficiency improvements by installing LED lights, energy-efficient HVAC systems.



Columboola solar farm where CQUniversity is obtaining 50% of its current energy supply.



FRAMEWORK ELEMENT 5: WATER



Avoid, Reduce, Recycle and Capture

FRAMEWORK ELEMENT OBJECTIVE: CQUniversity campuses will efficiently use water and minimise any wastage as one of our most precious resources.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Develop and implement an awareness campaign on water conservation tips with students, teachers, staff, and visitors	As part of our education roll out further information will be provided against this activity supported by Plastic Free CQ and Rockhampton Regional Council.
SHORT TERM GOAL: Establish a baseline usage of water consumption for CQUniversity.	The Water Metering and Monitoring project is being delivered with new metering across the Rockhampton campus. This continues to track our daily, weekly, and yearly water consumption.
SHORT TERM GOAL: Implement 5-star water efficiency rated equipment to all new campus buildings. Upgrade of existing building stock to reduce water demand.	Efficiency rated equipment has been Incorporated into the design manual for new buildings. Campus operating repairs in are in line with the new design manual standards and are encouraged.
SHORT TERM GOAL: Actively check and adjust water irrigation systems to minimise wasted water.	DFM grounds crew currently carry out this service through annual inspections, data capture though our water meters further advise DFM of leaks or unexpected over consumption.
LONG TERM GOAL: Offset the usage of council supplied potable water by devising water conserving landscapes and buildings.	DFM continues to achieve this goal with the further purchase of rainwater tanks and pumps that will be installed across the campus. Locations suitable for the Grounds crews use will further off set potable water use for activities related to turf and weed management.
LONG TERM GOAL: Increase the capture of rainwater through various techniques like rainwater tanks.	Several water tanks with a total capacity of 200,000 litres and electric pumps have been purchased and will provide future savings across potable water usage whilst providing large storage volumes for future use.
LONG TERM GOAL: Install water recycling plants The use of grey water for appropriate use	Funding cuts have put this goal on hold, opportunities are being investigated Restricted funding has impacted this goal for 2021. The appropriate use of grey water is an exciting concept, and we look forward to investigating this use across the campus into the future to further support the sustainability of our campuses.

FRAMEWORK TARGET	2021 PERFORMANCE
LONG TERM GOAL: Convert a major sporting ground to synthetic turf, eliminating the need for watering and mowing. Install catchment of the runoffs water into underground tanks.	This goal is under further investigation as it has been raised that activities with synthetic turf have demonstrated issues arise with regards to microplastics. In the meantime, we are looking to increase our ability to water harvest across our regional campuses.
KPI: Capture water consumption through annual reports supplied via benchmarking activities with the Tertiary Education Facilities Management Association (TEFMA)	Benchmarking activities continue to track our water usage across our campus footprint, this is an ongoing activity the information gathered on usage informs water usage plans that target areas that consume large volumes of water.
KPI: Increased rainwater tank capacity.	Increased water tank capacity has been realised. Roll out placement and fitting of these tanks and water pumps are scheduled for 2022.
KPI: The volume of grey water utilised annually.	No action during 2021 due to restricted funding.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- The DFM Sustainability Team purchased 8 x 25,000 litre water tanks and pumps to collect and store water for future use.
- New buildings will be fitted with 5 star energy rating appliances.
- Smart water meters (Utilious water metering) capture daily water usage across the Rockhampton Campus. This data forms part of an investigation to further analyse and reduce our potable water consumption across the campus.
- Baseline water consumption monitoring by DFM continues to quantify our water use and further investigations towards reductions in water use are ongoing.



*During 2021 water usage across our footprint decreased by 20%. * Achieved by removal of pool.*

2021 water usage was 139 megalitres .

2020 water usage was 172 megaliters.

2019 water usage was 154 megaliters¹.

¹ Results are based on initial 2021 calculations, more detailed calculations are required.

FRAMEWORK ELEMENT 6: ESTATE & BUILT ENVIRONMENT



Green Buildings, Land Management, Campus Planning

FRAMEWORK ELEMENT OBJECTIVE: We will not pursue objectives which imperil our sustainable future.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Undertake investigations to determine best practice of estate management	Best practice initiatives this year concentrated efforts on replacement of petrol and oil reliant machinery to more eco-friendly power tools that are user friendly, quiet, have a reduced maintenance requirement and use zero oil.
SHORT TERM GOAL: Create a Sustainability Walk with interpretive signage, and/or a community garden	Funding allocation has affected this goal in 2021 with no funding expected to be available in 2022.
SHORT TERM GOAL: Use of sustainable products in projects.	Included in the DFM Design Manual. This forms part of the overall requirement for any new building design to meet 5-star Green Star rating.
SHORT TERM GOAL: Consider developing End of Trip (EOT) facilities at campuses. This encourages people to walk, run or ride to work	Perth and Melbourne campuses have extensive end of trip facilities.
SHORT TERM GOAL: Undertake campus master planning with strong consideration of our sustainability framework and policy	The University Campus Planner has developed campus master plans that align with the Sustainability Framework and Policy.
SHORT TERM GOAL: Increase use of recycled and renewable materials across the University.	The University Campus Planner has developed several planning documents that have integrated the further use of recyclable materials into designs.
LONG TERM GOAL: Increase solar PV units to increase capacity.	Restricted funding has impacted this goal for 2021. This goal remains a focus for DFM into 2022.
KPI: Total annual Solar PV capacity.	CQUniversity has 170kW solar systems on various buildings across multiple campuses during 2021. Further auditing across the campuses in QLD are proposed for 2022 on our existing panels, their condition and functionality.
KPI: New electrical LED lightings installed, or existing ones replaced to more efficient ones.	DFM Operations and Maintenance Team proactively manage this goal with the LED light replacement project. As existing lighting reaches its end of life, it is replaced with LED technology. Several external lights were changed to LED during 2021. This activity will continue in 2022.
KPI: Sustainability Walk built and used.	Initial high-level plans have been developed for the Sustainability Walk, reduced funding has further impacted its implementation, this remains a goal for DFM.

FRAMEWORK TARGET	2021 PERFORMANCE
KPI: By 2023 all new buildings will be designed to meet the 5-star green star rating.	The DFM Design Manual was modified to stipulate that all new builds must be designed with 5 Star Green Star building rating intent per the Strategic Plan KPI. The current School of Mining and Manufacturing at Rockhampton and Gladstone are the first projects being delivered under this requirement.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- The DFM grounds team continues to update maintenance tools that are powered by lithium battery, and battery back packs allowing for extended use, eliminating the use of oils and fuel, reducing Co2 emissions, noise pollution and ongoing maintenance costs associated with petrol machinery.
- EMP Environmental Management Plans have been developed for Gladstone and the Cairns campuses which show our commitment to sustainability practices.
- Tree Planting Day was a success with native trees planted at the entrance way to the campus from the Bruce Highway. Over the course of 2021, we planted ~200 trees on our estate.



CQUniversity Community Garden, Rockhampton North campus

FRAMEWORK ELEMENT 7: SOCIAL AND COMMUNITY ENGAGEMENT



Community Network, Stakeholders Engagement

FRAMEWORK ELEMENT OBJECTIVE: We will seek to maximise our social impact while reducing our ecological footprint.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Engage stakeholders in a robust awareness campaign that is clear, continual, and innovative	The Plastic Free CQ organisation has continued to provide support to our retailers around innovative materials of sustainability. The 'Ditch the Disposables' campaign continued during 2021. Waste Management rollout includes awareness campaigns and communications around materials and consumer use.
SHORT TERM GOAL: Proactively network with organisations that have a local, national, and international reach	The DFM Sustainability Officer has continued to engage with local Central Queensland schools. Engagement activities aim to provide sustainability-related education and assist with the process of change for communities. Additional activities are planned for 2022 to follow up on missed events in 2021. DFM has continued our Platinum Business Partnership with the Clean Up Australia Day organisation and extended our partnership to be recognised as a Corporate Changemaker for Circular Economy.
SHORT TERM GOAL: Initiate a Sustainability Week to coincide with National Tree Day, Earth Day, Clean Up Australia Day	Clean Up Australia Day 2021: 80 participants across our campus network, collected 1 tonne of waste on Clean Up Australia Day. National Tree Day plantings were held at the Rockhampton North campus.
SHORT TERM GOAL: Initiate a Sustainability Champions program	This goal will be revamped in 2022 through the CQUni Zero Waste Strategy and Action Plan.
LONG TERM GOAL: Create activities that showcase CQUniversity as a strong player in educating the community in sustainability issues through sponsorship, networking, and educational strategies.	Our People and Culture team continue to proactively promote and participate in the wellness activities provided to the wider CQUni community.
KPI: Report membership to organisations.	CQUniversity is a Member of the Australasian Campuses Towards Sustainability (ACTS) and Tertiary Education Facilities Management Association (TEFMA) and CQUniversity will continue its commitment as a platinum sponsor to Clean Up Australia.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- The new Social Innovation Education Strategy (2021-2023) identifies five focus areas for empowering students, staff and communities for changemaking, and was recently endorsed by CQUni's Academic Board.
- Australia's only Changemaker University has mapped its next steps for delivering social innovation education, with an Australian-first strategy to inspire the next generation of social change leaders.
- CQUniversity plans to grow its social impact education that will see every graduate equipped to make a difference in their careers.
- Indigenous innovator and award-winning CQUniversity Bundaberg alumnus have shared his experience of First Nations' sustainability practices with a global audience, as part of CQUniversity's Festival of Change. A proud Bundjalung man, Mr Lowe is the managing director and co-founder of TECKnology Indigenous Corporation (Traditional Ecological and Cultural Knowledge), an environmental and heritage conservation social enterprise. He presented his personal insights and research to a packed online forum on Thursday 29 July 2021. The Social Innovation "Through an Indigenous Lens" session attracted participants from around Australia, as well as India, the United Kingdom, and Canada. Mr Lowe presented a passionate perspective on Indigenous ways of knowing, being and learning.
- Rockhampton Regional Council adopted a new waste strategy 2020-2030, to become a "zero-waste" community by 2050, diverting 90% of waste from landfill. This strategy informs CQUni's waste strategy and outcomes related to waste management in the Rockhampton region.
- DFM Sustainability team worked closely with the Rockhampton Regional Council Waste and Recycling team to bring new waste management and commercial composting technologies to the region, aligned with their long term plan to achieve zero waste by 2050.
- Researchers from the Department of Agriculture and Fisheries (DAF) Queensland, CQUniversity and the Department of Primary Industries NSW Fisheries are collaborating on a Fisheries Research and Development co-funded research project on mud crab populations in Queensland.



FRAMEWORK ELEMENT 8: BIODIVERSITY



Natural Environment, Flora, Wildlife

FRAMEWORK ELEMENT OBJECTIVE: This comprises the variety of plants, animals and microbial life at a given location. Biodiversity is a useful indicator of the overall health and viability of natural environments on CQUniversity campuses. Being the largest regional university, it covers land and property that sustains an interesting mix of native and non-native species. This Framework guides our actions to ensure that all natural watercourses and riparian bushland are preserved as much as possible to their original state.

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Identify items that are relevant to each campus. Potentially work with external groups on community projects where CQUni does not have space	Ongoing initiative (limited focus in 2021 due to lack of resources).
SHORT TERM GOAL: Engage and support restoration activities that improve environmental values	CQUni have worked at the Great Keppel Island (GKI) Hideaway completing restoration activities as part of CQUniversity's VET Cert III Conservation and Land Management. The planting of trees, shrubs and grasses and weed management were part of the project.
SHORT TERM GOAL: Organize 'Tree Planting Day' within various campuses or participate in a larger community effort.	CQUniversity and GKI Hideaway celebrated their partnership signing with a Tree Planting activity across the year the Conservation and Land Management students worked on revegetation and land management projects including weeding across the Great Keppel Island. A Tree Planting Day was held at the Rockhampton campus.
SHORT TERM GOAL: Develop gardens using native plants that support the local fauna and thrive in the local environmental conditions	Restricted funding has impacted this goal for 2021. The DFM grounds crew planted native plants throughout the CQUni Rockhampton North garden and additional native plant species were planted during the National Tree Planting Day.
LONG TERM GOAL: Build a Sustainability Walk with special apps that indicate various plants, trees, flora, and fauna native to the location.	Long term plans for the Sustainability Walk are in development.
LONG TERM GOAL: Establish a CQUniversity Community Garden. open to students, employees and community members who can commit their time on a regular basis.	The Rockhampton North Community Garden is growing thanks to the support of the Student Residences Directorate and local volunteers. Multiple school visits were held during 2021.

FRAMEWORK TARGET	2021 PERFORMANCE
KPI: Expand the use of native species for sustainability that increase natural values that promote local fauna.	Several native trees - Tuckeroo - <i>Cupaniopsis anacardioides</i> were planted throughout the CQUniversity Rockhampton North campus. The foliage and flowers provide food for native caterpillars which also improve food web and system dynamics.
KPI: Develop new reporting against master plans and the percentage of green land and sustainable initiatives within	Work is progressing to achieve this KPI with the development of Environmental Management Plans and Campus Master Plans.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- CQUniversity Environmental Science and Horticulture students are gaining valuable experience in an 'island classroom' environment at the gateway to the Southern Great Barrier Reef, thanks to a unique partnership between the University and Great Keppel Island Hideaway.
- Researchers at CQUniversity's Coastal Marine Ecosystems Research Centre (CMERC) have been working with passionate citizen scientists to engage communities and regenerate ecologically important seagrass meadows. Their flagship citizen science project involves engaging community volunteers to collect seagrass flowers so that seeds can be germinated and transplanted to regenerate existing meadows and establish new ones.
- The Sea Flowers: growing community engagement for seagrass restoration project is being implemented at intertidal seagrass banks within Gladstone, Bundaberg, and the Sunshine Coast.
- CMERC also works closely with the Gidarjil Development Corporation as part of the Land and Sea Rangers program. The partnership with Gidarjil provides benefit to the overall project as it allows researchers to learn about and apply traditional ecological knowledge and practices and how they can combine them with western science.
- The project has also attracted several new postgraduate research students who are studying a variety of seagrass growth factors including genetics and adaptation, flowering triggers, and seed-based restoration protocols to support seed germination and seedling growth.
- Researchers from the Department of Agriculture and Fisheries (DAF) Queensland, CQUniversity and the Department of Primary Industries (DPI) NSW Fisheries are collaborating on a Fisheries Research and Development (FRDC) co-funded research project on mud crab populations in Queensland
- Critical to the Harvest Strategy for the Qld Mud Crab Fishery are processes for monitoring and assessing fishery performance.
- CMERC are working with nature Investigations for Sea Wall Designs in the Port of Gladstone. This project investigates designs for seawalls to create hard and soft substrate intertidal habitats within the Port of Gladstone, with a particular focus on working with nature, where habitat creation is incorporated into part of the final design.
- CQUni have conducted Research and Assessment of Yellow Chat (Capricorn subspecies) population and associated marine plain habitat on Curtis Island (2020-2025).
- CMERC are working on a project that is prioritising seagrass restoration in the Whitsunday Islands. The aim of this project was to collate baseline mapping, connectivity, present distribution, and habitat suitability of the seagrass communities of the Whitsunday Islands, to support resilience-based management and guide restoration activities.



FRAMEWORK ELEMENT 9: ECONOMIC GROWTH



Efficiency, Profits, Human Resources

FRAMEWORK ELEMENT OBJECTIVE: *We will ensure our financial future.*

FRAMEWORK TARGET	2021 PERFORMANCE
SHORT TERM GOAL: Actively engage suppliers to encourage them to align with our sustainability objectives	Long term initiatives underway include activities organised by the Procurement Team including the Social Traders (social enterprise) membership and reporting on Indigenous and social procurement spend.
SHORT TERM GOAL: Encourage design standards to include sustainability features	Design Manual will dictate minimum standard for compliance with green star rating.
SHORT TERM GOAL: Work with internal and external stakeholders on circular economy initiatives.	Circular economy opportunities will continue to be explored in 2022. Initial investigations with the RRC around recycling of cardboard, organics, and recyclable materials - more details to follow in the new year.
LONG TERM GOAL: Reassess weak performing activities and make decisions about their future viability and continuation.	2021 saw the University undertake through analysis of operations in an effort to preserve its financial sustainability. As a result, the Perth campus and Western Australian study hubs will transition to closure.
LONG TERM GOAL: Develop a clear strategy, focused on the core of Learning, Teaching and Research.	Activities to achieve this goal will continue to be developed.
LONG TERM GOAL: Strategically invest in innovative models.	This is an ongoing activity.

OTHER EXAMPLES OF HOW WE DEMONSTRATED OUR COMMITMENT TO SUSTAINABILITY

- During COVID-19, the DFM Property Team sought rental relief from landlords for our leased campuses and were successful in gaining some reductions in lease payments during the pandemic this has continued through 2021.
- Ongoing reduction in travel activities.
- Hibernating underutilised spaces to reduce cleaning and maintenance costs and the temporary closure of the Birdcage Bar and Cafes as well as proactively managing spaces has helped make savings during 2021.
- The 2021 Publications strategy guided by recent changes to marketing and influenced by sustainability has moderated its printed production design for post pandemic projected use.
- Paper stock and size of the recruitment publication will meet new GBM sustainable standards set across reduced print qualities with recycling made a focus.