



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

FACILITIES MANAGEMENT DIVISION

ENVIRONMENT UNIT

Environmental Management Plan

2019 Annual Report

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Director, Facilities Management Division

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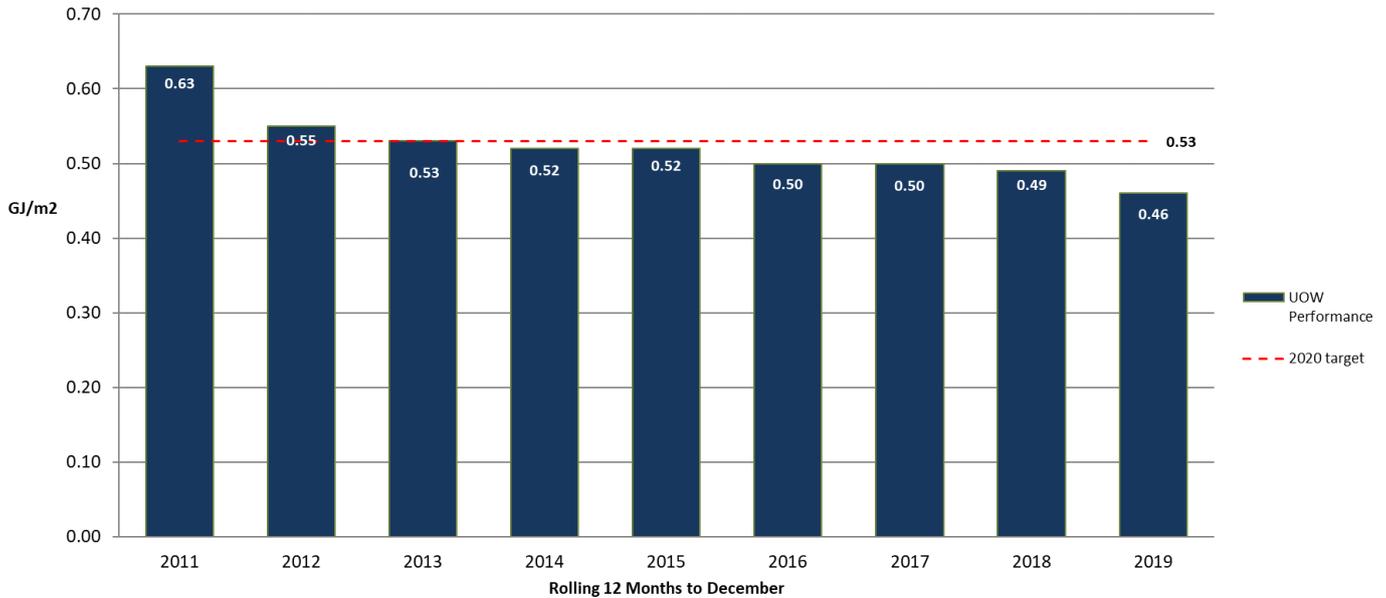
1 Introduction

The UOW Environmental Management Plan 2017-2020 was approved on the 27th November 2017. This Report has been prepared by the Environment Unit and outlines performance against the targets, strategies and actions for 2019.

2 Energy and Carbon Management

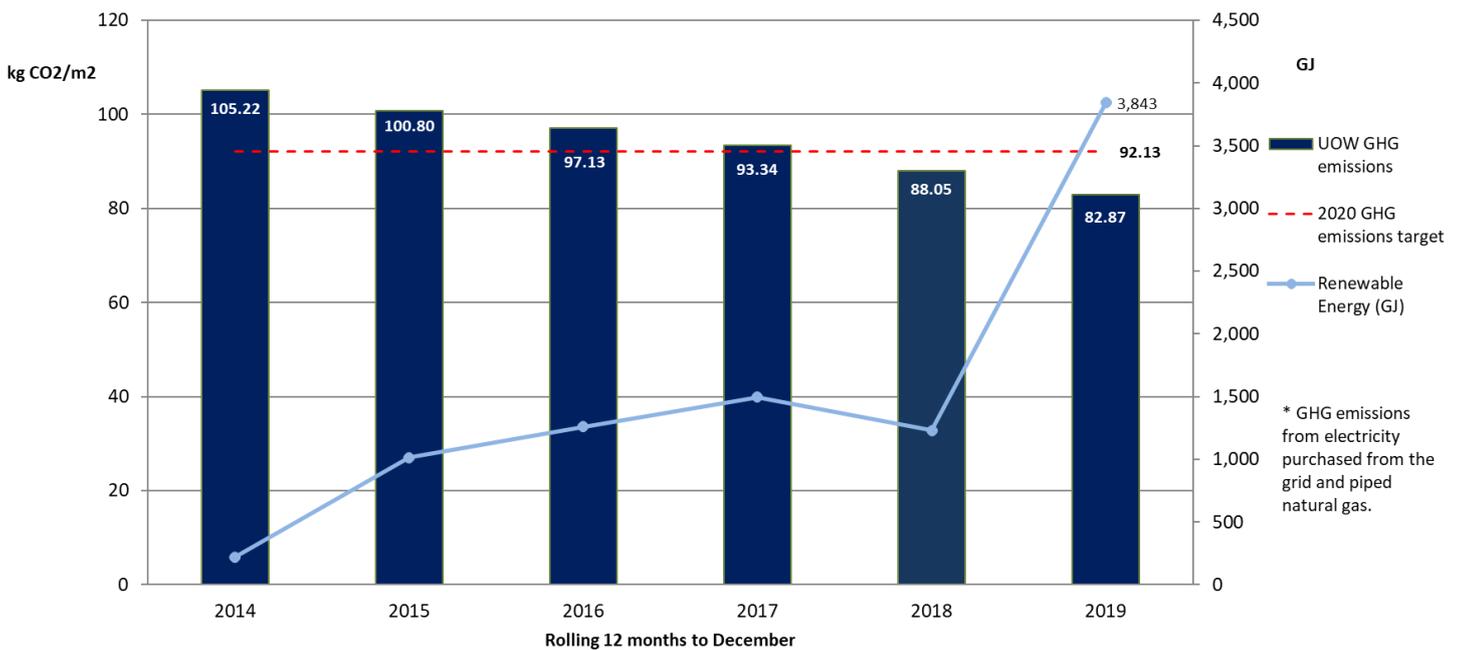
Targets: Reduce non-renewable energy consumption to below 0.53 GJ/m² by 2020, increase onsite generation of renewable energy by 2020 and reduce greenhouse gas emissions by 5% by 2020 (kgCO₂e/m²).

Energy Consumption KPI



- The consumption of non-renewable energy was 0.46 GJ/m²/yr, 13% below the EMP Target and 6% lower than 2018. The reduction was the result of installation of renewable energy systems and efficient lighting. UOW generated 3,800 GJ of onsite renewable energy in 2019, 200% more than the 2018. This was a direct result of the new solar PV systems installed on the Wollongong Campus.

Renewable Energy and Greenhouse Gas Emissions*



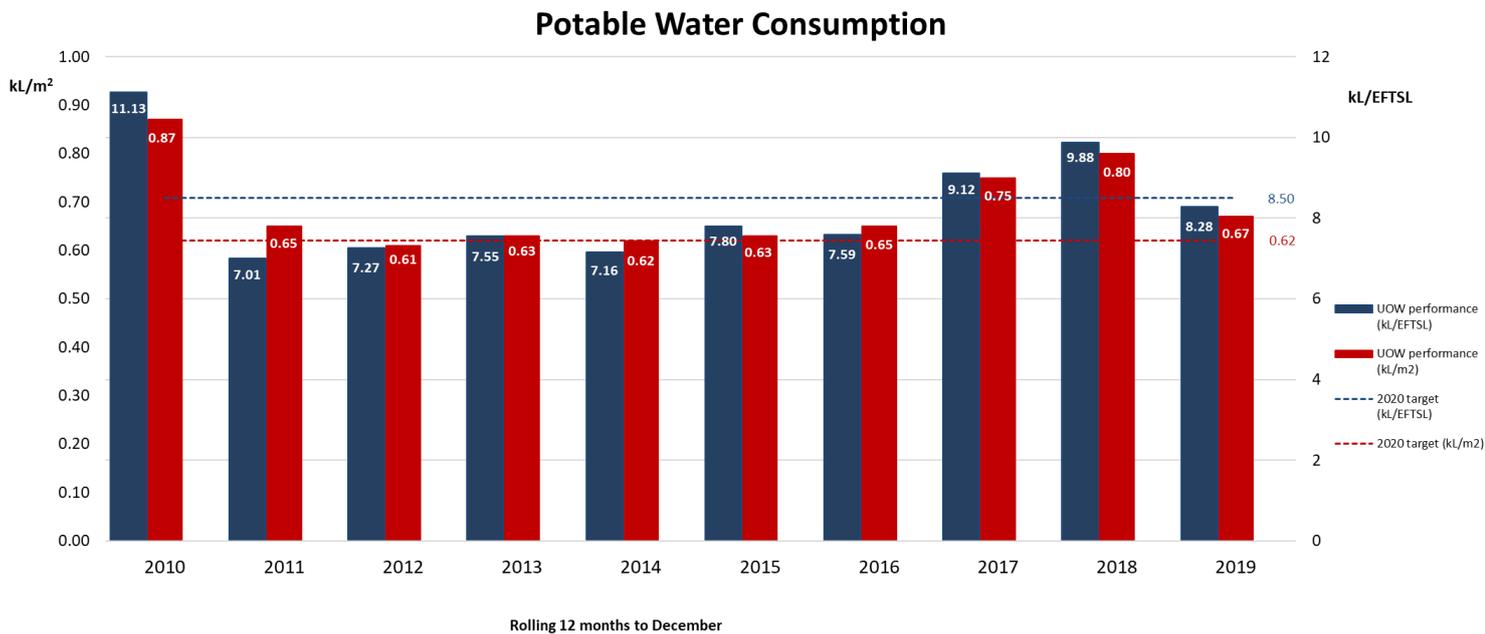
* GHG emissions from electricity purchased from the grid and piped natural gas.

- Greenhouse gas emissions derived from energy consumption was 83 kg CO₂ equivalent/ m² /yr. Those emissions were 10% below the EMP 2020 target and 6.8% lower than those achieved in 2018.
- Energy consumption and performance continued to be monitored on a monthly basis during 2019.
- The Energy and Carbon Action Plan was successfully implemented over the year.
- Communications were developed and deployed to promote the efficient use of energy on campus. “Shutdown” campaigns targeted extended holiday periods encouraging staff to switch off unnecessary lights and equipment. Discouraging use of personal heaters in office areas was also a focus.

3 Water Management

Targets: *Continuously reduce potable water use to below 8.5 kL/EFTSL by 2020 and reduce potable water use by 5% by 2020 (kL/m²).*

- The consumption of potable water was 8.28 kL/EFTSL (2.6 % below the EMP Target) and 0.67kL/m². This performance represented a 16 % reduction compared to 2018.



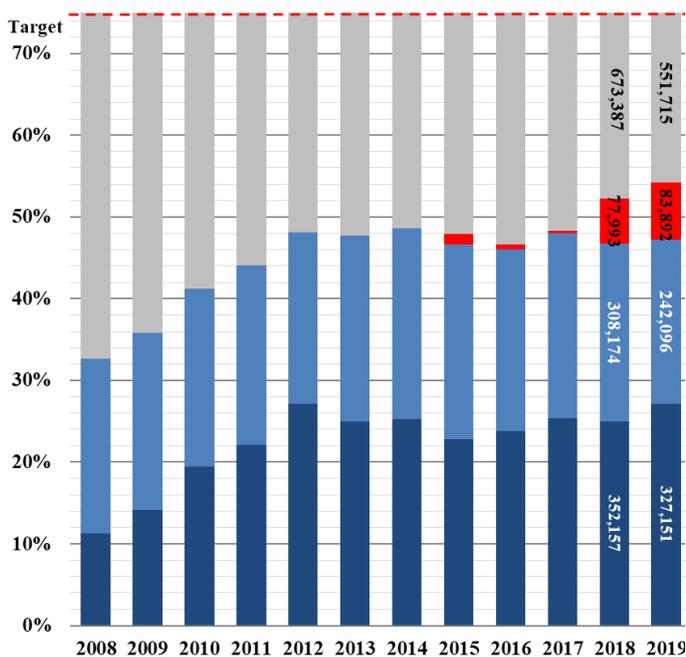
- Reductions resulted from improved monitoring, detection and subsequent repair of leaks. Water restrictions also saw savings from reduced irrigation and water feature operations.
- The Water Management Action Plan was revised and implemented during 2019.
- Water consumption and performance was regularly monitored and refinements in the water network were made to improve water leak detection.
- Communications regarding water use during the drought conditions were a focus in 2019 and included raising awareness of restrictions and the implications on UOW work activities.

4 Materials Management

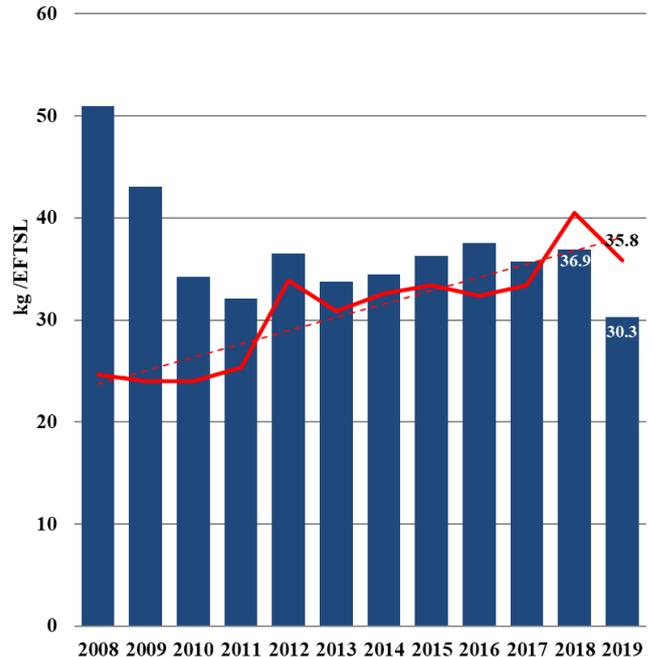
Targets: *Reduce waste sent to landfill by 2020 (kg/EFTSL). Divert 75% of materials from landfill with a recycling rate of 70% by 2020. No adverse environmental impacts from the management of other wastes.*

- 30 kg/EFTSL of waste has been disposed to landfill in 2019 which has resulted in 18 % less waste to landfill compared to 2018.
- 54 % of waste was diverted from landfill in 2019 which was an improvement on 2018 although below the ambitious 2020 target. Diversion of organics continues to be a source of improvement with a focus on rolling out of food waste collections for staff and events.

UOW* Waste Percentages



UOW* Waste Disposal & Diversion Rates



■ Mixed Recycling ■ Reused Organics ■ Recovered Organics^ ■ Mixed
 * iC data included from 2012 and excludes Accommodation sites and satellites
 ^ Recovered organics include food, paper towel and compostable packaging waste

■ Waste landfilled (kg/EFTSL)
 — Waste Diversion (kg/EFTSL)
 * iC data included from 2012 and excludes Accommodation and satellite sites

- Landfill, recycling and reuse of materials continued to be regularly monitored. Reports from construction activities indicated over 90% waste diversion from the Molecular Horizons and Building 29 sites.
- The vast range of recycling and reuse opportunities continue to be promoted including programs related to; e-waste, food waste, office furniture, plastic film and other assorted speciality items.
- Office paper reduction initiatives and awareness have received greater emphasis during 2019 with the implementation of tools such as DocuSign/Adobe sign, electronic forms and swipe to print initiatives.
- UOW Pulse and retail tenants have continued to support reducing waste to landfill via initiatives such as borrow a mug, plastic bag free IGA and compostable packaging options.

5 Campus Environment

Targets: *Greater than 90% of students satisfied with the campus environment (Wollongong Campus). New buildings and major refurbishments designed to best practice ecological sustainable development standards. Increase native species planted.*

- Student satisfaction with the campus natural environment continues to achieve scores over 90%
- Delivery of onsite renewable energy and efficient LED lighting has progressed through 2019 with 1 MW of solar PV and 7400 LED lights installed.
- Increasing native species continues to be a focus on the Wollongong Campus with over 20,000 native plantings in 2019, 538 of which were trees. The majority of these plants related to the P5 extension and riparian corridor work.
- Work has commenced to document the values and significance of campus trees.
- Campus spotlight and landscape walks have been undertaken with staff and students to promote and raise awareness of our campus habitat and fauna. Local fact sheets on campus frogs, nocturnal animals and fauna lists have been prepared and published online.

- FMD has worked with local authorities in the management of local weed and pest species.
- The Transport and Access Survey in 2019 demonstrated that private transport use to the Wollongong Campus continues a downward decline in favour of public and active transport modes. Mode share to campus during 2019 was 50.2% private transport, 28.5% public transport and 21.3% active transport. Since 2007, there has been a 30% increase in public and active transport to the Wollongong Campus. 5,600 people per day were arriving to campus by active transport modes while the average number of bus passengers was 5,300/day.
- A Transport and Access Action Plan was successfully implemented during 2019.
- Transport and access communications and education has continued to be undertaken to promote and encourage active and public transport.

6 Environmental Leadership

Targets: *Celebrate UOW's reputation as a place for outstanding transdisciplinary research. Promote UOW's reputation as an environmental leader in teaching, research and applied environmental management.*

UOW built on its environmental leadership in transdisciplinary research with the following successes:

- The Desert Rose House was awarded multiple sustainability awards covering student engagement, built environment and regional sustainability.
- The Sustainable Buildings Research Centre (SBRC) achieved certification under the Living Building Challenge (LBC) and arguably the title of the most sustainable building in Australia.
- Extension of UOW's partnership with Endeavour Energy to continue electrical engineering research, development and teaching in UOW's Australian Power Quality and Reliability Centre (APQRC).
- Global Climate Change Week activities connecting scientists with the community regarding climate change action and solutions.
- The Eureka Prize for Environmental Research awarded to a UOW led research team studying coastal wetlands carbon capture and sea level rise.
- An internship project on Carpooling was undertaken with the School of Geography and Sustainable Communities to explore student carpooling behaviours and motivations.

7 Governance, Systems and Practices

Targets: *Compliance with all relevant policy, procedures and legislative requirements. Continuous improvement in our systems and procedures to reduce environmental risk*

- There have been no breaches to environmental legislation.
- UOW fulfilled its requirements under the National Greenhouse and Energy Reporting Act in reporting of energy use and carbon emissions.
- Governance structures were maintained which addressed environmental risks which included the Environmental Advisory Committee overseeing the implementation of the EMP.
- Actions plans related to energy & carbon management, water management, transport have been developed in line with the Environmental Management Plan.
- UOW's Procurement Policy aligns with the EMP by including life cycle costing as a consideration and promotes consideration of sustainable products.

8 Related Documents

[UOW Environmental Management Plan 2017-2020](#)

[Energy and Carbon Action Plan](#)

[Water Management Action Plan](#)

[Transport and Access Action Plan](#)

9 Version Control Table

Version Control	Release Date	Author/Reviewer	Approved By	Amendment
Draft	11 March 2020	Environment Unit	<u>David Low</u> David Low (Mar 26, 2020)	
Final	26 March 2020	Director, Facilities Management Division	<u>Kathleen Packer</u> Kathleen Packer (Apr 1, 2020)	