

2018 WATER MANAGEMENT ACTION PLAN UPDATE: SUMMARY

The following table summarises the actions that have been implemented in 2018 as part of the UOW Water Management Action Plan 2018-2020. The aim of these actions is to support the achievement of the water management targets defined in the UOW Environmental Management Plan (EMP):

Table 1: 2018 Water Management Actions

STRATEGIC AREA: WATER MONITORING		
ACTION	STATUS	COMMENTS
Upgrade Water Metering and Monitoring System	Completed	<p>A new water metering and monitoring system has been installed to allow analysing water consumption across the Wollongong Campus buildings and grounds. This system consists of 58 smart loggers installed across the campus and a software platform which allows UOW Facilities Management Division (FMD) to:</p> <ul style="list-style-type: none"> • Remotely monitor and analyse water consumption of different buildings and outdoor water uses • Provide access to relevant data and graphs • Establish consumption baselines and patterns • Identify opportunities for improvement and prioritise actions • Set up automatic alerts to identify potential issues such as water leaks • Measure the impact on water consumption of relevant activities and projects <p>Additional benefits of this system include the improvement of data accuracy and reliability and a more efficient use of UOW water management resources.</p> <p>Refer to Figures 1 and 2.</p>
Develop Water Performance Monitoring and Reporting Tool	Completed	<p>A Water Performance Monitoring and Reporting Tool has been developed to track and record UOW water performance and to facilitate reporting. This tool is used to:</p> <ul style="list-style-type: none"> • Record monthly and annual water consumption of different UOW campuses and buildings • Record key parameters required for reporting (e.g. building gross floor area, EFTSL) • Generate the Key Performance Indicators (KPIs) defined in UOW EMP • Visualise and track current and historical consumption and KPIs and compare them with previous periods • Establish water performance benchmarks • Identify and prioritise opportunities to improve water performance



STRATEGIC AREA: WATER MONITORING

ACTION	STATUS	COMMENTS
Monitor Water Consumption and Performance	Completed	<p>UOW water consumption and performance has been monitored on a monthly basis during 2018.</p> <p>Wollongong Campus potable water consumption increased in 2018 as a result of water leaks from underground infrastructure and prolonged dry climatic conditions.</p> <p>Potable water consumption during 2018 was 179,885 kL resulting in a performance of 9.87 kL/EFTSL and 0.80 kL/m². This performance is 16.1% and 28.8% over the EMP 2020 target respectively however water consumption has significantly reduced during the second half of the year following the identification and repair of six significant leaks. Refer to Figures 3, 4 and 5.</p> <p>Approximately 7,050 kL have been collected from rainwater during 2018.</p>
Measure and Verify Actions/Events Impacting Water Consumption	Completed	<p>During 2018 the impact of key actions that have affected water consumption and performance, such as significant water leaks and monthly rainfall, have been measured.</p> <p>Water losses due to major water leaks that have been identified and repaired during 2018 were equivalent to 14 kilolitres per hour. Annual rainfall during 2018 was 24% lower than the previous year.</p> <p>Refer to Figure 6.</p>
Manage Water Metering, Monitoring and Reporting Systems	Completed	<p>UOW Water Metering, Monitoring and Reporting Systems have been continuously managed during 2018. Examples of some ongoing management actions include:</p> <ul style="list-style-type: none"> • Add, remove and relocate smart meters as needed • Report, assess and repair faulty meters and sensors • Adjust calibration of smart meters • Manage metering contractors onsite • Process invoices for metering and monitoring system services • Update water meter register • Update historical water consumption database • Improve data collection and visualisation for reporting purposes



STRATEGIC AREA: LEAK DETECTION AND MANAGEMENT

ACTION	STATUS	COMMENTS
Detect and Repair Water Leaks	Completed	<p>UOW Facilities Management Division has effectively repaired water leaks reported by building users and identified by FMD during 2018. In addition to common leaks such as leaking taps or toilets the following major leaks have also been identified and repaired during 2018:</p> <ul style="list-style-type: none"> • Oval 1 water harvesting system leak running into the stormwater system • Concealed underground leak underneath concrete slab in Building 19 • Concealed underground leak near Building 4 running into the sewage system

STRATEGIC AREA: WATER HARVESTING

ACTION	STATUS	COMMENTS
Install New Rainwater Harvesting System	Completed	A new rainwater harvesting system has been installed as part of the new Security Building (Building 72) on Wollongong Campus. This system allows capturing 3,000 litres of rainwater and reuse it for external hose taps hence reducing the consumption of potable water for outdoor uses and irrigation.

STRATEGIC AREA: WATER ADMINISTRATION

ACTION	STATUS	COMMENTS
Develop and Implement Water Billing Verification Process	Completed	<p>A water bill verification process has been developed and implemented during 2018. This process consist on regular checks of all the water invoices for UOW properties to ensure that these bills are correct and that UOW does not incur extra costs due to billing errors. It also facilitates the identification of opportunities to further reduce water expenses.</p> <p>Water invoices include charges for water consumption and also waste water and service charges which depend on the type of property. All these charges are checked as part of this verification process to confirm that they align with contractual rates before approving the invoices.</p>
Track, Forecast and Plan Water Consumption and Expenditure	Completed	During 2018 the water consumption and expenses for the different UOW sites have been tracked and recorded. This information is used along with expected future water prices and planned changes at UOW that may have an impact on water consumption (e.g. new buildings, refurbishments etc.) to forecast future water consumption and costs.



STRATEGIC AREA: ENVIRONMENTAL REPORTING AND AWARENESS

ACTION	STATUS	COMMENTS
Provide Water Performance Reports	Completed	Water performance has been regularly reported during 2018. This includes FMD internal reporting to provide monthly updates as well as scheduled reports and meetings to provide relevant information on water consumption and performance to the following Groups: <ul style="list-style-type: none"> • UOW Environmental Advisory Committee • UOW Finance and Resources Committee
Develop and Implement Behavioural Change and Awareness Programs for Water Users	Completed	Communications and provision of key information have been organised as part of Orientation and Open Day activities to promote the efficient use of water resources on campus and social media platforms have been regularly monitored and utilised for environmental initiatives. FMD has also liaised with different stakeholders to get a better understanding of water consumption patterns in key buildings.

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2018 WATER MANAGEMENT ACTION PLAN UPDATE: PHOTOS AND GRAPHS



Figure 1: Smart water meter



Figure 2: Water monitoring platform



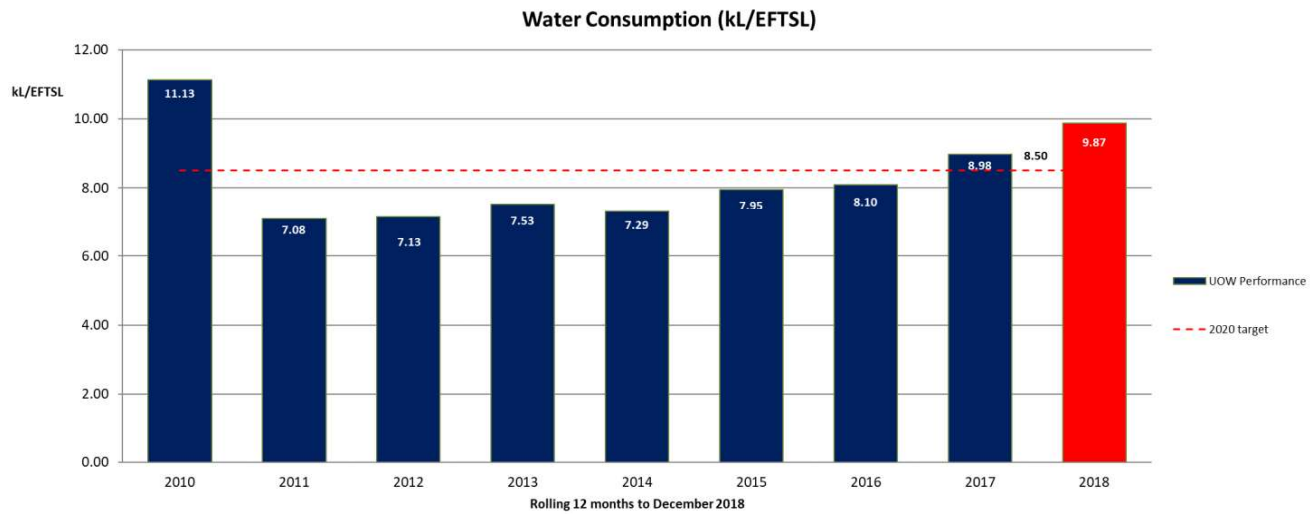


Figure 3: 2018 Water performance (kL/EFTSL)

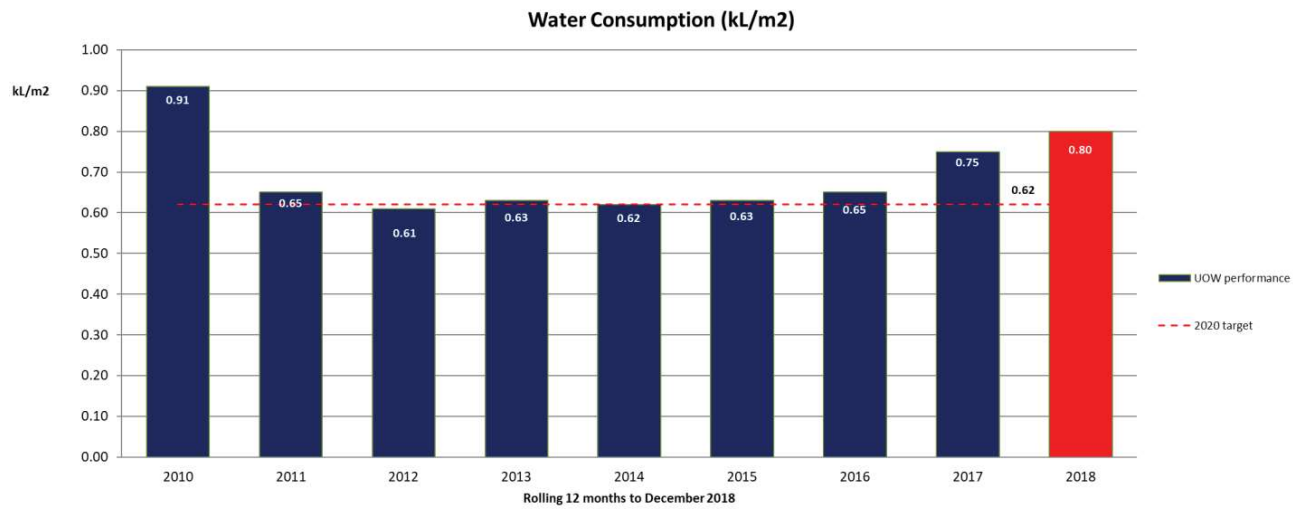


Figure 4: 2018 Water performance (kL/m²)

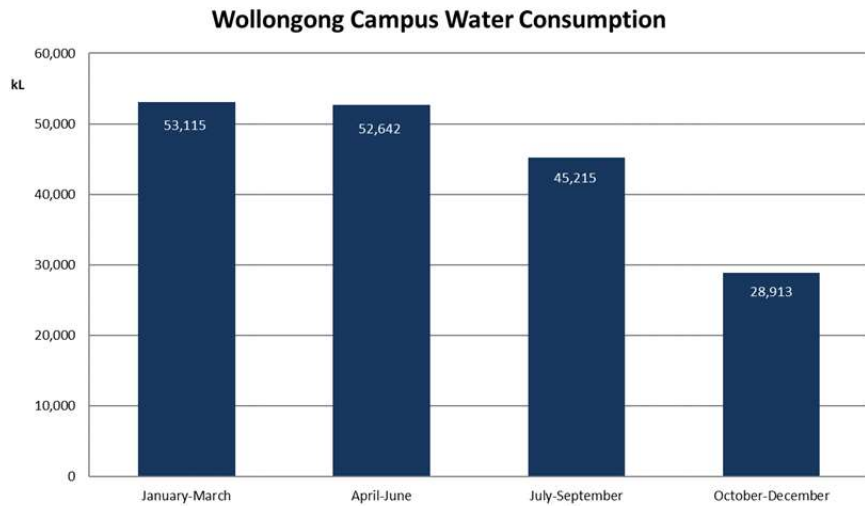


Figure 5: Water consumption during 2018

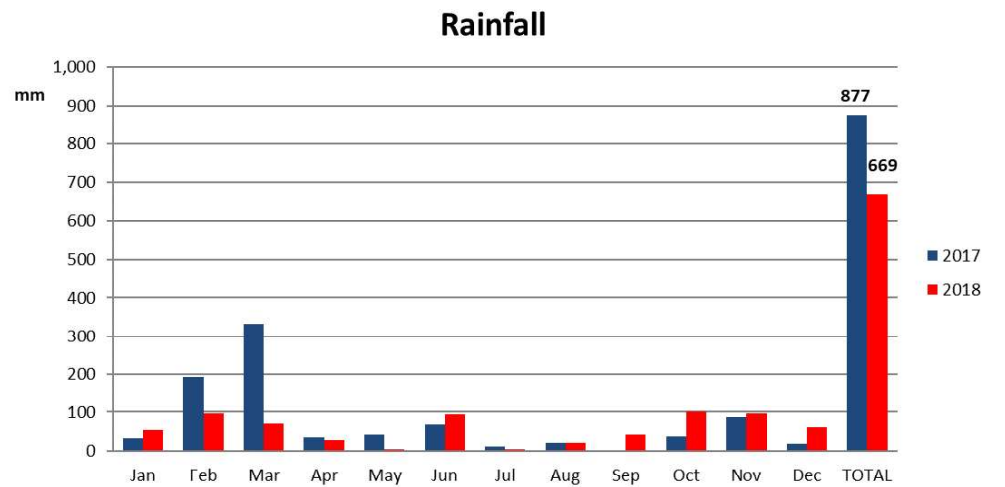


Figure 6: Annual rainfall