



# Water Savings Action Plan Annual Progress Report 2008





## **TABLE OF CONTENTS**

<b>1.</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Site Details	1
<b>2.</b>	<b>ANNUAL PROGRESS REPORT</b>	<b>2</b>
<b>3.</b>	<b>MANAGEMENT REVIEW</b>	<b>4</b>
<b>4.</b>	<b>MANAGEMENT ACTIONS</b>	<b>5</b>
<b>5.</b>	<b>WATER SAVINGS MEASURES</b>	<b>6</b>



## 1. INTRODUCTION

The purpose of this report is to provide an update of the water savings initiatives and management actions being undertaken by the University of Wollongong.

The annual water consumption and water key performance indicator for 2008 has been compared against the baseline consumption and KPI in the 2006 Water Savings Action Plan (WSAP).

Updates have also been provided on the implementation of management actions and water savings measures at the University. A total of six actions were implemented during the period. The establishment of the Environment Team has been a significant management change at the University during the reporting period.

### 1.1 Site Details

<b>Organisation Name:</b>	University Of Wollongong
<b>Site Name:</b>	Wollongong Campus
<b>Summary of business activities (eg provision of health services, shopping centre, office building, etc)</b>	The University of Wollongong is a university of international standing with an enviable record of achievement in teaching and research. UOW has links with over 150 overseas institutions in the areas of research, student and staff exchange and offshore program delivery.
<b>Address</b>	Northfields Avenue Gwynneville NSW 2522
<b>Contact Details</b>	Lisa Miller Phone: 02 4221 5845 Mobile: 0407 661 168 Email: lisamill @uow.edu.au.
<b>Sydney Water Account Number</b>	3648 541
<b>Main Water Meters</b>	1 x 80mm meter in Northfields Ave (HDTA0004). 1 x 80mm meter in Irvine St (HDTA0021). 1 x 50mm meter in Western Car park (GDUF0004).

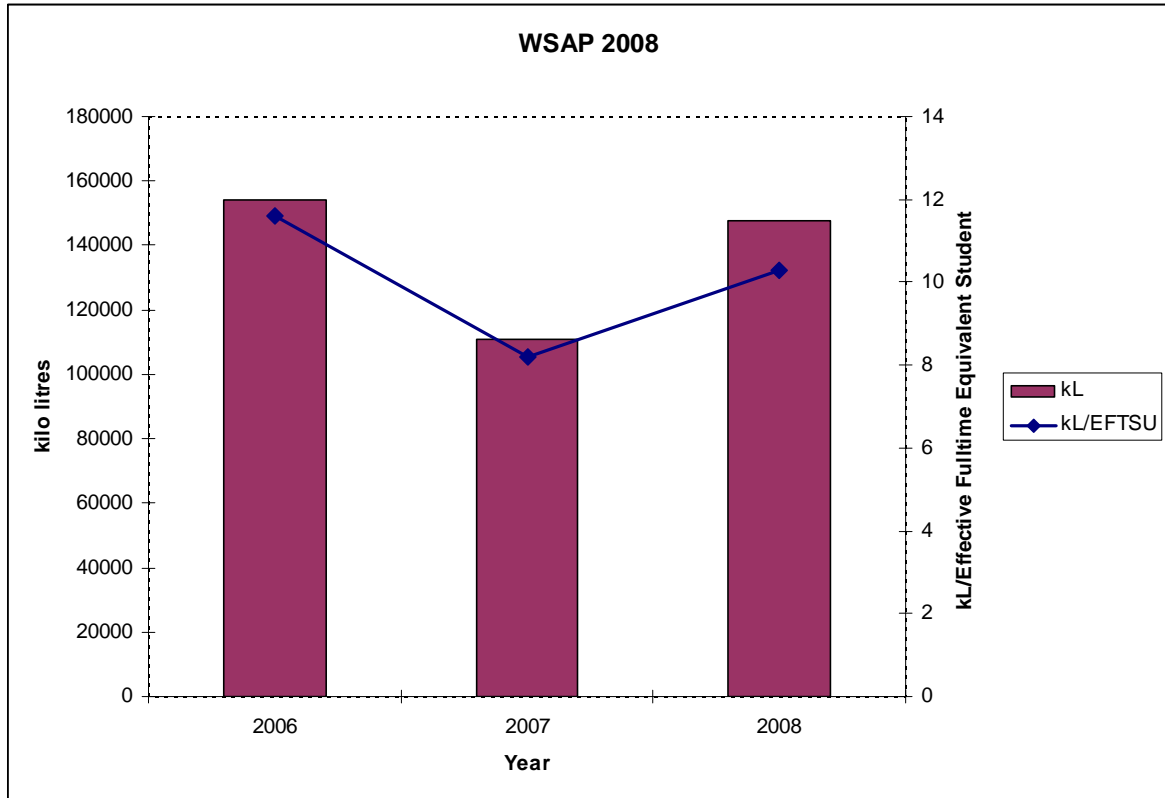
**Table 1.1 – Site Details**



## 2. ANNUAL PROGRESS REPORT

<b>Organisation Name:</b>	University of Wollongong
<b>Site Name</b>	Wollongong Campus
<b>Number of projects implemented over reporting period</b>	6
<b>A = Estimated water savings kL/pa from projects implemented during 12 month reporting period</b>	8,973 kL per annum
<b>B = Baseline water use kL (from approved WSAP)</b>	154,253 kL
<b>C = KPI from approved WSAP</b>	11.6kL/effective full-time students
<b>Baseline KPI units</b>	kL/effective full-time students
<b>Current report start date</b>	January 1 2008
<b>Current report end date</b>	December 31 2008
<b>Site water use for reporting period</b>	147,552 kL
<b>D = Annualised water use (kL) if reporting period is less than 12 months</b>	147,552 kL
<b>Site Business Activity Indicator (i.e. unit of measurement of production, such as square metres, hospital beds, tonnes of product etc)</b>	effective full-time students
<b>Quantity of Site Business Activity Indicator for report period</b>	14,222 effective full-time students
<b>E = Annualised Site Business Activity Indicator</b>	14,222 effective full-time students
<b>Is current water use representative of normal use YES/NO</b>	Yes
<b>If NO, description of abnormality (eg restrictions, shutdown, refurbishment etc)</b>	0
<b>F = Water use impact of abnormality (i.e. variation from normal) kL pa</b>	0
<b>G = D-F Current annual water use corrected for abnormality (kL)</b>	147,552 kL
<b>H = D/E Current annual water use KPI's</b>	10.3kL/effective full-time students
<b>I = H-C Change in KPIs for this reporting period</b>	-1.3 kL/effective full-time students
<b>Explanation of KPI variation</b>	Current KPIs are lower than KPIs from approved WSAP due to the implementation of water efficient initiatives.

**Table 2.1 – Annual Progress Report**



**Figure 2.1 – Comparisons 2006, 2007 and 2008 Annual Water Consumption and KPIs**



### 3. MANAGEMENT REVIEW

Area	Review Area	Rating				
		Low	Moderate	Minimum Sustainable	Industry Leader	Best Practice
A	Senior management Commitment				✓	
B	Understanding of water savings potential				✓	
C	Water targets and key performance indicators			✓		
D	Water metering and monitoring				✓	
E	Water management reporting			✗ → ✓		
F	Water supply management			✓		
G	Operating and maintenance procedures				✓	
H	Accountabilities for water management			✓		
I	Training and awareness procedures			✓		
J	Compliance with legal and/or regulatory requirements				✓	

**Table 3.1 – Management Review**

**Key**

- ✓ 2007 rating
- ✓ 2006 and 2007 rating
- ✗ 2006 rating
- Change in rating



#### 4. WATER MANAGEMENT ACTIONS

Project No.	Water Management Action	Responsibility	Completion Date	Action status (Implemented (I); Pending (P); Rescheduled (R); Cancelled (C); New (N).
001	Establish feedback channel for water improvement ideas from University Stakeholders to the Buildings & Grounds Department.	Chris Hewitt	31-Oct-08	I
002	Update water reporting format to University stakeholders.	Chris Hewitt	1-Feb-07	I
003	Provide water savings awareness presentations to Buildings & Grounds Staff.	Chris Hewitt	30-Jun-09	P
004	Establish formal process for reviewing sustainability of capital works	Chris Hewitt and David Lowe	1-Dec-08	I
005	Review hydraulic design standards and include water consumption performance criteria for systems, buildings and the University.	Chris Hewitt	31-Aug-06	I
006	Develop an Environmental Management Team to monitor and manage UOW's sustainability programs	Chris Hewitt	31-Dec-08	I

**Table 4.1 – Water Management Actions**



## 5. WATER SAVINGS MEASURES

Project No.	Measure Description	Responsibility	Cost to Implement	Savings Water (ML or kL pa)	Total Cost Savings Water + Energy + Chemical + other (\$pa)	Internal Rate of Return/ Payback	Completion Date	Action status (Implemented (I); Pending (P); Rescheduled (R); Cancelled (C); New (N)).
<b>Cost Effective Opportunities</b>								
1	Install of Pressure Reduction Valves	Chris Hewitt	\$13,000	6,205 kL	\$13,200	102%	1-Feb-09	P
2	Install Water Efficient Showerheads	Chris Hewitt	\$2,500	2,117 kL	\$4,500	180%	31-Jan-08	I
3	Install Flow Restrictors to Additional Bathroom Taps	Chris Hewitt	\$11,950	4,928 kL	\$10,500	88%	31-Jan-08	I
<b>Totals for implemented CE actions only</b>			<b>\$14,450</b>	<b>7,045 kL</b>	<b>\$15,000</b>			
<b>Potential Cost Effective Opportunities</b>								
4	Replace Existing Water-Cooled Woks with Air-Cooled Woks	Chris Hewitt	\$16,000	4,015 kL	\$8,500	53%	31-Jan-07	I
5	Installation of Stop Valves	Chris Hewitt	\$20,000	N/A	N/A		31-Jul-08	I
6	Increase Cooling Tower Cycles of Concentration to 1,000 ppm.	Chris Hewitt	\$5,000	1,898 kL	\$4,000	80%	31-Mar-08	I
7	Utility Measuring and Measurement System	Chris Hewitt	\$400,000	N/A	N/A		1-Sep-09	P
8	Implement Non-Potable Water Systems	Chris Hewitt	\$178,000	41,472 kL	\$54,905	31%	31-Dec-09	P
<b>Totals for implemented PCE actions only</b>			<b>\$41,000</b>	<b>5,913 kL</b>	<b>\$12,500</b>			
<b>Totals for all implemented actions</b>			<b>\$55,450</b>	<b>12,958 kL</b>	<b>\$27,500</b>			

**Table 5.1 – Water Savings Measures**