

Millions of litres of water saved at The University of Melbourne

Water Conservation Co-Funding Case Study

Cleaner Production 

Project Overview

PARTNER

The University of Melbourne

PROJECT TITLE

Vacuum pump replacement project

OBJECTIVE

To reduce the consumption of drinking water

HOW THE SAVINGS WERE ACHIEVED

By replacing 4 water-cooled vacuum pumps with 4 air-cooled vacuum pumps

TECHNOLOGY UTILISED

Air cooled vacuum pumps

WATER SAVINGS

8 million litres of water per year

ENERGY SAVINGS

The new pumps are more energy efficient, and run less often than the previous models. This has resulted in an estimated energy saving of 165 MWhr/yr (megawatt hours per year) or 529 GJ/yr (gigajoules per year).

GREENHOUSE GAS SAVINGS

Equivalent to 201 tonnes CO₂e

TOTAL PROJECT COST

\$86,300

PROJECT FUNDING

\$41,000 from City West Water

PROJECT PAYBACK

- 5.6 years without funding
- 3 years with funding

PROJECT COMPLETED

August 2008



Established in 1853, the University of Melbourne is a public institution that makes distinctive contributions to society in research, teaching and knowledge transfer. The University of Melbourne's Parkville campus is their largest and most complex site and is home to many historical buildings.

Many water saving initiatives have been implemented at the site, including upgrading bathroom taps and toilets, changing gardening methods and irrigation schedules, optimising mechanical services plant and fixing cooling tower leakages. In keeping with their water management action plan (waterMAP), facilities staff were keen to find even more ways to save water at the University campus.

To this end, City West Water consultants visited the site to determine the areas in

which co-funding could best be utilised. Both parties saw a significant water-saving opportunity in the use of new vacuum pumps at the site. As the existing pumps were water-cooled, and ran continuously, the decision was made to replace these with air-cooled water pumps.

Once an application for co-funding was approved by City West Water, the University changed over their water-cooled vacuum pumps with air-cooled versions in four buildings at the Parkville campus.



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The water savings have been significant: over 8 million litres of water a year have been saved since the project was completed in 2008.

As well as saving water, the project has delivered significant energy savings through the use of more energy-efficient pumps.

The previous pumps ran almost continuously, whereas the new air-cooled vacuum pumps run for approximately one hour per day. The

increased efficiency of the pumps and their operation has resulted in power savings of 165 MW/yr. As a result of this saving, the University of Melbourne is not only enjoying reduced bills, but has also removed the annual equivalent of 201 tonnes of carbon emissions from the atmosphere.

Upon completion, the project was publicised to University staff, students and the broader community to demonstrate the University's

commitment to water conservation and sustainability and to assist City West Water in identifying if similar vacuum pump installations exist elsewhere in Melbourne.

City West Water continues to liaise with the University of Melbourne to review the progress of the project and help the University maintain its sustainable ethos.



Contact

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