

## Canterbury Museum

## Target Sustainability Programme

### About the Company

Canterbury Museum's principal activity is the public display and conservation of museum artifacts. Canterbury Museum is located at Rolleston Avenue in Christchurch.

Canterbury Museum recognises its sustainability obligations to staff, visitors, communities and stakeholders, both locally, nationally and internationally, and to present and succeeding generations.

### Introduction to the Project

Canterbury Museum joined the Christchurch City Council Target Sustainability Programme in 2008.

The Target Sustainability Programme supports business to reduce waste and to be energy and water efficient.

Canterbury Museum's main objective at the time of joining the programme was to look at their waste stream and energy use and to improve their environmental performance.

The Canterbury Museum implemented a range of projects to reduce their waste sent to landfill and to improve their energy and water efficiency.

### Key Achievements

**Waste sent to landfill reduced by 50% per year**

**Recycling increased by 71% per year**

**Expected HVAC electricity savings of 698,000 kWh or 56% per year**



Canterbury Museum © Copyright

### Waste Reduction Initiatives

Canterbury Museum have achieved the following waste reduction results:

- Waste sent to landfill has reduced from an estimated 234 m<sup>3</sup>/year in 2008/09 to 117 m<sup>3</sup>/year in 2009/10. This is a 50% reduction in waste sent to landfill. This estimate is based on the number of waste skips emptied per year and the skip size.
- Recycling has increased from an estimated 72 m<sup>3</sup>/year in 2008/09 to 123 m<sup>3</sup>/year in 2009/10. This is an estimated 71% increase in recycling. This estimate is based on the number of bins emptied per year and the bin size.

The following initiatives were implemented to reduce, reuse and recycle their waste:

- Established an organic collection service for food waste from the café and the staff tearoom for use by a pig farmer.
- Collect coffee grounds from the café and staff areas and make it available for staff to take home for composting.
- Implemented a paper recycling collection system.
- Ensure more plastics, glass bottles, cans and other recyclables are recycled by improving the existing collection system.
- Removed waste bins from under desks and replaced these with paper recycling bins.



Paper recycling trays located at each desk © Copyright



Coffee grounds collection in café © Copyright



Surplus boxes collected for donation to other museums © Copyright

- Offered reusable exhibition materials and any surplus museum furniture to regional museums. For example surplus boxes are donated to other South Island museums.
- Recycle surplus paint through Resene PaintWise.
- Donate surplus IT equipment to a community trust for recycling.
- Ensure paper is used on both sides by setting computers and photocopiers for double-siding or using the second side for drafts.
- Check historical data on the number of publications distributed before printing current publications.

## Energy Efficiency Initiatives

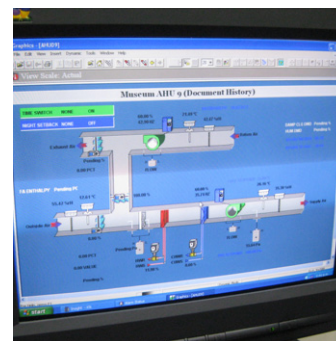
An energy audit was undertaken at Canterbury Museum with financial assistance from the Energy Efficiency and Conservation Authority. A working party was then established consisting of museum staff, energy auditors, and the Museum's energy contractors. This helped to ensure that any changes that were made would not be detrimental to the conservation of the Museum's collections.

The following energy efficiency initiatives were implemented:

- Improvements were made to the heating, ventilation and air conditioning (HVAC) system in the building. The electricity demand controls on the Building Management System were optimised. For example, optimising the use of the under-floor heating to reduce air conditioning requirements. When not required, fresh air being supplied to spaces is now reduced and non-essential plant is now switched off at night.
- Implemented a preventative maintenance programme within the Museum to optimise efficiencies. This involves undertaking pro-active maintenance such as changing air conditioning filters regularly to ensure the units are working at their optimum.
- Installed heat pumps in three offices as they are a more energy efficient alternative to fans and electric heaters.
- Installed draft excluders on external doors where practicable.
- Replaced bulbs with energy efficient lighting where appropriate.



"Better Off" signage on light switches © Copyright



Canterbury Museum's Building Management System © Copyright

- Encouraged energy conservation through reminders to staff in 'Blurb', an in-house newsletter.
- Energy efficiency is encouraged through signage on light switches.

The total HVAC consumption of the Museum was 1,246,000 kWh/year in 2008/2009. It is estimated that the energy efficiency initiatives implemented to the HVAC will result in energy savings of 698,000 kWh/year or 56% compared to the previous operation. This will result in an estimated saving to the Museum of \$79,000/year.

The Protective Services Manager and Building Supervisor will monitor the effectiveness of these initiatives. It is expected that the savings will be observed in winter 2010.

## Water Efficiency Initiatives

The main use of water within the Museum is by toilets/urinals and handbasins. To reduce water use, Canterbury Museum has:

- Replaced 12 single flush toilets in the building with dual flush toilets. This has a potential saving of up to 7 litres per flush (from approximately 11 litres per flush to 4 litres).

- Ensured that public and staff bathrooms have self regulating faucets that turn off automatically after a certain amount of time.
- Implemented water leak reporting procedures.

The Protective Services Manager and Building Supervisor will monitor the effectiveness of these initiatives.

## Summary

Since joining the Target Sustainability Programme, Canterbury Museum has implemented a range of projects that have resulted in a reduction of waste sent to landfill and an improvement in energy and water efficiency. They have also developed a Sustainability Policy Statement which is displayed in the Museum foyer. The Museum has committed to provide appropriate sustainable awareness induction training for its staff, and will encourage them to apply sound sustainability practices at work, at home and within the wider community.

Canterbury Museum's future initiatives will include:

- Investigating how exhibitions can be more sustainable.
- Developing their intranet to provide online information as an alternative to paper based internal communication and reports.

- Installing recycling bins in public areas to encourage the return of Museum publications and other recyclables.
- Improving their waste sent to landfill and recycling reporting by requiring their waste and recycling service providers to provide tonnage data.
- Encouraging staff carpooling.

*"While being a guardian of our heritage, Canterbury Museum is equally committed to a sustainable future through an awareness of our environmental performance. The Target Sustainability initiatives have been adopted across many areas of the Museum and helped us to achieve an Enviro-Silver Award from Qualmark when we applied for the first time last year"* Anthony Wright, Director Canterbury Museum.