



Ontario Hospital Greenhouse Gas and Air Emission Challenge

Hospitals Healing the Environment

Case Study #2

St. Michael's Hospital

A long and proud history of caring and compassion

Founded in 1892 by the Sisters of St. Joseph to care for the sick and the poor of Toronto's inner city, St. Michael's Hospital has a long and proud history of caring and compassion. Today, St. Michael's Hospital is a world-renowned academic health science centre. Every year, the hospital's 4,800 staff and 600 physicians teach 1,800 students, perform 25,000 day surgeries, treat 600,000 patients in clinics, see 54,000 patients in the emergency room and provide round-the-clock care to 24,000 inpatients. The Hospital is currently building the Li Ka Shing Knowledge Institute, comprised of the Keenan Research Centre and Li Ka Shing International Centre in Healthcare Education, an institute dedicated to speeding the transfer of research breakthroughs to the bedside".

Pollution Prevention Initiatives

Greenhouse Gas Reductions

St. Michael's Hospital undertook an energy savings project that greatly reduced the Hospital's CO₂ emissions by an estimated 7,000 tonnes – equivalent to 1,375 cars driven over the course of the year. The Hospital estimates the project is saving them \$1.8 million on its energy bills.

More recent projects to reduce greenhouse gas emissions have included carrying out an audit of the facility's steam trap. By replacing 15 leaking traps, the Hospital estimates

they are preventing the loss of 2.8 million pounds of steam annually and implemented a heat recovery system saving of additional BTUs (British Thermal Units). In addition, the Hospital has been transitioning to smaller, more energy efficient computer servers in the central information technology (IT) room. The Hospital is also considering a full energy retrofit of an associated 90,000 square foot medical office building.

Water Use Reduction

St. Michael's Hospital has also been focussing on a number of initiatives to reduce the amount of water being used in their operations. Of particular interest was a project focussed on the medical vacuum system. By replacing the medical vacuum pump with a waterless unit, the Hospital substantially reduced their annual water usage by 20,189 m³ annually; an accomplishment that has saved the facility \$33,312 per year. Furthermore, the project has been recognized and financially rewarded through the City of Toronto's WaterSaver Program.

The Hospital also initiated a program to replace the water cooling system on their MRI units with a chilled water closed-loop system, allowing the water to be re-used instead of passing through the system a single time. This

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Jeff Lozon, President & CEO

project reduced the Hospital's annual water use by approximately 45,423 m³ per year, an estimated savings of \$74,494 annually.

Employee Engagement – Green Team

Beyond reducing greenhouse gas emissions and water consumption through the engineering department, employees of St. Michael's Hospital have become increasingly involved in the green initiatives of the Hospital. Through the creation of a focussed Green Team, the Hospital is demonstrating that reducing their environmental impact is a facility-wide priority.

A particularly successful initiative of the Green Team has been the "educational road show". Department managers and directors have the opportunity to request that the project coordinator of the greening initiatives visit their department and explain in detail green initiatives that are currently underway, or that could potentially be undertaken. During these visits the project coordinator is equally focussed on collecting feedback from Hospital staff, requesting that employees submit project ideas, and ways of generally reducing greenhouse gas emissions at the Hospital.

The project coordinator has also been working closely with the housekeeping department, to dramatically improve the waste diversion rate, increase recycling and source vendors that are able to supply environmentally responsible cleaning products.

In addition, the engineering department partnered with a demolition company to recycle 96% of two buildings associated with St. Michael's Hospital. Approximately 534 metric tonnes of waste was diverted from landfill.

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www.c2p2online.com/cleanairchallenge

Funding for this initiative made possible through the EcoAction Community Funding Program of Environment Canada.



Recognition

- *First organization to take part in the City of Toronto's WaterSaver Program. Received recognition for successfully reducing water use at the facility by 200,000 litres per day; enough water to meet the daily needs of 300 Toronto homes.*

- *Certification of Recognition by Ontario Power Authority for leadership in promoting energy efficiency and conservation in the Province of Ontario by successfully reducing greenhouse and carbon dioxide gasses by 7,00 tonnes.*

- *In 2005, recognized by Natural Resources Canada for commitment to energy efficiency and reducing greenhouse gas emission that contributes to climate change.*

- *In 2006 recognized by CCHSE/OEE Energy Innovators for energy savings.*

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