

CASE STUDY: TORONTO EAST GENERAL HOSPITAL

BETTER BUILDINGS PARTNERSHIP



Toronto East General Hospital
825 Coxwell Avenue
Toronto, ON

Project Manager: Betty Best
Toronto East General Hospital

Project Snapshot

Project cost: \$9.5 Million
Annual electricity savings:
3,108,335 kWh
Annual cost savings:
\$880,000
Annual CO2 savings:
nearly 3,000 tonnes
Annual water savings:
114,471 m3
Incentives received:
BBP (\$241,901);
Toronto Water (\$130,538);
Enbridge (\$47,000)
Payback period:
less than 10 years

Project results have been verified by a third party project evaluator according to industry references and the International Performance Measurement and Verification Protocol (IPMVP)

Project Background

Toronto East General Hospital (TEGH) is a large urban community teaching hospital serving a diverse, multi-cultural population of 400,000, representing over 45 cultural and linguistic groups in East Toronto. Home to 2,600 employees, and 400 physicians and midwives, TEGH annually admits 20,000 acute care inpatients, delivers 3,500 babies, has over 60,000 emergency visits and provides service to over 220,000 outpatients.



Originally built in 1929, TEGH has grown from a 110-bed general hospital to a 515-bed full service healthcare facility. After 80 years of expansion, TEGH was ready for an infrastructure renewal program that would significantly reduce energy and water consumption.

In 2006, TEGH partnered with Honeywell to begin an extensive energy savings and facility renewal program, centered on infrastructure upgrades that would reduce its carbon footprint, resulting in substantial cost savings.

Desired Outcomes

As a publicly funded institution, TEGH must manage its resources carefully to ensure that its facilities are operating as efficiently as possible. Faced with an aging infrastructure, and utility prices trending higher (with the possibility of increases at any time), there is an increased pressure on institutions to reduce the risk of unanticipated future costs.

With the help of Honeywell, TEGH wanted to develop a program that would use the energy cost savings to pay for the work, creating a self-funded renewal program with minimal risk.

“The program is expected to trim utility bills by \$880,000 per year while creating a better, more modern environment for our patients, physicians and staff. In addition, we’ve reduced our environmental footprint by nearly 3,000 tonnes of CO₂ annually – that’s the equivalent of taking 475 cars off the road.”

Rob Devitt,
President and CEO
Toronto East General Hospital

Solution and Results

TEGH developed a \$9.5-million (CAD) energy savings and facility renewal program, centered on infrastructure upgrades that will help the hospital reduce energy and water consumption. Toronto’s Better Buildings Partnership and Toronto Water were consulted to potentially access the energy and water savings incentives that the programs offer, enabling the hospital to do more with its budget. The projects implemented included:

- Power quality improvements
- Lighting redesign
- Variable speed drives on cooling towers
- Improved building envelope
- Replacement of leaky steam traps
- Chiller plant upgrade
- Replacement of plumbing fixtures
- Replacement of medical vacuum pumps
- New boiler draft controls
- Installation of a new building automation system (BAS)

“The program is going to save a substantial amount of energy and water annually — a major achievement

for the hospital,” adds Devitt. “The program is expected to trim utility bills by \$880,000 per year while creating a better, more modern environment for our patients, physicians and staff. In addition, we’ve reduced our environmental footprint by nearly 3,000 tonnes of CO₂ annually – that’s the equivalent of taking 475 cars off the road.”

The energy efficient upgrades to the hospital’s facilities resulted in 3,108,335 kWh of annual electricity savings, and an annual greenhouse gas savings of nearly 3,000 tonnes of CO₂. By replacing plumbing fixtures and medical vacuum pumps, as well as eliminating city water waste in the cooling equipment, the hospital will save 114,471 m³ of water annually; enough water to fill about 40 Olympic-size swimming pools.

In reducing annual utility costs and utilizing financial incentives of \$241,901 from the Better Buildings Partnership, \$130,538 from Toronto Water and \$47,000 from Enbridge, TEGH has succeeded in lowering the payback period to just 9.5 years, reaching a new standard in fiscal and environmental responsibility.

About the City of Toronto

Toronto is Canada’s largest city and sixth largest government, and home to a diverse population of about 2.6 million people. It is the economic engine of Canada and one of the greenest and most creative cities in North America. Toronto has won numerous awards for quality, innovation and efficiency in delivering public services. Toronto’s government is dedicated to prosperity, opportunity and liveability for all its residents.



For more information
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