



# Three ambitious retrofit projects deliver big savings to First Canadian Place

## CASE STUDY

### ✓ First Canadian Place

#### PROJECT STATISTICS

Air Handling Units (AHUs)

16 constant flow AHUs outfitted with variable frequency drives

**Project cost:** \$420,900

**Demand savings:** 208.4 kW

**Energy savings:** 727,982 kWh/yr

**Electricity savings:** \$80,590/yr

**Incentive:** \$166,720

Heating and Cooling Pumps

Constant speed pumps replaced with hydronic pumps outfitted with variable speed controls

**Project cost:** \$1,335,032.33

**Demand savings:** 167 kW

**Energy savings:** 4,898,082 kWh/yr

**Electricity savings:** \$542,220/yr

**Incentive:** \$489,808.20

Lighting Replacement

500 T8 fixtures replaced with 360 T5s & 136 motion sensors

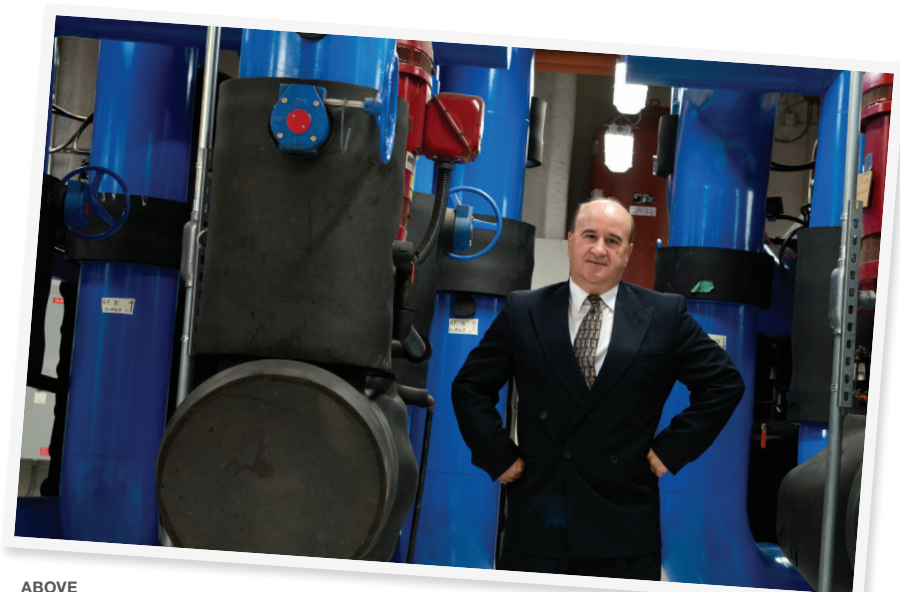
**Project cost:** \$125,435

**Demand savings:** 12 kW

**Energy savings:** 138,506 kWh/yr

**Electricity savings:** \$15,300/yr

**Incentive:** \$12,670



ABOVE

Fernando Dias, Senior Operations Manager

First Canadian Place (FCP) is an iconic landmark in Toronto's Financial District. At 72 storeys, it has been Canada's tallest commercial building since 1975. With over 2.3 million square feet of office space and 232 retail locations, it requires a significant amount of energy to keep business humming.

Brookfield Properties manages FCP and has received industry recognition for improving the building's energy performance, focusing on key elements of human and environmental health and controlling costs. The building is targeting Gold level LEED certification by Q4 of 2012.

Fernando Dias, the Senior Operations Manager for the building, is directly responsible for numerous energy-efficiency projects, including the most recent upgrades to the air handling units, the heating and cooling pumps and lighting.

These three projects qualified for a total incentive of \$669,198.20.



**“In the last 4 years we dropped demand from 17.5 MW to roughly 13 MW. Aside from the considerable savings, we’ve also improved tenant comfort.”**

Fernando Dias, Senior Operations Manager

**“My suggestion is to get Toronto Hydro involved right from the beginning. Their staff will assist you with incentive programs and help you find even more savings.”**

Fernando Dias is very experienced at managing energy-efficiency programs. “In this building we’ve been working with incentive programs for the past four years. A recent project was to convert all of our motors and pumps to variable frequency drives (VFDs). That went very smoothly.”

In one project, 16 air handling units serving the building’s main heating and cooling system were retrofitted with VFDs.

By upgrading the supply and return fans with VFDs, demand was reduced by 208.4 kW and total energy use went down by 727,982 kWh/yr. The incentive for this project was \$166,720.

#### **VFDs on heating and cooling pumps drive down power usage**

There are 27 centrifugal pumps that serve the building’s main heating and cooling system. All were retrofitted with

variable frequency drives. Demand went down by 167 kW and total energy usage was reduced by 4,898,082 kWh/yr. This project qualified for an incentive of \$489,808.20.

Dias notes, “The VFD program basically took two years from the start of the application to when we received our incentive cheque.”

Dias goes on to say, “We had some comfort issues in the building before, and we’ve noticed that calls have started to drop. We’ve been able to give tenants a better comfort zone.”

#### **Motion sensors plus T5 fixtures maximize savings**

Lighting on the 60th floor was updated, with 350 T5s replacing 500 T8 units. Also, both the 60th and 59th floors were outfitted with 138 motion sensors to further reduce electricity use. The total energy savings are 138,506 kWh/yr with demand savings of 12 KW. Annual electricity savings are \$15,300 and the project qualified for an incentive of \$12,670.

In another lighting project in the lobby, metal halide and fluorescent bulbs were converted to 21-watt and 9-watt LEDs. Dias said, “When people walk in they think that we’ve increased our lighting. In reality lighting costs have gone down, but we’ve increased our illumination.”

### **Toronto Hydro Incentive Programs**

Toronto Hydro offers **saveONenergy** programs that provide financial incentives and technical assistance to help improve your energy efficiency. With programs available for commercial, institutional, multi-residential and industrial buildings, conservation can be an attractive investment opportunity with excellent returns. Discover your best energy-saving opportunities by starting with an energy audit and then apply for the appropriate incentive programs for further funding.

Visit [torontohydro.com/business](http://torontohydro.com/business)

for more information or to apply online for **saveONenergy** programs.

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