

CAMBRIDGE AND NORTH DUMFRIES

EarthWise™ - Saving Energy for a Brighter Future



Cambridge and North Dumfries Hydro's conservation mascot "Switch" demonstrates CFL lighting at the Children's Museum. (Photo courtesy of C&ND Hydro)

John Grotheer, President and CEO, Cambridge and North Dumfries Hydro, is joined by Senior Customer Care Representative, Renee Murphy, in front of the EarthWise poster on Geothermal Heating and Cooling. (Photo courtesy of C&ND Hydro)

Geothermal Heating and Cooling Systems

A geothermal system has the advantage of using renewable sources to heat spaces and water. On the premise of extracting heat from the ground, as water temperatures remain fairly constant throughout the year (at approximately 10 degrees C), it makes sense. In the winter, given Ontario's winter temperatures, a heat pump extracts heat from outside to heat the home. In the summer, the direction of heat movement to cool the home is reversed.

Exceeding customer and stakeholder expectations through operational excellence is at the heart of the Cambridge and North Dumfries Hydro business philosophy. With this in mind, a great deal of time and energy was invested in evaluating an effective Conservation and Demand Management (CDM) Plan to satisfy each of the utility's diverse customer classes.

The creation of a brand to help promote and market energy conservation in the community was created and has served them well. EarthWise™ – *Saving Energy For a Brighter Future* - has become synonymous with the company's many conservation program offerings.

They have succeeded in bringing together, what President and CEO, John Grotheer refers to as a "unique package of electricity conservation measures" for residential customers.

Two of the programs in that suite of CDM offerings, includes a program for residential

energy audits and a geothermal and solar water heater installation incentive.

The utility entered into a working agreement with the Residential Energy Efficient Project (REEP), Waterloo Region (a project of the University of Waterloo, Faculty of Environmental Studies and Elora Centre for Environmental Excellence), to deliver the home energy audits and process approvals for the geothermal incentive.

Cambridge and North Dumfries Hydro supports a program package that begins with a home energy audit or evaluation. The utility contributes a portion of the cost of the audit so that customers pay only \$100 for the initial evaluation.

The program has been expanded to include the following incentives:

Incentives of up to \$1,500 to promote the installation of a geothermal ground source heating/cooling system;

Incentives of up to \$1,500 to promote the installation of a solar water heater for homes with electric water heaters; and,

Matching grants of up to \$500 to entice customers with electrically heated homes to make investments in energy saving retrofits to improve heating efficiencies.

During the visit to the customer's home, an on-site energy assessment of major appliances is also offered. In addition, six complimentary energy efficient compact fluorescent light bulbs (CFLs) are given to homeowners who undertake the audit.

The program has been very successful, with customer participation exceeding original targets. In the last two years a total of 670 initial and secondary home audits have been performed.

The uptake of the geothermal incentive has also exceeded expectations. Since October 2005, fourteen full geothermal installations have

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d. Because ground and ground
t year-round below the frost line
s for a very efficient system. Even
at pump is able to extract heat
summer months the system reverses
e home.

EarthWise™ poster demonstrates the workings of Geothermal Heating and Cooling. (Photo courtesy of C&ND Hydro)



Delivering the Conservation Message through Superhero "Switch"

Cambridge and North Dumfries Hydro is also very proud of its popular Grade 5 Conservation Unit – 'Reduce Your Use'. In concert with the Waterloo Region District Public School Board, Cambridge and North Dumfries Hydro designed and created a nine-week conservation unit for Grade 5 students.

The pilot education program was taught in 25 classrooms and included a 30-day challenge for students to demonstrate how they could 'Reduce Your Use' and be 'Energy Champions'.

The crown jewel to the conservation program was the design and creation of a larger-than-life energy mascot, Switch.

Switch visited each of the Grade 5 classrooms to congratulate the students on being Energy Champions.

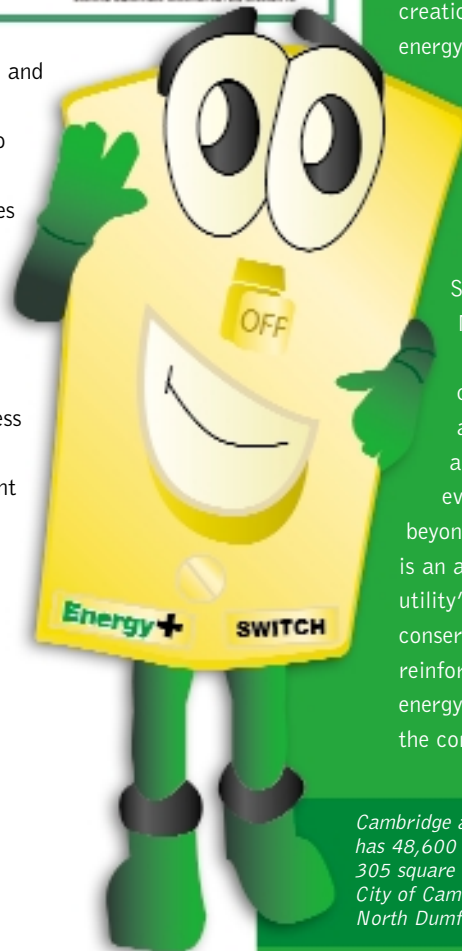
Switch is Cambridge and North Dumfries Hydro's "superhero" for conservation and is sought after to make guest appearances at many public events in the community beyond the classroom. Switch is an appealing addition to the utility's team to help build a conservation culture and reinforce the use of good energy saving habits in the community.

been completed. This has resulted in an aggregate annual kilowatt hour savings exceeding 143,000 kWh. The financial investment by each of these customers for a geo-thermal heating and cooling system ranges anywhere from \$20,000 to \$60,000 depending on the size and complexity of the installation.

In fact, the demand for the geothermal incentive continues beyond the scope of its original targets so that the utility has re-allocated conservation dollars to meet this continued demand.

"As a utility we wanted to ensure that every dollar we delivered to our customers in the form of conservation and demand side management programs was a mutual partnership between the utility and the customer," says Mr. Grotheer. "By design, our conservation programs engage our customers for success."

"Delivering conservation and demand management initiatives has a lot to do with changing behaviors and habits, and that takes time and consistency. It takes practice. For the conservation effort to be a success story in Ontario, every resident must be relentless in their resolve to walk lightly on the environment and speak loudly to one another, about the importance of saving energy for a brighter future. As a utility we are proud of our role in that success".



Cambridge and North Dumfries Hydro Inc. has 48,600 customers in a service area of 305 square kilometers, which includes the City of Cambridge and the Township of North Dumfries.