

Ontario's Chief Energy Conservation Officer Annual Report 2008

Appendices

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Appendix 1: Ontario Power Authority Conservation Activities

The Ontario Power Authority's first-generation portfolio of conservation programs is expected to be fully in the market in 2009. The programs making up this portfolio will reach virtually all market sectors, including residential, commercial/institutional and industrial customers, with incentives to conserve electricity and increase energy efficiency. The programs available in 2008 are summarized below, along with program activity results as of June 30, 2008.

In compliance with the ministerial directive received on September 18, 2008, the Ontario Power Authority will consider the viability of accelerating the achievement of the province's conservation targets, including smart meter deployment and use.¹ The activities and discussions currently underway as a result of this directive may affect the conservation programs that the Ontario Power Authority has in the market, as new programs may be added or existing programs adjusted. Additional details on all programs are provided at www.everykilowattcounts.com.

Mass Market Programs

The Ontario Power Authority's mass market programs target residential and small commercial customers. These programs are typically delivered by local distribution companies and/or retailers. The mass market program portfolio includes a diverse range of activities, such as the free collection of old and secondary appliances, incentive prizes for reducing electricity consumption, rebates on energy-efficient products and energy assessments, and grants for retrofit activities. Programs in this sector are as follows:

The Great Refrigerator Round-up

- Free collection of old, inefficient refrigerators, freezers and air conditioners
- 32,894 appliances retired from January to June 2008
- Lifetime net energy savings of 79,061 MWh
- Net summer peak demand savings of 0.9 MW from activities between January and June 2008

Hot and Cool Savings Rebate

- Rebates on efficient central air conditioning and/or furnace replacement systems and programmable thermostats
- 41,257 rebates issued from January to June 2008
- Lifetime net energy savings of 111,917 MWh
- Net summer peak demand savings of 4.8 MW from activities between January and June 2008

Summer Sweepstakes

- Chance for eligible residential customers who reduce their electricity consumption by 10 percent compared to summer 2007 to win energy-efficient products
- 48,153 customers participated in 2008
- Net summer peak demand savings of 0.1 MW from activities between January and June 2008

Every Kilowatt Counts Power Savings Event

- Instant in-store rebates on energy-efficient products
- Spring and fall campaigns
- 57,742 coupons were redeemed in spring campaign
- Lifetime net energy savings of 40,727 MWh
- Net summer peak demand savings of 0.8 MW from activities between January and June 2008

Aboriginal Pilot Program

- Energy-efficiency and conservation measures for Aboriginal communities, including education and awareness and energy retrofits
- The residential housing retrofit program is in progress
- No reported results from January to June 2008 activities*

Local Distribution Company Custom Programs

- OPA funding for custom conservation programs that augment province-wide peak demand and energy-efficiency programs
- No reported results from January to June 2008 activities*

Power Savings Blitz

- Free electricity assessments and up to \$1,000 for lighting and water heating retrofits for small commercial businesses
- No reported results from January to June 2008 activities*

Note: Net results exclude the impact of “free riders” who are participants that claimed the program incentive, but who would have taken the conservation action in the absence of the program.

Commercial/Institutional Programs

Commercial/institutional programs target larger commercial, multi-unit residential, agricultural, low-income and social housing customers. These programs provide incentives for energy-efficiency retrofits and measures in new construction and major renovation projects. Fuel switching measures are being incorporated into the existing program suite in this sector. Current programs offered in this sector are:

Electricity Retrofit Incentive Program

- Incentives for energy retrofits by commercial, industrial, institutional and agricultural customers
- Activities from January to June 2008 will result in net lifetime energy savings of 254,635 MWh
- Net summer peak demand savings of 4.8 MW from activities between January and June 2008

High Performance New Construction

- Design assistance and financial incentives to encourage sustainable and energy-efficient features in new construction and major renovation projects
- No reported results from January to June 2008 activities*

Toronto Comprehensive Program

- Incentives for energy-efficiency retrofits and new construction projects in the City of Toronto
- Includes two Better Building Partnership programs for new and existing buildings respectively run by the City of Toronto's Office of Energy Efficiency
- 18 projects were commissioned from January to June 2008
- Lifetime net energy of 84,478 MWh
- Net summer peak demand savings of 6.2 MW from activities between January and June 2008

* Denotes that the program was in market from January to June 2008 but has not yet been evaluated.

Industrial Programs

The Ontario Power Authority is developing an industrial energy-efficiency program that includes incentives for hiring energy managers, efficiency measurement and verification plans, specialized training and awareness programs, energy assessments and feasibility studies. The program is expected to be launched in the fourth quarter of 2008 or the first quarter of 2009.

Demand Response Programs

The Ontario Power Authority's demand response programs are designed to curtail load or shift load away from peak times. They target the three categories of residential, commercial/institutional and industrial customers. The demand response programs available in 2008 are:

Demand Response 1

- Participants receive financial compensation for voluntary load curtailment during the highest-valued peak hours
- 13 new contracts from January to June 2008
- 29.9 MW of expected net summer peak demand savings between January and June 2008

Demand Response 3

- Contractual peak load-shedding for large customers that targets load savings during 1,000 hours of intermediate peak load days
- Seven aggregators contracted from January to June 2008; each is obligated to enrol 25 MW of capacity within 12 months of contract execution
- No incremental summer peak demand savings between January and June 2008

peaksaver[®]

- Residential and small commercial program that allows utilities to cycle off air conditioners automatically during periods of peak demand through installation of a thermostat or switch
- 14,710 switches installed from January to June 2008
- 8.7 MW of net expected summer peak demand savings

Customer-based Generation

The Ontario Power Authority is actively promoting customer-based generation of electricity through a standard offer program for renewable energy. Renewable energy projects less than or equal to 500 kilowatts and combined heat and power projects less than or equal to 10 megawatts are classified as conservation measures. A clean energy standard offer program is expected to be launched in 2009.

Renewable Energy Standard Offer Program

- Provides standardized pricing and simplified eligibility, contracting and other rules for small renewable energy electricity generation projects
- 1.0 MW of net summer peak demand savings from standard offer projects between January and June 2008
- Program under review and will be relaunched in the fourth quarter of 2008 or the first quarter of 2009

Appendix 2: Other Conservation Activities in Ontario

The following sections describe selected conservation programs and activities of governments and organizations other than the Ontario Power Authority. Further information can be found on the Conservation Bureau website.²

Provincial Government

The Ontario government supports a number of initiatives, activities and policies to promote conservation and increase energy efficiency. These include funding for not-for-profit organizations and community-based initiatives, a smart metering policy, incentives and rebates for home energy audits and tax rebates for energy-efficient equipment. Key activities are described below in alphabetical order, organized by ministry.

Ministry of Energy and Infrastructure

Community Conservation Initiatives Fund

- Grant program for not-for-profit organizations that deliver energy conservation initiatives in local communities

Ontario Home Energy Audit and Retrofit Rebate Programs

- Funding for home energy audits and energy retrofits. Funding is matched by the federal government's ecoENERGY Retrofit – Homes program (see below under Federal Government)

Ontario Solar Thermal Heating Incentive

- Rebate program for organizations in commercial/institutional or institutional sectors that install a qualifying solar water or solar air heating system

Municipal Eco Challenge Fund

- Grant program to help municipalities undertake infrastructure projects that will conserve energy and reduce greenhouse gas emissions

Smart Metering Policy

- The Government of Ontario has committed to installing a smart electricity meter capable of measuring the time of electricity use in every home and small business in Ontario by 2010. Close to 1.7 million smart meters were installed to the end of September 2008.

Ministry of Finance

Retail Sales Tax Exemption for ENERGY STAR® Products

- Point-of-sale retail sales tax exemption for select ENERGY STAR household products

Retail Sales Tax Rebate

- Retail sales tax rebate on the purchase of solar, wind, micro-hydroelectric systems and geothermal heating and cooling systems for residential applications

Ministry of Northern Development and Mines

Northern Energy Program

- Funding for renewable energy planning, renewable energy capital assistance, new internal energy generation projects and energy conservation pilot projects

Federal Government

The federal government administers energy-efficiency incentive programs under the ecoENERGY brand and programs aimed at commercial and industrial buildings, as well as a program to increase the energy efficiency of government buildings. Other federal government activities include developing technical requirements for building efficiency standards and regulating the energy efficiency of appliances and products under the federal *Energy Efficiency Act*. These activities, administered by Natural Resources Canada's Office of Energy Efficiency, are summarized below in alphabetical order.

Canadian Industry Program for Energy Conservation (CIPEC)

- A voluntary partnership between the federal government and industry that provides information and tools to improve energy efficiency. Delivers ecoENERGY for Industry and ecoENERGY Retrofit programs.

ecoENERGY Retrofit Program

- Financial support to residential property owners, small and medium-sized businesses, public institutions and industrial facilities to help them implement energy-saving projects. This program has a number of components, including:

ecoENERGY for Buildings and Houses – provides tools, training and technical assistance to promote energy efficiency in existing and new buildings and homes

ecoENERGY Retrofit – provides grants to homeowners and financial incentives to small and medium-sized businesses, and to industry and public institutions to help them invest in energy- and pollution-saving upgrades

ecoENERGY for Industry – provides assistance, training and a forum to exchange ideas on technologies and best practices.

EnerGuide Rating

- A standard measure of rating the energy efficiency of new and existing homes

Federal Buildings Initiative

- A model framework for updating federal buildings with energy-saving technologies and practices

R-2000 Standard

- A series of technical requirements related to energy efficiency, indoor air quality and the use of environmentally responsible products and materials. It sets criteria for how an R-2000 home must perform, but does not specify exactly how it must be built. The house performance requirements are in addition to those required by building codes.

Municipal Government

Municipal governments have also been active in conservation and energy efficiency. For example, the Federation of Canadian Municipalities administers a green municipal fund that includes loans and grants, builds capacity and shares knowledge to support municipal governments and their partners in developing communities that are more environmentally, socially and economically sustainable.

Leading municipalities, such as the City of Guelph and the City of Hamilton, have produced energy plans of their own.³ The City of Toronto has established a number of programs to encourage and support improvements in the energy efficiency of buildings in Toronto. The city has also passed a renewable energy by-law that permits the production of energy from renewable energy sources on all properties in the city, and for energy to be exported off-site.

Non-governmental Organizations

Non-governmental organizations are engaged in a wide array of initiatives to promote energy efficiency and conservation. Many receive funding from one or more of the three levels of government, government agencies such as the Ontario Power Authority and the private sector. The Conservation Bureau intends to coordinate with these important players throughout 2009 to increase the rigour with which their activities are documented and to gain insights into their proposed future activities. Additional details about the programs described below will be provided on the Conservation Bureau website as they evolve.⁴ The programs are listed in alphabetical order.

Clean Air Foundation

The Clean Air Foundation runs programs to reduce emissions, improve air quality and reduce climate impacts, including Keep Cool to replace air conditioners and Go Solar to facilitate the installation of solar energy systems. The foundation plans to continue delivering Keep Cool and other programs in 2009. Its partners, funders and program contributors include private for-profit

companies, not-for profit organizations, municipalities, electric and gas utilities and provincial and federal ministries. www.cleanairfoundation.org

Conservation Council of Ontario

Council initiatives include Lighten up Ontario, a province-wide pledge program in support of electricity conservation, and Doors Closed, a public education and outreach program that encourages small businesses to close their doors to keep in the cold air when air conditioners are running. 2009 will be the second year of the council's five-year campaign to support a united conservation movement across Ontario. The focus in 2009 will be on helping municipalities set up community conservation networks to involve local groups, schools, businesses and others in determining priorities and carrying out local projects and campaigns. The council is also developing a "Great Green Directory" to connect people across Ontario with the products, services and incentives that will help them become better conservers. The Conservation Bureau is a sponsor of this directory. Current sponsors of the Conservation Council of Ontario include the Ontario Trillium Foundation and the Beer Store. www.weconserve.ca.

ecoENERGY

Described in the Federal Government section above, this federal retrofit program is delivered by a number of agents, including members of Green Communities Canada, a national association of not-for-profit organizations. The program is planned to continue in 2009. <http://www.gca.ca/indexcms/index.php>

Energy Action Council of Toronto (Eneract)

A series of four "smart living" programs promote a culture of conservation by addressing behaviours and implementing local technological innovation. They include community education, a guidebook, workshops and neighbourhood initiatives. In 2009, Eneract plans to initiate a three-year project to remove perceived barriers to energy retrofits in condominiums and co-operatives by increasing understanding of energy consumption. Through better measurement and tracking of energy and water use, baseline data will be used to inform investments and conservation programs. The data, analysis, conclusions and recommendations will be made available to the wider public. Eneract receives funding from the Ontario Trillium Foundation, Toronto Atmospheric Fund, Shell Environmental Fund and the Toronto Dominion Friends of the Environment Foundation. www.eneract.org

Faith and the Common Good

Greening Sacred Spaces is a program that assists faith communities in making their places of worship and private homes more energy efficient. The program includes a resource kit with workshops, posters and music to help faith groups raise awareness, reduce greenhouse gases and live more sustainably. Increasing participation in Greening Sacred Spaces will be the organization's primary focus in 2009. In addition, it plans to introduce a health and sustainability guide to promote water and waste reduction in places of worship through do-it-yourself audits.

Greening Sacred Spaces is funded by the Ontario Power Authority and the Toronto Atmospheric Fund. <http://www.faith-commongood.net>

FLICK OFF Campaign

This social marketing and awareness campaign encourages Canadian youth to conserve energy. FLICK OFF partners include Virgin Mobile, Roots and MuchMusic, and its sponsors include the House of Anansi Press, Butterfield & Robinson, Zipcar, Bullfrog Power and Zoom Media. www.flickoff.org

Green Roofs for Healthy Cities

This organization's mission is to increase awareness of the economic, social and environmental benefits of green roof infrastructure, including reduced electricity demand for summer cooling. The organization receives support through its membership of individuals, private and non-profit corporations, utilities and governments. www.greenroofs.org

greenTbiz (Toronto Association of Business Improvement Areas)

greenTbiz runs a series of programs to encourage energy efficiency and conservation in business improvement areas, including promoting efficient technologies through lectures, school fundraising, one-on-one consultations with business owners, and business mentorships. In 2009, greenTbiz will continue to work closely with businesses and properties through a greenAssist program that involves a consultative advisory process to promote actions that reduce energy consumption and save money. greenTbiz will continue exploring and showcasing emerging energy-efficient technologies to encourage market transformation. greenTbiz partners with a number of organizations, including the City of Toronto, the Toronto Atmospheric Fund, the Ontario Power Authority, Conservation Council of Ontario, Enbridge and Toronto Hydro. www.greentbiz.org

Ontario EcoSchools

This environmental education program incorporates environmental education and action in schools. EcoSchools is a collaborative effort between York University's Faculty of Environmental Studies, the Government of Canada, the Ontario ministries of Energy and Infrastructure, Education, and Environment, and participating school boards. In 2009, the first schools in northern Ontario are expected to be EcoSchool-certified, including schools in Dryden and Kenora. EcoSchools has received provincial funding through the Ministry of Energy and Infrastructure's Community Conservation Initiatives Fund. www.ontarioecoschools.org

Reduce the Juice

This foundation facilitates the creation of youth-led projects designed to reduce greenhouse gas emissions through energy conservation and renewable energy projects. It receives funding from the Ontario Trillium Foundation as well as donations from a number of private-sector organizations. www.reducethejuice.ca

Wattwise (Citizen's Environment Watch)

This student-driven energy conservation program for Ontario schools contributes to education and awareness among teachers and students. Three main project areas are school energy audits, energy conservation plans and measuring results. Wattwise will continue its program in 2009 and has set a target of reaching 75 schools. In the coming year, Wattwise will place greater emphasis on measurement and tracking of conservation resulting from its program and will award a monetary prize to the school with the best energy conservation plan. Wattwise receives funding from Ecoosting⁵ and the Ministry of Energy and Infrastructure's Community Conservation Initiatives Fund. www.wattwise.ca

World Wildlife Fund Canada

World Wildlife Fund Canada promotes *The Good Life*, an online community website committed to reducing people's environmental footprints through individual actions, including reducing energy use. The World Wildlife Fund's Earth Hour 2008 was an event in which people around the world voluntarily "powered down" for one hour on March 29, 2008. It was intended to inspire action on climate change (see also chapter 2 of the report). Earth Hour 2009 is planned for 8:30 p.m. on March 28, 2009 and is expected to be another international success. The organization receives its funding from individuals, private corporations, foundations, non-profit organizations and governments, as well as product sales. www.wwf.ca

¹ The directive is available on the Ontario Power Authority website at www.powerauthority.on.ca/Storage.asp?StorageID=4726.

² The results are available in *Summary of Electricity Conservation Programs and Initiatives in Ontario from 2005-2007, Excluding OPA Funded Programs and Ontario Government Buildings, Final Report*, May 23, 2008, available on the Conservation Bureau website at www.conservationbureau.on.ca/Storage/19/2451_Summary_of_Non-OPA_Funded_Conservation_Programs_2005_-_2007.pdf.

³ The *City of Guelph Community Energy Plan* is available at guelph.ca/uploads/ET_Group/admin/Final_CEP_Guelph_070328.pdf and *The City of Hamilton Corporate Energy Policy* is available at www.myhamilton.ca/NR/rdonlyres/77CB9B5B-5C58-429E-A0EB-D1AA5336CB96/0/EnergyPolicyNov08.pdf.

⁴ See reference 2 above.

⁵ EcoHosting (www.ecohosting.net) is a webhosting and development company that donates 20 percent of its revenue to qualifying charitable organizations.