



November 1, 2010

Kirsten Walli  
Board Secretary  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street, Suite 2700  
Toronto, Ontario M4P 1E4

**Re: CDM Strategy for Halton Hill Hydro**  
**File: EB-2010-0215**

Dear Ms. Walli,

Enclosed is the Conservation and Demand Management (CDM) Strategy for Halton Hills Hydro (HHH). This CDM Strategy has been developed in accordance with the *Conservation and Demand Management Code for Electricity Distributors* and provides an overview description of how HHH intends to achieve its CDM Targets. In the absence of finalized targets, the Strategy is based on the proposed targets of June 22, 2010.

Sincerely,

Arthur Skidmore, CMA  
President & CEO  
Halton Hills Hydro



## Conservation and Demand Management Strategy

**Total Reduction in Peak Provincial Electricity Demand (MW) Target: 6**

**Total Reduction in Electricity Consumption (kWh) Target: 23,000,000**

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## CDM Strategy

This document is the Conservation and Demand Management (CDM) Strategy for Halton Hills Hydro (HHH). This CDM Strategy provides an overview of how HHH intends to achieve its CDM Targets.

### About Halton Hills Hydro

HHH is the local distribution company serving the Municipality of the Town of Halton Hills. HHH's 2009 customer base is as follows:

- 18,924 residential customers
- 1,913 general service customers <50 kW and
- 207 general service customers > 50 kW

HHH participated in the OPA Standard Programs consistently achieving its targets and for some programs (e.g. Power Savings Blitz) exhausted the market by over achieving our target. HHH also took advantage of the third tranche funding including designing and implementing a range of programs including a residential electric water heater load control program, a consumer education program and commercial and industrial audit program.

### Principles

This CDM Strategy is guided by the following principles.

#### *General*

- The CDM Strategy will build on HHH's mission statement
- The CDM Strategy will be flexible enough to respond to the changing energy environment, and HHH's understanding of its customer's electricity consumption patterns.

#### *Customers and shareholders*

- The CDM Strategy will address the energy priorities of the Province as these relate to HHH's customers
- The CDM Strategy will offer programs to all customer types where appropriate
- The CDM Strategy should enhance economic development within the Town of Halton Hills
- The CDM Strategy will help position HHH and the Town of Halton Hills as leaders in the community on energy efficiency
- The CDM Strategy will have a community focus

### Partnerships

- The CDM Strategy will build on existing programs and partnerships where possible
- The CDM Strategy will pursue administrative efficiencies and coordination with other distributors, natural gas distributors, social service agencies, any level of government, government agencies, the OPA and other organizations where possible
- The CDM Strategy will pursue partnerships with the other Halton Region LDCs

### Programs

- The CDM Strategy will be made up of OPA programs and other programs that are complementary to but not duplicative of OPA programs
- The CDM programs will provide comprehensive measures that allow HHH to maximize energy savings from HHH program offerings in a systematic and coordinated way.
- The CDM programs contained in this document will provide a 'one stop shop' for energy efficiency for HHH customers
- The CDM programs will strive to achieve market transformations in HHH's service territory

### Year by Year Plan

Table 1 provides a year-by-year plan for how the CDM Strategy will meet HHH's CDM Targets.

Consumer and Business (non-DR) Program savings are calculated using the OPA Resource Planning Tool distributed by the OPA to HHH on September 17 2010. Business (DR) and Industrial Program savings are based on provincial savings found in the LDC summary guides distributed by the OPA to HHH on October 7 2010. Low-income savings are based on provincial savings estimated provided in a webinar hosted by the OPA<sup>1</sup>.

HHH participant rates for OPA programs are derived from the provincial participant rates pro-rated using HHH's portion of the province's 2008 residential and non-residential energy use. HHH recognizes that these estimates will be refined over time as adjustments are made for market saturation from the success of programs in earlier years, and for any targeted marketing that HHH may undertake that will push results beyond provincial averages for certain measures.

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<sup>1</sup> Tier 1 Conservation Program Webinar Series. Webinar 1: 2011 Industrial, Commercial/Institutional and Consumer Program Design. Delivered by the OPA 29 July 2010.

Savings from Board-Approved Programs are those required beyond the savings from OPA programs in order for HHH to meet 100% of both its 2011-2014 energy savings target and its 2014 summer peak demand savings target.

**Table 1 Year-by-year plan for meeting CDM Targets**

Program name	Energy savings (GWh)				Peak demand savings (MW)			
	2011	2012	2013	2014	2011	2012	2013	2014
Industrial	0.1	0.5	1.0	1.4	0.16	0.39	0.62	0.81
Business	0.8	1.7	2.4	3.1	0.55	0.89	1.24	1.65
Consumer	0.9	2.0	3.1	4.3	0.31	0.72	1.20	1.69
Low-income	0.1	0.2	0.2	0.3	0.01	0.02	0.02	0.03
Board-approved programs	0.3	0.2	0.2	0.2	0.47	0.99	1.42	1.82
<b>Total</b>	<b>2.3</b>	<b>4.6</b>	<b>6.9</b>	<b>9.2</b>	<b>1.50</b>	<b>3.00</b>	<b>4.50</b>	<b>6.00</b>

### Annual Milestones

Table 2 shows the annual milestones HHH plans to achieve.

**Table 2 Annual milestones**

Type of savings	2011	2012	2013	2014	Total
<b>Energy (GWh)</b>					
From programs in that year	2.3	2.6	3.1	3.5	<b>11.5</b>
From programs in previous years	0	2.0	3.8	5.7	<b>11.5</b>
<b>Total in-year savings</b>	<b>2.3</b>	<b>4.6</b>	<b>6.9</b>	<b>9.2</b>	<b>23.0</b>
<b>Peak demand (MW)</b>					
From programs in that year	1.5	2.0	2.2	2.5	
From programs in previous years	0	1.1	2.3	3.6	
<b>Total in-year demand reductions</b>	<b>1.5</b>	<b>3.0</b>	<b>4.5</b>	<b>6.0</b>	

## OPA-Contracted Province-Wide CDM Programs

HHH plans to participate in all of the OPA-Contracted Province-Wide CDM Programs between 2011 and 2014. A description of this participation is shown in Table 3.

Table 3 OPA-Contracted Province-Wide CDM Programs to be undertaken

Program name	Year(s) of operation	Program description	Projected budget <sup>2</sup>	Summer 2014 peak demand reductions (kW)	Electricity consumption reductions (MWh)
Industrial	2011 through 2014	See description below	NA	806	2,993
Business	2011 through 2014	See description below	NA	1,650	7,987
Consumer	2011 through 2014	See description below	NA	1,694	10,339
Low-income	2011 through 2014	See description below	NA	32	826

### Industrial program

The purpose of this program is to achieve peak demand reduction and energy savings among the industrial customers. There are four main initiatives included in this program:

- **Industrial Electricity Retrofit Incentive Program (ERIP)** is targeted at industrial customers. Its purpose is to encourage the installation of new and replacement energy efficient equipment (e.g. lighting, fans and pumps, synchronous belts).
- **LDC Industrial Accelerator** is targeted at larger industrial, commercial and institutional customers with a level of potential savings at or above 100 MWh. Its purpose is to improve the energy efficiency of equipment and production processes.
- **Demand Response 1 (DR1) Industrial** is targeted at industrial customers with a peak demand of 50 kW or more. Its purpose is to reduce system peak

<sup>2</sup> Program budgets were not available from the OPA at the time of writing this CDM Strategy

demand and increase system reliability through the customer's voluntary reduction of electricity demand during the peak demand period, and to encourage the DR1 customers to participate in the Connected Industrial Demand Response 3 (DR3) initiative.

- **LDC Connected Industrial DR3** is targeted at industrial customers with peak demand of 50 kW or more that have a minimum hourly interval meter supported by recorders with 5-minute interval capability and demand response capacity. Its purpose is to reduce system peak demand and increase system reliability through the customer's mandatory reduction of electricity demand during peak demand periods.

### Business program

The Business program covers both existing and new buildings in all market segments. The purpose of this program is:

- To assist owners and operators of commercial and institutional buildings, farms, and multi-family residences to achieve reduced demand and energy savings through the purchase and operation of energy efficient equipment and to participate in demand response initiatives
- To provide education to tenants and occupants regarding in-suite energy efficiency and demand response opportunities
- To achieve peak demand reduction and energy savings among business customers
- This program also aims to facilitate a culture of conservation among these market segments and the supply chains that serve them
- The initiatives in the business program focus on buildings with the following descriptions/designations:
  - Small Office
  - Large Office
  - Small Retail
  - Large Retail
  - Agricultural
  - Multi-Family Condo
  - Multi-Residential Buildings
  - Elementary Schools
  - Secondary Schools.

There are four main initiatives included in this program:

- **Direct Installed** is targeted at customers in the General Service <50 kW account category. The program offers eligible customers up to \$1000 in measures related to lighting equipment upgrades and space cooling at no charge.
- **Small Commercial Demand Response (DR)** is targeted at customers in the General Service <50 kW account category with central air conditioning



systems. Its purpose is to reduce system peak demand and increase system reliability through the reduction of electricity use during peak demand via remote load control. Customers may also participate without remote load control, that is, customers may still access price and real-time usage information and can choose to act on their own.

- **DR1 Commercial** is targeted at customers with a peak demand of 50 kW or more. Its purpose is to reduce system peak demand, increase system reliability through the customer's voluntary reduction of electricity use during peak demand periods and encourage DR1 customers to participate in the LDC Connected Industrial DR3 initiative.
- **LDC Connected Commercial DR3** is targeted at customers with peak demand of 50 kW or more that have interval meters supported by recorders with 5 minute interval capability and demand response capacity. Its purpose is to reduce system peak demand and increase system reliability through the customer's mandatory reduction of electricity use during peak demand periods.

### Consumer program

The Consumer program is available to residential customers of HHH. The purpose of the program is to help these residential customers improve the energy efficiency of their homes, empower them by giving residential customers access to consumption and price information to help them better manage their electricity use, and to achieve peak demand reduction and energy savings. There are eight main initiatives included in this program:

- **Instant Rebates** are targeted at customers in single-family homes. Its purpose is to encourage residential consumers to purchase energy efficient products by providing discounts on these products.
- **Midstream Electronics Incentive** is targeted at the retailers of televisions and set-top boxes. Its purpose is to encourage retailers to promote energy efficient models of televisions and set-top boxes by offering incentives to retailers.
- **Midstream Pools Incentive** is targeted at contractors who install pool equipment. Its purpose is to encourage contractors to install "right-sized" pool equipment (i.e. pool pumps) by offering incentives to contractors.
- **HVAC rebates** are targeted at customers in single-family homes with inefficient central air conditioning and/or heating systems. Its purpose is to encourage customers to replace inefficient systems by offering rebates (delivered through participating contractors) for the installation of efficient systems.
- **Appliance Retirement** is targeted at customers in single-family homes with inefficient working appliances (i.e. refrigerators, freezers, room air conditioners, dehumidifiers). Its purpose is to encourage customers to decommission these appliances through free pick-up and recycling of the appliances.

- **Exchange Events** are targeted at customers in single-family homes who wish to replace a room air conditioner or dehumidifier in the spring or fall. Its purpose is to encourage customers to purchase an energy efficient model by offering a coupon or gift card for a replacement unit.
- **Residential New Construction** is targeted at builders of new, single-family homes. Its purpose is to encourage builders to construct new, single-family homes that include energy efficiency standards that are above current building codes by offering incentives to the builders.
- **Residential DR** is targeted at customers in single-family homes with central air conditioning systems, electric water heaters, room air conditioners, and pool pumps. Its purpose is to reduce system peak demand and increase system reliability through the shift of electricity during peak demand. Customers may also participate without remote load control; customers may still access price and real-time consumption information which allows them to act voluntarily.
- **Low-income single family home conservation** is targeted at customers of low-income single family households as defined by Part 9 of the Ontario Building Code as well as consumers in multi-family buildings as defined by Part 3 of the Ontario Building Code. It provides a set of services and the purchase and installation of measures in the home or in-suite measures at no cost to the low-income consumer. Services to low-income consumers include audits as well as basic, low cost measures (e.g. CFL's, hot water pipe wrap, power bar with integrated timer); extended measures: generally appliance replacement; and weatherization (e.g. draft proofing, attic/basement insulation). The initiative may also include enabling initiatives such as training for delivery partners, capability building for social housing providers and marketing and education materials.

These descriptions are based on the information currently available from the OPA on the OPA-Contracted Province-Wide CDM Programs<sup>3</sup> and based on output generated from the OPA CDM Resource Planning Tool. At the time of writing, the contracts for the OPA-Contracted Province-Wide CDM Programs were not available from the OPA.

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<sup>3</sup> This information was obtained from the OPA Conservation Programs Webinar Series provided by the OPA on the following dates July 29, 2010, August 12, 2010, August 26, 2010, September 9, 2010 and October 7, 2010 and from the program summary guides released by the OPA on October 8, 2010.

## Potential Board-Approved CDM Programs

The OPA expects that the OPA-Contracted Province-Wide CDM Programs will meet 91% of the provincial energy target and 78% of the provincial demand target. HHH's analysis of the proposed programs, for its service territory, based on the OPA CDM Resource Planning Tool is that in the HHH service territory, the OPA programs will meet 96% of its energy target but only 70% of its demand target.<sup>4</sup> Therefore HHH plans to make up the anticipated shortfall through Board-Approved CDM Programs. The potential Board-Approved CDM Programs that are under investigation by HHH are presented below.

The CDM Code requests the following information for each Board-Approved Program, where available: Program name, Year(s) of operation, Program description, Projected budget, Peak demand reductions (kW), Electricity consumption reductions (MWh). The program name, year(s) of operation, program description are provided below. The other information is not available at this time. Over the next few months HHH will be further investigating and refining these programs in order to submit an application to the Board for proposed Board-Approved CDM Programs.

For the purpose of this strategy, peak demand reductions and electricity consumption reductions have not yet been determined for each individual Board-Approved CDM Program. However, Table 1 provides an estimate of what reductions would be required in order for HHH to meet 100% of both its 2011-2014 energy savings target and its 2014 summer peak demand savings target. The applications for specific Board-Approved Programs will address targets and budgets.

### Municipal Energy Efficiency Leadership Program

This program combines the measures identified for the Town of Halton Hills. It includes municipal lighting (street lighting replacement, traffic light replacement), and municipal facilities (e.g. arenas) retrofit, expansion and new construction. Design and implementation of this program is being discussed in cooperation with the other Halton Region LDCs (Burlington Hydro, Milton Hydro and Oakville Hydro).

### Regional Energy Efficiency Leadership Program

This program combines the measures identified for the Region of Halton. This program includes regional lighting (street lighting replacement, traffic light replacement), night-time/off-peak water pumping and other water related processes, peak-shaving using back-up/standby generators, and energy efficiency in Regional facilities (e.g. police stations). Design and implementation

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<sup>4</sup> The version of the tool provided September 17, 2010 does not offer provincial targets for demand response, or for the industrial programs. However, these have been estimated based on scaling down provincial estimates for these programs provided separately by the OPA.

of this program is being discussed in cooperation with the other Halton Region LDCs (Burlington Hydro, Milton Hydro and Oakville Hydro).

#### **Residential Enhancement Program**

This program, offered to residential customers, bundles together measures that are not covered by the OPA residential offerings including building envelope and weatherization measures; direct install of measures including smart powerbars, CFLs, pipe wrap, hot water heater blankets, shower and faucet aerators; primary refrigerator replacement; audits including energy efficiency and demand response audits; education and referrals; and financing. This program could be linked to the provincial Ontario Home Energy Audit Program (e.g. co-market, additional incentives for audit or installation of measures). Design and implementation of this program is being discussed in cooperation with the other Halton Region LDCs (Burlington Hydro, Milton Hydro and Oakville Hydro).

#### **Cross-sectoral Financing Program**

This program offers financing to all customer types. The program is designed to ensure that access to financing is not an obstacle to implementation of CDM programs. The specific nature of the financing program may include: providing information about financing organizations that have agreed to finance energy efficiency initiatives, buying down the interest or securing the loan, on-bill financing, or combinations of these.

#### **Standby Generators Program**

This program would use standby generators currently installed in Halton Hills (e.g. HHH, hospital and firehall) to reduce load during peak periods.

#### **Large Customer Leadership Program**

This program complements OPA business and industrial offerings by including measures not covered by the OPA such as financing, pre-DR audits, building commissioning for buildings <50,000 ft<sup>2</sup>, building envelope measures for electrically heated facilities and combined heat and power. This program will focus on HHH's largest customers where the greatest potential for electricity savings exists, and who may be harder to reach with broader programs due to their decision-making procedures.

#### **Residential New Construction Program**

This program would complement the OPA new construction offering by including measures and initiatives not covered by the OPA such as default inclusion in the OPA consumer demand response program and incentives for upgrades to energy efficient appliances. A partnership with the Town of Halton Hills, Union Gas and their Residential New Construction Program and the other Halton Region LDCs is being investigated.

### **Energy Efficiency in Schools Program**

This program complements the OPA commercial and institutional offerings by providing additional measures and incentives not covered by the OPA to encourage all schools (private, public and Catholic) to improve their energy efficiency. Design and implementation of this program is being discussed in cooperation with the other Halton Region LDCs (Burlington Hydro, Milton Hydro and Oakville Hydro).

## **Program Mix**

By delivering all of the OPA programs, HHH will provide CDM Programs to all customer types – industrial, business (commercial/institutional) and consumers (residential), including low-income consumers.

The provision of Board-Approved CDM Programs will enhance this coverage for certain groups including the local and regional municipalities, schools, residential customers and large industrial and business (commercial and institutional) customers to better match the market opportunities and customer base of the utility.

## **Low-income Programs**

HHH intends to offer the OPA Low-income Single Family Home Program when the program is available. Once information about this program is available HHH will also assess the need for additional low-income programming not covered by the OPA program.

## **CDM Programs Co-ordination**

In preparing this CDM Strategy HHH investigated, to the extent possible, ways to coordinate its CDM activities to ensure administrative efficiencies, to build on existing relationships, and to ensure maximum CDM Program coverage for customers while eliminating any overlap. HHH intends to coordinate its CDM activities with various parties including the other Halton Region LDCs (Burlington Hydro, Milton Hydro and Oakville Hydro), Union Gas and the OPA. HHH will also build on existing relationships developed during the implementation of third tranche and subsequent CDM activities including with delivery agents and channel partners (some of which are already shared with the other Halton LDCs).

To pursue administrative efficiencies HHH intends to deliver the OPA-Contracted Province-Wide CDM Programs and Board-Approved CDM Programs with some combination of internal and external resources. The exact balance of internal and external resources will be established when more is known about the programs and what can be done to maximize efficiencies. HHH will also deliver the CDM programs in partnership with existing delivery agents and channel partners to build on the capability already existing in the market.

To ensure that administrative efficiencies are maintained and that there is continual improvement in CDM program delivery over the four year period, HHH will develop and implement a process to regularly monitor and enhance performance to ensure that its energy targets are met. This process will be built into EM&V plans for each Board-Approved Program.