
Burlington Hydro Inc.

Conservation and Demand Management 2011 Annual Report

**Submitted to:
Ontario Energy Board**

Submitted on September 30, 2012

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Executive Summary

The Ontario Power Authority has released its final 2011 Results Report for delivery of Conservation and Demand Management (CDM) programs. Two sets of results are reported on: **Gross Savings** and **Contribution to Targets**. The OPA applies factors to results to correct for erosion of achievements over the four year duration of the CDM programs, leading to a significant difference between Gross Savings and Contribution to Targets.

On a Gross Savings basis, at the end of 2011, Burlington Hydro Inc. (BHI) has delivered 19% of its demand and 55% cumulative energy targets. For BHI to “track” on a straight line towards achieving its targets, it would need to have achieved 25% of the demand and cumulative energy target.

While the demand achievement falls below the straight line, it should be noted that delays in program roll-out by the OPA resulted in BHI not commencing program delivery early in 2011. In some cases programs were delayed by 3 to 6 months and other programs have not yet been introduced at all.

When examined on a Contribution to Targets basis, the demand achievement drops to 8% and the cumulative energy savings drop to 35%. On this basis, BHI is well on its way to achieving the energy target but achievement of the demand target is at risk if its CDM implementation strategy were not refined. BHI’s results are well above the Provincial median; BHI is 7th of the 21 medium-sized LDCs reporting energy savings and 8th of the 18 medium-sized LDCs reporting demand savings. (Comparing BHI’s achievement with all 76 reporting LDCs in the Province, BHI is in 22nd and 29th positions respectively.)

From the 2011 results report, consumer programs are delivering approximately 2.0 MW and 5,325,000 kWh/yr (when prorated to a full year of operation) on a gross basis. The consumer programs are performing as expected. Assuming that delivery levels continue at the current pace, when extrapolated to the end of 2014, the projection becomes 3.2 MW and 23.4 GWh after taking the EM&V Protocol into account.

The consumer programs are generally thought to be maturing, meaning that uptake rates can’t be driven further. The remainder must originate through the business programs available to the commercial and industrial sectors.

The business programs delivered 2.445 MW and 7,869,682 kWh/yr. The business programs largely represent incentives to help offset capital costs. As such they are subject to the customer’s capital and project planning processes and do not “ramp up” as quickly as consumer programs. Currently, customers are submitting 1.4 MW of projects per year and the BHI sales team will generate an additional 2.6 MW of projects per year. The sales team has generated 2.0 MW of projects consistently over the past four years. Sales support has been put into place to support the higher forecast. Demand response programs (DR-3) could generate an additional 2.0 MW/yr, but the EM&V Protocol will only consider their persistence if they are available in the final year (2014).

At this rate, the forecast after EM&V Protocols for the business programs is 15.0 MW and 124.8 GWh.

BHI is expected to exceed its energy target by 41%, but may fall short on its demand target after taking the EM&V Protocols into account. Without these adjustments BHI would otherwise surpass each of its targets by a significant margin.

In order to meet the demand target, greater effort is required to secure and retain additional demand. The greatest component of erosion occurs due to the EM&V Protocol not recognizing the persistence of the demand response program (DR-3) past the initial contract year. The Protocol does provide for recognition in 2014 if the DR-3 resource is available for curtailment. The above forecast projects approximately 7 MW of DR-3 of which 1 MW was achieved in 2011. Acquiring this load and maintaining its persistence is a key element to the plan to achieve demand targets. If this load is acquired and retained, then BHI will meet its demand target as well, provided the other goals of the Business Programs are achieved.

Learning from its 2011 experience and in order to maximize the probability of achieving its full CDM targets, BHI has refined its CDM strategy for 2012 by doubling its efforts in specific key areas; e.g. demand response customers.

Background

On March 31, 2010, the Minister of Energy and Infrastructure of Ontario, under the guidance of sections 27.1 and 27.2 of the *Ontario Energy Board Act, 1998*, directed the Ontario Energy Board (OEB) to establish Conservation and Demand Management (CDM) targets to be met by electricity distributors. Accordingly, on November 12, 2010, the OEB amended the distribution license of Burlington Hydro Inc. (BHI) to require BHI, as a condition of its license, to achieve 82,370 MWh of energy savings and 21.95 MW of summer peak demand savings, over the period beginning January 1, 2011 through December 31, 2014.

In accordance with the same Minister's directive, the OEB issued the Conservation and Demand Management Code for Electricity Distributors (the Code) on September 16, 2010. The code sets out the obligations and requirements with which electricity distributors must comply in relation to the CDM targets set out in their licenses. To comply with the Code requirements, BHI submitted its CDM Strategy on November 1, 2010 which provided a high level of description of how BHI intended to achieve its CDM targets.

The Code also requires a distributor to file an annual report with the Board. This Annual Report is therefore prepared accordingly and covers the period from January 1, 2011 to December 31, 2011.

1 Board-Approved CDM Programs

1.1 Introduction

In its Decision and Order dated November 12, 2010 (**EB-2010-0215 & EB-2010-0216**), the OEB ordered that, (to meet its mandatory CDM targets), “Each licensed electricity distributor must, as a condition of its license, deliver Board-Approved CDM Programs, OPA-Contracted Province-Wide CDM Programs, or a combination of the two”.

At this time, the implementation of Time-of-Use (“TOU”) Pricing is the only Board-Approved Conservation and Demand Management (“CDM”) program that is being offered in BHI’s service area.

1.2 TOU Pricing

1.2.1 Background

In its April 26, 2012 CDM Guidelines, the OEB recognizes that a portion of the aggregate electricity demand target was intended to be attributable to savings achieved through the implementation of TOU Pricing. The OEB establishes TOU prices and has made the implementation of this pricing mechanism mandatory for distributors. On this basis, the OEB has determined that distributors will not have to file a Board-Approved CDM program application regarding TOU pricing. The OEB has deemed the implementation of TOU pricing to be a Board-Approved CDM program for the purposes of achieving the CDM targets. The costs associated with the implementation of TOU pricing are recoverable through distribution rates, and not through the Global Adjustment Mechanism (“GAM”).

In accordance with a Directive dated March 31, 2010 by the Minister of Energy and Infrastructure, the OEB is of the view that any evaluations of savings from TOU pricing should be conducted by the Ontario Power Authority (OPA) for the province, and then allocated to distributors. BHI will report these results upon receipt from the OPA. As of September 30, 2012, the OPA has not released its preliminary results of TOU savings to distributors. Therefore BHI is not able to provide any verified savings related to BHI’s TOU program at this time.

1.2.2 TOU Program Description

Target Customer Type(s): Residential and small business customers (up to 250,000 kWh per year).

Initiative Frequency: Year round

Objectives: TOU pricing is designed to incent the shifting of energy usage. Therefore peak demand reductions are expected and energy conservation benefits may also be realized.

Description: In August of 2010, the OEB issued a final determination to mandate TOU pricing for Regulated Price Plan (“RPP”) customers by June 2011, in order to support the Government’s expectation for 3.6 million RPP consumers to be on TOU pricing by June 2011, and to ensure that smart meters funded at ratepayer expense are being used for their intended purpose.

The RPP TOU price is adjusted twice annually by the OEB. A summary of the RPP TOU pricing is provided below:

RPP TOU	Rates (cents/kWh)		
	On Peak	Mid Peak	Off Peak
Effective Date			
November 1, 2010	9.9	8.1	5.1
May 1, 2011	10.7	8.9	5.9
November 1, 2011	10.8	9.2	6.2
May 1, 2012	11.7	10.0	6.5

Delivery: The OEB sets the rates; LDCs install and maintain the smart meters; LDCs convert customers to TOU billing.

Initiative Activities/Progress:

Starting January 1st, 2012, BHI began transitioning 37,449 RPP customers to TOU billing.

1.3 Burlington Hydro Inc.’s Application with the OEB

At this time, the implementation of Time-of-Use (“TOU”) Pricing is the only Board-Approved Conservation and Demand Management (“CDM”) program that is being offered in BHI’s service area.

2 OPA-Contracted Province-Wide CDM Programs

2.1 Introduction

Effective March 2, 2011 BHI entered into an agreement with the OPA to deliver CDM programs extending from January 1, 2011 to December 31, 2014, which are listed below. In addition, results will be reported from projects started pre-2011 which completed in 2011:

Initiative	Schedule	Date schedule posted	Customer Class
Residential Program			
Appliance Retirement	Schedule B-1, Exhibit D	Jan 26 2011	All residential rate classes
Appliance Exchange	Schedule B-1, Exhibit E	Jan 26 2011	All residential rate classes
HVAC Incentives	Schedule B-1, Exhibit B	Jan 26 2011	All residential rate classes
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	Jan 26 2011	All residential rate classes
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	Jan 26 2011	All residential rate classes
Retailer Co-op		Jan 26 2011	All residential rate classes
Residential Demand Response	Schedule B-3	Aug 22 2011	All general service classes
New Construction Program	Schedule B-2	Jan 26 2011	All residential rate classes
Commercial & Institutional Program			
Efficiency: Equipment Replacement	Schedule C-2	Jan 26 2011	All general service classes
Direct Install Lighting	Schedule C-3	Jan 26 2011	General Service < 50 kW
Existing Building Commissioning Incentive	Schedule C-6	Feb 2011	All general service classes
New Construction and Major Renovation Initiative	Schedule C-4	Feb 2011	All general service classes
Energy Audit	Schedule C-1	Jan 26, 2011	All general service classes
Commercial Demand Response (part of the Residential program schedule)	Schedule B-3	Jan 26, 2011	All general service classes
Demand Response 3 (part of the Industrial program schedule)	Schedule D-6	May 31, 2011	General Service 50 kW & above
Industrial Program			
Process & System Upgrades	Schedule D-1	May 31, 2011	General Service 50 kW &

			<i>above</i>
Monitoring & Targeting	Schedule D-2	<i>May 31, 2011</i>	<i>General Service 50 kW & above</i>
Energy Manager	Schedule D-3	<i>May 31, 2011</i>	<i>General Service 50 kW & above</i>
Key Account Manager (KAM)	Schedule D-4	<i>May 31, 2011</i>	<i>General Service 50 kW & above</i>
Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Schedule C-2	<i>May 31, 2011</i>	<i>General Service 50 kW & above</i>
Demand Response 3	Schedule D-6	<i>May 31, 2011</i>	<i>General Service 50 kW & above</i>
Home Assistance Program			
Home Assistance Program	Schedule E-1	<i>May 9, 2011</i>	<i>All residential rate classes</i>
Pre-2011 Programs completed in 2011			
Electricity Retrofit Incentive Program	n/a	<i>n/a</i>	<i>All general service classes</i>
High Performance New Construction	n/a	<i>n/a</i>	<i>All general service classes</i>
Toronto Comprehensive	n/a	<i>n/a</i>	<i>All general service classes</i>
Multifamily Energy Efficiency Rebates	n/a	<i>n/a</i>	<i>All general service classes</i>
Data Centre Incentive Program	n/a	<i>n/a</i>	<i>All general service classes</i>
EnWin Green Suites	n/a	<i>n/a</i>	<i>All general service classes</i>

Several Initiatives that were included in the schedules were not in market in 2011. The OPA has communicated that the Initiatives listed in the table below were not in market in 2011 and that they represent a very small percentage of the forecasted energy and demand savings. During the 2011 program year, the OPA placed emphasis on supporting the implementation of Initiatives believed to offer the greatest ratepayer value and greatest amount of persisting savings.

Initiative Not in Market in 2011	Objective	Status
Residential Program		
Midstream Electronics	The objective of this initiative is to encourage retailers to promote, and sell, high efficiency televisions, and for distributors to distribute high efficiency set top boxes.	Not launched to market
Midstream Pool Equipment	The objective of this Initiative is to encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools.	Not launched to market
First Nations Program	First Nations programs are delivered by the OPA and results are attributed to LDCs for reporting.	Not launched to market
Home Energy Audit Tool	This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs.	Not launched to market
Commercial & Institutional Program		
Direct Service Space Cooling	The objective of this Initiative is to offer free servicing of air conditioning systems and refrigeration units for the purpose of achieving energy savings and demand reduction.	Not launched to market in 2011. As per the OPA, there are no plans to launch this Initiative 2012.
Demand Response 1 (DR1)	This Initiative allows distribution customers to voluntarily reduce electricity demand during certain periods of the year pursuant to the DR 1 contract. The Initiative provides DR payment for the actual electricity reduction provided during a demand response event.	No customer uptake for this Initiative
Industrial Program		
Demand Response 1 (DR1)	As above	No customer uptake for this Initiative

The Master CDM Program Agreement includes a program change management provisions in Article 3. Collaboration between the OPA and the Local Distribution Companies (LDCs) commenced in 2011 as the change management process was implemented to enhance the saveONenergy program suite. The change management process allows for modifications to the Master Service Agreement and Initiative Schedules. The program enhancements give LDCs additional tools and greater flexibility to deliver programs in a way that meets the needs of customers and further drives participation in the Initiatives.

2.2 Program Descriptions

2.2.1 RESIDENTIAL PROGRAM

2.2.1.1 APPLIANCE RETIREMENT INITIATIVE (Exhibit D)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

Objectives: Achieve energy and demand savings by permanently decommissioning certain older inefficient refrigeration appliances.

Description: This is an energy efficiency Initiative that offers individuals and businesses free pick-up and decommissioning of old large refrigerators and freezers. Window air conditioners and portable dehumidifiers will also be picked up if a refrigerator or a freezer is being collected.

Targeted End Uses: Large refrigerators, large freezers, window air conditioners and portable dehumidifiers.

Delivery: OPA centrally contracts for the province-wide marketing, call centre, appliance pick-up and decommissioning process. BHI provides local marketing and coordination with municipal pick-up where available.

Additional detail is available:

- Schedule B-1, Exhibit D
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer/Programs/Appliance-Retirement.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through bill inserts, direct mail, brochures, newspaper advertisements, radio advertising and local community events.

In Market Date: January 2011

Lessons Learned:

- The Appliance Retirement Initiative (previously The Great Refrigerator Round-Up) has been offered by LDCs since 2007. This Initiative is approaching market saturation.

- While the OPA and the LDCs have reviewed this Initiative to assess whether to include other products, appliances have a natural life cycle and the Initiative cannot be expected to continually deliver the high level of results in perpetuity. As per the OPA, these lower expectations have been taken into account when developing conservation portfolios.
- This Initiative now faces some competition from independent retailers and municipalities.
- Results are very responsive to province wide advertising.

2.2.1.2 APPLIANCE EXCHANGE INITIATIVE (Exhibit E)

Target Customer Type(s): Residential Customers

Initiative Frequency: Spring and Fall

Objective: The objective of this Initiative is to remove and permanently decommission older, inefficient window air conditioners and portable dehumidifiers.

Description: This Initiative involves appliance exchange events. Exchange events are held at local retail locations and customers are encouraged to bring in their old room air conditioners (AC) and dehumidifiers in exchange for coupons/discounts towards the purchase of new energy efficient equipment.

Targeted End Uses: Window air conditioners and portable dehumidifiers

Delivery: OPA contracts with participating retailers for collection of eligible units. BHI provides local marketing.

Additional detail is available:

- Schedule B-1, Exhibit C
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through local community events. OPA provided province-wide marketing.

In Market Date: March 2011

Lessons Learned:

- The Spring event had the participation of 3 retailers with 300 – 400 locations across the province. However, the Fall 2011 event had no retailer participation, therefore savings anticipated by BHI did not materialize.
- Evaluation, Measurement, and Verification (EMV) results indicated that the value of savings for retired room ACs has dropped.
- The Initiative may be achieving market saturation.
- The type of unit turned in is very dependent upon what is promoted by the retailers.
- Limited engagement of local franchised retailers can restrict the savings potential for this Initiative.

2.2.1.3 HVAC INCENTIVES INITIATIVE (Exhibit B)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to encourage the replacement of existing heating systems with high efficiency furnaces equipped with Electronically Commutated Motors (ECM), and to replace existing central air conditioners with ENERGY STAR qualified systems and products.

Description: This is an energy efficiency Initiative that provides rebates for the replacement of old heating or cooling systems with high efficiency furnaces (equipped with ECM) and Energy Star qualified central air conditioners by approved Heating, Refrigeration, and Air Conditioning Institute (HRAI) qualified contractors.

Targeted End Uses: Central air conditioners and furnaces

Delivery: OPA contracts centrally for delivery of the program. BHI provides local marketing and encourages local contractors to participate in the Initiative.

Additional detail is available:

- Schedule B-1, Exhibit B
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through bill inserts, brochures, newspaper advertisements, radio advertising and local community events.

In Market Date: February 2011

Lessons Learned:

- Channel engagement is a highly effective method of connecting with customers; however channel partners require timeliness of the Rebate process to maintain a positive relationship between consumers, contractors, the OPA, and the participating LDC.
- There appears to be spillover from non-HRAI contractors who are ineligible for this Initiative. There are cases where smaller independent contractors are offering their own incentives (by discounting their installations to match the value of the OPA incentive) to make the sale. As this occurs outside of the Initiative, these installations are not being attributed to any LDC.

2.2.1.4 CONSERVATION INSTANT COUPON BOOKLET INITIATIVE (Exhibit A)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to encourage households to purchase energy efficient products by offering discounts.

Description: This Initiative provides customers with year round coupons. The coupons offer instant rebates towards the purchase of a variety of low cost, easy to install energy efficient measures and can be redeemed at participating retailers. Booklets were directly mailed to customers and were also available at point-of-purchase. Downloadable coupons were also available at www.saveonenergy.ca.

Targeted End Uses: ENERGY STAR® qualified standard compact fluorescent lights (CFLs), ENERGY STAR® qualified light fixtures, lighting control products, weather stripping, hot water pipe wrap, electric water heater blanket, heavy duty plug-in timers, advanced power bars, clotheslines, baseboard programmable thermostats.

Delivery: The OPA contracts centrally for the distribution of the coupon booklets across Ontario. BHI distributes coupons at local events and markets the Initiative locally. The OPA enters into agreements with retailers to honour the coupons.

Additional detail is available:

- Schedule B-1, Exhibit A
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through bill inserts, OPA supported direct mail, brochures, newspaper advertisements, radio advertising and local community events.

In Market Date: February 2011

Lessons Learned:

- The downloadable coupons proved to be more successful than the mailed out booklets.
- This Initiative may benefit from an enabler such as a Conservation Card / Loyalty Card to increase customer participation.
- The timeframe for retailer submission of redeemed coupons varies from retailer to retailer and in some cases has been lengthy. This delays the results reporting, which in turn limits the OPA and BHI's ability to react and respond to Initiative performance or changes in consumer behaviour.
- The Product list should be distinctive from the Bi-Annual Retailer Event Initiative in order to gain more consumer interest and uptake.
- Program evolution, including new products (for example, LED lighting) and review of incentive pricing for the coupon Initiatives, should be a regular activity to ensure continued consumer interest. To date this has not occurred.

2.2.1.5 BI-ANNUAL RETAILER EVENT INITIATIVE (Exhibit C)

Target Customer Type(s): Residential Customers

Initiative Frequency: Bi-annual events

Objective: The objective of this Initiative is to provide instant point of purchase discounts to individuals at participating retailers for a variety of energy efficient products.

Description: Twice a year (Spring and Fall), participating retailers host month-long rebate events. During the months of April and October, customers are encouraged to visit participating retailers where they can find coupons redeemable for instant rebates towards a variety of low cost, easy to install energy efficient measures.

Targeted End Uses: ENERGY STAR® qualified standard compact fluorescent lights (CFLs), ENERGY STAR® qualified light fixtures, lighting control products, weather stripping, hot water pipe wrap, electric water heater blanket, heavy duty plug-in timers, advanced power bars, clothesline, baseboard programmable thermostats.

Delivery: The OPA enters into arrangements with participating retailers to promote the discounted products, and to post and honour related coupons. BHI also refers retailers to the OPA and markets this Initiative locally.

Additional detail is available:

- Schedule B-1, Exhibit C
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through local community events. OPA provided province-wide marketing.

In Market Date: March 2011

Lessons Learned:

- The Product list has changed very little over the past four years.
- Program evolution, including new products (for example, LED lighting) and review of incentive pricing for the coupon Initiatives, must be a regular activity to ensure continued consumer interest. To date this has not occurred.
- The Product list should be distinctive from the Conservation Instant Coupon Booklet Initiative in order to gain more consumer interest and uptake.
- A review conducted by the Residential Working Group in Q4 2011 identified three areas of need for Initiative evolution: 1) introduction of product focused marketing; 2) enhanced product selection and 3) improved training for retailers.
- Limited engagement of local franchised retailers can restrict the savings potential for this Initiative.

2.2.1.6 RETAILER CO-OP

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

Objective: Hold promotional events to encourage customers to purchase energy efficiency measures (and go above-and-beyond the traditional Bi-Annual Coupon Events).

Description: The Retailer Co-op Initiative provides LDCs with the opportunity to work with retailers in their service area by holding special events at retail locations. These events are typically special promotions that encourage customers to purchase energy efficiency measures (and go above-and-beyond the traditional Bi-Annual Coupon Events).

Targeted End Uses: : ENERGY STAR® qualified standard compact fluorescent lights (CFLs), ENERGY STAR® qualified light fixtures, lighting control products, weather stripping, hot water pipe wrap, electric water heater blanket, heavy duty plug-in timers, advanced power bars, clothesline, baseboard programmable thermostats.

Delivery: Retailers apply to the OPA for co-op funding to run special promotions that promote energy efficiency to customers in their stores. BHI can refer retailers to the OPA.

Initiative Activities/Progress:

BHI was unable to participate in retailer co-op events in 2011 due to lack of retailer participation.

In Market Date: January 2011

Lessons Learned:

- Retail promotion has unique staffing requirements (product knowledge, availability during prime retail hours, etc.) This function is best served through outsourcing.
- Non-independent retailers often lack local autonomy and decision making capability. As such they may wish to participate in co-op events but are constrained by head office policy.

2.2.1.7 NEW CONSTRUCTION PROGRAM (Schedule B-2)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to provide incentives to participants for the purpose of promoting the construction of energy efficient residential homes in the Province of Ontario.

Description: This is an energy efficiency Initiative that provides incentives to homebuilders for constructing new homes that are efficient, smart, and integrated (applicable to new single family dwellings). Incentives are provided in two key categories as follows:

- Incentives for homebuilders who install electricity efficiency measures as determined by a prescriptive list or via a custom option.
- Incentives for homebuilders who meet or exceed aggressive efficiency standards using the EnerGuide performance rating system.

Targeted End Uses: All-off switch, ECM motors, ENERGY STAR qualified central a/c, lighting control products, lighting fixtures, Energuide 83 whole home, Energuide 85 whole homes

Delivery: Local engagement of builders will be the responsibility of the LDC and will be supported by OPA media coverage driving builders to their LDC for additional information.

Additional detail is available:

- Schedule B-1, Exhibit C
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-2%20New%20Construction%20Program.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through bill inserts, OPA supported direct mail, brochures, newspaper advertisements, radio advertising and local community events.

Lessons Learned:

- There were no participants in the program in Burlington. Because the online application system is a one to one relationship, this program was only practical for custom builders who were building one home at a time. Tract builders who might build 250 homes in a single phase would have to submit 250 applications to qualify for incentives. This administrative challenge has deterred all tract builders from participating in the program to date.
- The perceived benefit to builders relative to the application process is small and has led to low uptake of this program.

2.2.1.8 RESIDENTIAL DEMAND RESPONSE PROGRAM (Schedule B-3)

Target Customer Type(s): Residential and Small Commercial Customers

Initiative Frequency: Year round

Objective: The objectives of this Initiative are to enhance the reliability of the IESO-controlled grid by accessing and aggregating specified residential and small commercial end users for the purpose of load

reduction, increasing consumer awareness of the importance of reducing summer demand and providing consumers their current electricity consumption and associated costs.

Description: In *peaksaver*PLUS™ participants are eligible to receive a free programmable thermostat or switch, including installation. Participants also receive access to price and real-time consumption information on an In Home Display (IHD). BHI continued to offer the standard load control program with a programmable thermostat and a \$25 cheque for the first 8 months of 2011 (referred to as *peaksaver*®Extension). After August 2011, the Extension ended and the program (including marketing) ceased until new IHD products were available.

Targeted End Uses: Central air conditioning, electric hot water heaters and pool pumps

Delivery: BHI recruits customers and procures technology supported by a third party vendor

Additional detail is available:

- Schedule B-1, Exhibit C
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/SCHED_2011_ResDR_B_3_110727%28MJB%29v15_redacted.pdf and
- SaveONenergy website <https://saveONenergy.ca/Consumer.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through bill inserts, OPA supported direct mail, brochures, newspaper advertisements, radio advertising and local community events.

In Market Date:

Peaksaver Extension – March 2011 to August 2011

Peaksaver Plus – March 2012

Lessons Learned:

- *peaksaver*Plus became available in August 2011. The product procurement process uncovered that the In Home Display units that communicate with installed smart meter technology were still in development and not ready for market deployment. Consequently, BHI was unable to deploy this program in 2011.
- Introduction of new technology requires incentives for the development of such technology. Appropriate lead times for BHI analysis and assessment, product procurement, and testing and integration into the Smart Meter environment are also required.
- Where a provincial solution is not available to all participants, attention to addressing specific BHI concerns is needed.

- Given the different LDCs smart meter environments, greater program flexibility is required to address unique LDC needs.

2.2.2 COMMERCIAL AND INSTITUTIONAL PROGRAM

2.2.2.1 EFFICIENCY: EQUIPMENT REPLACEMENT INCENTIVE (ERII) (Schedule C-2)

Target Customer Type(s): Commercial, Institutional, Agricultural and Industrial Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to offer incentives to non-residential distribution customers to achieve reductions in electricity demand and consumption by upgrading to more energy efficient equipment for lighting, space cooling, ventilation and other measures.

Description: The Equipment Replacement Incentive Initiative (ERII) offers financial incentives to customers for the upgrade of existing equipment to energy efficient equipment. Upgrade projects can be classified into either: 1) prescriptive projects where prescribed measures replace associated required base case equipment; 2) engineered projects where energy and demand savings and incentives are calculated for associated measures; or 3) custom projects for other energy efficiency upgrades.

Targeted End Uses: Lighting, space cooling, ventilation and other measures

Delivery: LDC delivered.

Additional detail is available:

- Schedule C-2
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-2%20ERII%20Initiative.pdf and
- SaveONenergy website <https://saveONenergy.ca/Business/Program-Overviews/Retrofit-for-Commercial.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through, direct mail, brochures, BHI sponsored seminars, workshops and direct sales initiatives.

In Market Date: March 2011

Lessons Learned:

- ERII (previously Equipment Replacement Incentive Program – ERIP) has been offered by LDCs for many years. It is a high performing, cost-effective program, and there were many pre-2011 projects completing in 2011 (via ERIP).
- Many customers became frustrated with the transition from ERIP to ERII. ERIP terminated on December 31, 2010. Customers who were unable to submit applications prior to that date experienced frustration and lack of clarity as to the transition process to ERII.
- A major challenge for the ERII program in 2011 was payment delays. The centralized electronic processes were not ready as required by the Master Agreement. The lack of having these automated processes, exasperated by a greater than expected volume of pre-2011 projects completing in 2011, caused considerable payment delays. As a result, LDCs either utilized their working capital to pay customer incentives in order to preserve customer relations, or delayed payment to their customers. Based on the lessons learned in the 2011 process, the centralized process review used for 2012 project payment has been streamlined by the OPA.
- In March 2011, the revised iCON system was launched by the OPA. This is the major online application system implemented to aid the 2011-2014 ERII application process. With system applications of this size and functionality, it was expected that there would be various issues identified at the time of the release, and on-going, to prove that the system was “ready for market.” Unfortunately, the resolution of these issues, with the corresponding time lags and workarounds, was seen to be a barrier to significant customer participation in the 2011 program year. In addition, there were also on-going issues and limitations with the back-end CRM system that affected the LDCs ability to effectively review and approve applications. Given these difficulties, some LDCs (and their third party service providers) have needed to develop parallel systems to monitor their applications.

2.2.2.2 DIRECT INSTALL INITIATIVE (DIL) (Schedule C-3)

Target Customer Type(s): Small Commercial, Institutional, Agricultural facilities and multi-family buildings

Initiative Frequency: Year round

Objective: The objective of this Initiative is to offer a free installation of eligible lighting and water heating measures of up to \$1,000 to eligible owners and tenants of commercial, institutional, agricultural and multi-family facilities, for the purpose of achieving electricity and peak demand savings.

Description: The Direct Installed Lighting Initiative targets customers in the General Service <50kW account category. This Initiative offers turnkey lighting and electric hot water heater measures with a value up to \$1,000 at no cost to qualifying small businesses. In addition, standard prescriptive incentives are available for eligible equipment beyond the initial \$1,000 limit.

Target End Uses: Lighting and electric water heating measures

Delivery: Participants can enroll directly with the LDC, or would be contacted by the LDC/LDC-designated representative.

Additional detail is available:

- Schedule C-3
<http://www.powerauthority.on.ca/sites/default/files/page/Schedule%20C-3%20Direct%20Install%20Initiative%20-%20redacted.pdf> and
- SaveONEnergy website <https://saveONEnergy.ca/Business.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through brochures, trade magazine advertisements, local community events and direct sales initiatives.

In Market Date: March 2011

Lessons Learned:

- The Direct Installed Lighting Initiative is a continuation of the Power Saving Blitz Initiative offered by BHI from 2008-2010. Successful execution of the previous rendition of this Initiative has resulted in diminished potential for the 2011-2014 Initiative in BHI's distribution territory.
- The inclusion of a standard incentive for additional measures increased project size and drove higher energy and demand savings results in some situations.
- Currently LDCs are unable to offer these standard incentives to prior participants. The ability to return to prior participants and offer a standard incentive on the remaining measures has the potential to provide additional energy and demand savings.
- As with the equipment replacement program, the direct install Initiative lost momentum in some LDC service territories due to the "hard stop" of the program in 2010 and subsequent program delay in 2011.
- The cost of certain lighting materials has increased, resulting in some of the standard measures becoming economically unviable.
- To address these issues, the LDCs have been working with the OPA through Change Management to address:
 - extending the target Initiative population to include small agricultural customers;
 - increasing the incentive envelope of \$1,000 to \$1,500 to ensure ongoing marketability of the program; and

- reviewing the eligible measure price list to support contractor participation.
- Installation of CFL measures bring little value to LDCs as they lack persistence under the OPA EM&V Protocol.

2.2.2.3 EXISTING BUILDING COMMISSIONING INCENTIVE INITIATIVE (Schedule C-6)

Target Customer Type(s): Commercial, Institutional, and Agricultural Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to offer incentives for optimizing (but not replacing) existing chilled water systems for space cooling in non-residential facilities for the purpose of achieving implementation phase energy savings, implementation phase demand savings, or both.

Description: This Initiative offers Participants incentives for the following:

- scoping study phase
- investigation phase
- implementation phase
- hand off/completion phase

Targeted End Uses: Chilled water systems for space cooling

Delivery: LDC delivered.

Additional detail is available:

- Schedule C-6
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-6%20Commissioning%20Initiative.pdfand
- SaveONenergy website <https://saveONenergy.ca/Business/Program-Overviews/Existing-Building-Commissioning.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through direct mail, brochures, BHI sponsored seminars, workshops and direct sales initiatives.

In Market Date: February 2011

Lessons Learned:

- There was no customer uptake for this Initiative. BHI's distribution territory has a limited number of chilled water systems used for space cooling. The majority of space cooling is provided through packaged refrigeration or roof-top equipment.
- Customers tend to rely on their service contractors to recommend efficiency upgrades to existing chilled water systems.
- Due to the high capital cost associated with chilled water systems, customers tend to replace systems only when existing equipment fails or is at the end of its useful life. Replacement or major upgrades for the purposes of securing energy savings are typically associated with unacceptable paybacks.

2.2.2.4 NEW CONSTRUCTION AND MAJOR RENOVATION INITIATIVE (HPNC) (Schedule C-4)

Target Customer Type(s): Commercial, Institutional, Agricultural and Industrial Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to encourage builders of commercial, institutional, and industrial buildings (including multi-family buildings and agricultural facilities) to reduce electricity demand and/or consumption by designing and building new buildings with more energy-efficient equipment and systems for lighting, space cooling, ventilation and other Measures.

Description: The New Construction Initiative provides incentives for new buildings to exceed existing codes and standards for energy efficiency. The Initiative uses both a prescriptive and custom approach.

Targeted End Uses: New building construction, using measures such as building modeling, lighting, space cooling, ventilation and other Measures

Delivery: LDC delivers to customers and design decision makers.

Additional detail is available:

- Schedule C-4
<http://www.powerauthority.on.ca/sites/default/files/page/ScheduleC-4NewConstructionInitiativeV2.pdf> and
- SaveONEnergy website <https://saveONenergy.ca/Business/Program-Overviews/New-Construction.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through, direct mail, brochures, BHI sponsored seminars, workshops, direct sales initiatives and through outsourcing program delivery to Enbridge.

In Market Date: June 2011

Lessons Learned:

- This is a continuation of the High Performance New Construction program previously delivered by Enbridge Gas under contract with the OPA (and subcontracted to Union Gas), which ran until December 2010.
- For 2011, new industry participation was limited due to certain aspects of the Initiative, and the delays in redesign, such as:
 - 2011 prescriptive incentives needed to be aligned with ERII incentives.
 - In the cases of delivering large projects (i.e. custom applications), 2011 participation was limited due to 1) building code changes and 2) level of documentation required.
 - The effort required to participate in the program exceeded the value of the incentives.
- There is typically a long sales cycle for these projects, and then a long project development cycle. As the program did not launch until mid-2011 and had limited participation, results did not appear in 2011. Minimum results are expected to appear in 2012. The majority of the results are expected in 2013-2014, with a reduced benefit to cumulative energy savings targets.
- Currently facilities must be substantially completed by the programs “hard stop” date of December 31, 2014. As these buildings have long lead times, there is a limited window of opportunity for interested participants to access the program.
- With no transition contingencies in place, facilities with a completion date near the end of 2014 currently have no security that they will be compensated for choosing efficient measures. As such, many customers choose not to take the financial risk and construct to standard building code. This Initiative should be assessed for a streamlined program transition or extension beyond 2014.
- BHI outsourced delivery of the program to Enbridge, the incumbent provider. This proved to be highly efficient as very little continuity was lost with respect to projects that had commenced prior to 2011 and Enbridge proved to be very familiar with the upcoming projects as well as their designers.

2.2.2.5 ENERGY AUDIT INITIATIVE (Schedule C-1)

Target Customer Type(s): Commercial, Institutional, Agricultural and Industrial Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to offer incentives to owners and lessees of commercial, institutional, multi-family buildings and agricultural facilities for the purpose of undertaking assessments to identify all possible opportunities to reduce electricity demand and consumption within their buildings or premises.

Description: This Initiative provides participants incentives for the completion of energy audits of electricity consuming equipment located in the facility. Energy audits include development of energy baselines, use assessments and performance monitoring and reporting.

Targeted End Uses: Various

Delivery: BHI delivered.

Additional detail is available:

- Schedule C-1
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-1%20Energy%20Audit%20Initiative.pdf and
- SaveONenergy website <https://saveONenergy.ca/Business/Program-Overviews/Audit-Funding.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through, direct mail, brochures, BHI sponsored seminars, workshops and direct sales initiatives.

In Market Date: June 2011

Lessons Learned:

- Customer uptake in 2011 was limited.
- The energy audit Initiative is considered an 'enabling' Initiative. There are no savings attributed to LDC targets from an audit. In addition, BHI found that audits did not necessarily lead to project implementation. As an alternative, BHI provided resources to help customers identify conservation measures, establish their cost and potential energy savings and to estimate the incentives available. This was found to bring projects to market faster.

- LDCs and participants would benefit from a greater connection with other saveONenergy Initiatives as a result of completing the Energy Audit. The Initiative should be reviewed under Change Management for the means to readily incent Participants with Audits in hand to implement other electricity savings Initiatives.

2.2.3 INDUSTRIAL PROGRAM

2.2.3.1 PROCESS & SYSTEMS UPGRADES INITIATIVE (PSUI) (Schedule D-1)

Target Customer Type(s): Industrial, Commercial, Institutional and Agricultural Customers

Initiative Frequency: Year round

Objectives: The objectives of this Initiative are to:

- Offer customers capital incentives and enabling Initiatives to assist with the implementation of large projects and project portfolios;
- Implement system optimization projects in systems which are intrinsically complex and capital intensive; and
- Increase the capability of customers to implement energy management and system optimization projects.

Description: PSUI is an energy management Initiative that includes three Initiatives: (preliminary engineering study, detailed engineering study, and project incentive Initiative). The incentives are available to large distribution connected customers with projects or portfolio projects that are expected to generate at least 350 MWh of annualized electricity savings or, in the case of Micro-Projects, 100 MWh of annualized electricity savings. The capital incentive for this Initiative is the lowest of:

- a) \$200/MWh of annualized electricity savings
- b) 70% of projects costs
- c) A one year pay back

Targeted End Uses: Process and systems

Delivery: LDC delivered with Key Account Management support, in some cases.

Additional detail is available:

- Schedule D-1
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_e

[lectricity_contracts/pdfs/Schedule%20D-1%20Process%20and%20Systems%20Upgrades%20Initiative.pdf](#) and

- SaveONenergy website <https://saveONenergy.ca/Business.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through direct mail, brochures, BHI sponsored seminars, workshops and direct sales initiatives.

In Market Date: November 2011

Lessons Learned:

- The PSUI program targets large customers that are undertaking large capital projects. There is typically a long sales cycle for these projects, and then a long project development cycle. As such, results did not appear in 2011. Limited results are expected to appear in 2012. The majority of the results are expected in 2013-2014, with a much reduced benefit to cumulative energy savings targets.
- The OPA retained Technical Reviewer, an integral component of this Initiative, was not in place until late Q4 2011, thereby limited 2011 program uptake. In 2012, the Technical Reviewer has successfully worked through the project backlog and provided timely project reviews and recommendations.
- Many customers expressed frustration with the application process and the requirement for energy audits. They felt that they could have implemented the projects faster if processes similar to ERII were available.
- Steps are being taken in the 2012 change management process to simplify and streamline the micro-project application process and to allow smaller projects to be directed to the ERII stream.
- Given the size of the projects involved, the contract required for PSUI is a lengthy and complicated document. Attempts are being made through change management in 2012 to simplify the document while still protecting the ratepayer.
- With the considerable customer interest in on-site Load Displacement (Co-Generation) projects, the Initiative should be reviewed to ensure that these projects continue to be accepted as part of the PSUI Initiative.

2.2.3.2 MONITORING & TARGETING INITIATIVE (Schedule D-2)

Target Customer Type(s): Industrial, Commercial, Institutional and Agricultural Customers

Initiative Frequency: Year round

Objective: This Initiative offers access to funding for the installation of Monitoring and Targeting systems in order to deliver a minimum savings target at the end of 24 months, and sustained for the term of the M&T Agreement.

Description: This Initiative offers customers funding for the installation of a Monitoring and Targeting system to help them understand how their energy consumption might be reduced. A facility energy manager, who regularly oversees energy usage, will now be able to use historical energy consumption performance to analyze and set targets.

Targeted End Uses: Large volume customers (Commercial, Institutional, Industrial)

Delivery: LDC delivered with Key Account Management support, in some cases.

Additional detail is available:

- Schedule D-2
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-2%20Monitoring%20and%20Targeting%20Initiative.pdf
and
- SaveONenergy website <https://saveONenergy.ca/Business.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through, direct mail, brochures, BHI sponsored seminars, workshops and direct sales initiatives.

In Market Date: November 2011

Lessons Learned:

- The M&T Initiative was originally targeted at larger customers with the capacity to review the M&T data. This review requires the customer facility to employ an Energy Manager, or a person with equivalent qualifications, which has been a barrier for some customers. In addition, the savings target required for this Initiative can present a significant challenge for smaller customers. Through the change management process in 2012, changes are being made to both the M&T schedule and ERII to allow smaller facilities to employ M&T systems.

2.2.3.3 ENERGY MANAGER INITIATIVE (Schedule D-3)

Target Customer Type(s): Industrial, Commercial, Institutional and Agricultural Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to provide customers and LDCs the opportunity to access funding for the engagement of energy managers in order to deliver a minimum annual savings target.

Description: This Initiative provides customers the opportunity to access funding to engage an on-site, full time embedded energy manager, or an off-site roving energy manager who is engaged by the LDC. The role of the energy manager is to take control of the facility's energy use by monitoring performance, leading awareness programs, and identifying opportunities for energy consumption improvement, and spearheading projects. Participants are funded 80% of the embedded energy manager's salary up to \$100,000 plus 80% of the energy manager's actual reasonable expenses incurred up to \$8,000 per year. Each embedded energy manager has a target of 300 kW/year of energy savings from one or more facilities. LDCs receive funding of up to \$120,000 for a Roving Energy Manager plus \$8,000 for expenses.

Targeted End Uses: Large volume customers (Commercial, Institutional, Industrial)

Delivery: LDC delivered with Key Account Management support, in some cases.

Additional detail is available:

- Schedule D-3
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-3%20Energy%20Manager%20Initiative%202011-2014.pdf and
- SaveONenergy website <https://saveONenergy.ca/Business.aspx>

Initiative Activities/Progress:

BHI offered general program management and customer service through, direct mail, brochures, BHI sponsored seminars, workshops and direct sales initiatives.

In Market Date: August 2011

Lessons Learned:

- BHI doesn't have customers who are conducive to hiring Energy Managers.
- BHI's proactive approach of assisting customers to identify conservation opportunities directly, led to little requirement for Energy Managers and faster project implementation.

2.2.3.4 KEY ACCOUNT MANAGER (KAM) (Schedule D-4)

Target Customer Type(s): Industrial, Commercial, Institutional and Agricultural Customers

Initiative Frequency: Year round

Objective: This Initiative offers LDCs the opportunity to access funding for the employment of a KAM in order to support them in fulfilling their obligations related to the PSUI.

Description: This Initiative provides LDCs the opportunity to utilize a KAM to assist their customers. The KAM is considered to be a key element in assisting the consumer in overcoming traditional barriers related to energy management and help them achieve savings since the KAM can build relationships and become a significant resource of knowledge to the customer.

Targeted End Uses: Large volume customers (Commercial, Institutional, Industrial)

Delivery: LDC delivered

Additional detail is available:

- ScheduleD-4
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/projects_programs/pdfs/PSUI%20Initiative%20Schedule%20D-4.Key%20Account%20Manager.20110322.pdf

Initiative Activities/Progress:

BHI provided this function through a commission based sales force.

In Market Date: August 2011

Lessons Learned:

- Customers appreciate dealing with a single contact to interface with an LDC, a resource that has both the technical and business background who can communicate easily with the customer and the LDC.
- Clear communication is required between LDC staff, delivery agents, KAMs and Energy Managers to ensure customers are not approached multiple times, by multiple individuals and become confused with regards to the programs and their point of contact for the Initiatives.
- As the KAM contracts are limited, and PSUI projects have long lead times, it is anticipated that customers may be left without the assistance of the KAM prior to project completion. As such, LDCs should be prepared with a transition plan to ensure their customers are adequately supported through to project completion. BHI prefers to liaise with customers directly, thus avoiding the potential for interruptions in provision of energy management advice.

2.2.3.5 DEMAND RESPONSE 3 (Schedule D-6)

Target Customer Type(s): Industrial, Commercial, Institutional and Agricultural Customers

Initiative Frequency: Year round

Objective: This Initiative provides for Demand Response (DR) payments to contracted participants to compensate them for reducing their electricity demand during a demand response event.

Description: Demand Response 3 (DR3) is a demand response Initiative for commercial and industrial customers, of 50 kW or greater, to reduce the amount of power being used during certain periods of the year. The DR3 Initiative is a contractual resource that is an economic alternative to procurement of new generation capacity. DR3 comes with specific contractual obligations requiring participants to reduce their use of electricity relative to a baseline when called upon. This Initiative makes payments for participants to be on standby and payments for the actual electricity reduction provided during a demand response event. Participants are scheduled to be on standby approximately 1,600 hours per calendar year for possible dispatch of up to 100 hours or 200 hours within that year depending on the contract.

Targeted End Uses: Commercial and Industrial Operations

Delivery: DR3 is delivered by Demand Response Providers (DRPs), under contract to the OPA. The OPA administers contracts with all DRPs and Direct Participants (who provide in excess of 5 MW of demand response capacity). OPA provides administration including settlement, measurement and verification, and dispatch. LDCs are responsible for local customer outreach and marketing efforts.

Additional detail is available:

- Schedule D-6
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-6%20Demand%20Response%203%202011-2014.pdf
and
- SaveONenergy website <https://saveONenergy.ca/Business.aspx>

Initiative Activities/Progress:

BHI procured a single DRP to act as a strategic partner to BHI to promote DR-3 in the community supported by direct mail, seminars, workshops and brochures

In Market Date: January 2011

It is noted that while the Schedule for this Initiative was not posted until May 2011, the Aggregators reported that they were able to enroll customers as of January 2011.

Lessons Learned:

- Customer data is not provided by the OPA on an individual customer basis due to contractual requirements with the aggregators. This limits LDCs' ability to effectively market to prospective participants and verify savings.
- By working directly with a single DRP, the effectiveness of the marketing and customer acquisition campaign has been enhanced.

2.2.3.6 DEMAND RESPONSE 1

Target Customer Type(s): Industrial, Commercial, Institutional and Agricultural Customers

Initiative Frequency: Year round

Objective: This Initiative provides for Demand Response (DR) payments to contracted participants to compensate them for reducing their electricity demand during a demand response event.

Description: Demand Response 1 (DR1) is a demand response Initiative for commercial and industrial customers, of 50 kW or greater, to reduce the amount of power being used during certain periods of the year. The DR1 Initiative is a contractual resource that is an economic alternative to procurement of new generation capacity. DR1 comes with minimal contractual obligations requiring participants to reduce their use of electricity relative to a baseline when called upon. This Initiative makes payments for participants to be on standby and payments for the actual electricity reduction provided during a demand response event.

Targeted End Uses: Commercial and Industrial Operations

Delivery: DR1 may be delivered by participants directly. OPA provides administration including settlement, measurement and verification, and dispatch. LDCs are responsible for local customer outreach and marketing efforts.

Initiative Activities/Progress:

BHI procured a single DRP to act as a strategic partner to BHI to promote DR-1 in the community supported by direct mail, seminars, workshops and brochures

In Market Date: January 2011

Lessons Learned:

- BHI spent considerable effort to attempt to enroll a multi-sited customer in the program but was unable to do so due to possible suspension of the program
- Customer data is not provided by the OPA on an individual customer basis due to contractual requirements with the aggregators. This limits LDCs' ability to effectively market to prospective participants and verify savings.
- By working directly with a single DRP, the effectiveness of the marketing and customer acquisition campaign has been enhanced.

2.2.4 LOW INCOME INITIATIVE (HOME ASSISTANCE PROGRAM) (Schedule E)

Target Customer Type(s): Income Qualified Residential Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to offer free installation of energy efficiency measures to income qualified households for the purpose of achieving electricity and peak demand savings.

Description: This is a turnkey Initiative for income qualified customers. It offers residents the opportunity to take advantage of free installation of energy efficient measures that improve the comfort of their home, increase efficiency, and help them save money. All eligible customers receive a Basic and Extended Measures Audit, while customers with electric heat also receive a Weatherization Audit. The Initiative is designed to coordinate efforts with gas utilities.

Targeted End Uses: End use measures based on results of audit (i.e. compact fluorescent light bulbs)

Delivery: LDC delivered.

Additional detail is available:

- Schedule E
<http://www.powerauthority.on.ca/sites/default/files/page/Low%20Income%20Schedule%20-%20redacted%20version.pdf>

Initiative Activities/Progress:

BHI offered general program management and customer service through outsourcing program delivery to Union Gas.

In Market Date: Not in market in 2011

Lessons Learned:

- Difficulty identifying eligible customers.
- This Initiative Schedule was finalized later (May 2011) than the rest of the OPA Initiatives and as a result, in 2011 only 2 LDCs were in market.
- Centralized payment processes were not developed in 2011. As a result, some LDCs delayed their launch to market or for some pulled out of the market until payment processes are completed.
- The financial scope, complexity, and customer privacy requirements of this Initiative resulted in a lengthy procurement process. Some LDCs must adhere to very transparent procurement processes which meant that delivery of the program did not start in 2011.

2.2.5 PRE-2011 PROGRAMS COMPLETED IN 2011

2.2.5.1 ELECTRICITY RETROFIT INCENTIVE PROGRAM

Target Customer Type(s): Commercial, Institutional, and Agricultural Customers

Initiative Frequency: Year round

Objective: Refer to section 2.2.2.1

Description: The Equipment Replacement Incentive Program (ERIP) offered financial incentives to customers for the upgrade of existing equipment to energy efficient equipment. This program was available in 2010 and allowed customers up to 11 months following Pre-Approval to complete their projects. As a result, a number of projects Pre-Approved in 2010 were not completed and in-service until 2011. The electricity savings associated with these projects are attributed to 2011.

Targeted End Uses: Electricity saving measures

Delivery: LDC delivered

2.2.5.2 HIGH PERFORMANCE NEW CONSTRUCTION

Target Customer Type(s): Commercial, Institutional, and Agricultural Customers

Initiative Frequency: Year round

Objective: Refer to Section 2.2.2.4

Description: The High Performance New Construction Initiative provided incentives for new buildings to exceed existing codes and standards for energy efficiency. The Initiative uses both a prescriptive and custom approach and was delivered by Enbridge Gas under contract with the OPA (and subcontracted to Union Gas), which ran until December 2010.

Targeted End Uses: New building construction, building modeling, lighting, space cooling, ventilation and other Measures

Delivery: Through Enbridge Gas (and subcontracted to Union Gas)

2.2.5.3 TORONTO COMPREHENSIVE INITIATIVE

Target Customer Type(s): Commercial and Institutional Customers

Initiative Frequency: Year round

Objective: n/a

Description: This Initiative is specific to Toronto Hydro's Service Area.

Targeted End Uses: n/a

Delivery: n/a

Initiative Activities/Progress: n/a

In Market Date: n/a

Lesson Learned: n/a

2.2.5.4 MULTIFAMILY ENERGY EFFICIENCY REBATES

Target Customer Type(s): Residential Multi-unit buildings

Initiative Frequency: Year round

Objective: Improve energy efficiency of multifamily buildings

Description: OPA's Multifamily Energy Efficiency Rebates (MEER) Initiative applies to multifamily buildings of six units or more, including rental buildings, condominiums, and assisted social housing. The OPA contracted with GreenSaver to deliver the MEER Initiative outside of the Toronto Hydro service territory. Activities delivered in Toronto were contracted with the City.

Similar to ERII and ERIP, MEER provides financial incentives for prescriptive and custom measures, but also funds resident education. Unlike ERII, where incentives are paid by the LDC, all incentives through MEER are paid through the contracted partner (i.e. GreenSaver).

Targeted End Uses: Electricity saving measures

Delivery: OPA contracted with Greensaver

2.2.5.5 DATA CENTRE INCENTIVE PROGRAM

Target Customer Type(s): n/a

Initiative Frequency: Year round

Objective: n/a

Description: This Initiative is specific to PowerStream's Service Area.

Targeted End Uses: n/a

Delivery: n/a

Initiative Activities/Progress: n/a

In Market Date: n/a

2.2.5.6 ENWIN GREEN SUITES

Target Customer Type(s): n/a

Initiative Frequency: n/a

Objective: n/a

Description: This Initiative is specific to EnWin's Service Area.

Targeted End Uses: n/a

Delivery: n/a

Initiative Activities/Progress: n/a

In Market Date: n/a

2.3 Participation

Table 1: Participation

Table 1: Participation ¹			
#	Initiative	Unit	Uptake/ Participation Units
Consumer Program			
1	Appliance Retirement	Appliances	985
2	Appliance Exchange	Appliances	32
3	HVAC Incentives	Equipment	2,683
4	Conservation Instant Coupon Booklet	Products	7,037
5	Bi-Annual Retailer Event	Products	11,973
6	Retailer Co-op	Products	0
7	Residential Demand Response	Devices	620
8	Residential New Construction	Houses	0
Business Program			
9	Efficiency: Equipment Replacement	Projects	34
10	Direct Install Lighting	Projects	82
11	Existing Building Commissioning Incentive	Buildings	0
12	New Construction and Major Renovation Incentive	Buildings	0
13	Energy Audit	Audits	2
14	Commercial Demand Response (part of the Residential program schedule)	Devices	0
15	Demand Response 3 (part of the Industrial program schedule)	Facilities	0
Industrial Program			
16	Process & System Upgrades	Projects ²	0
17	Monitoring & Targeting	Projects ³	0
18	Energy Manager	Managers ^{2,3}	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Projects	13
20	Demand Response 3	Facilities	1
Home Assistance Program			
21	Home Assistance Program	Homes	0
Pre 2011 Programs Completed in 2011			
22	Electricity Retrofit Incentive Program	Projects	71
23	High Performance New Construction	Projects	1
24	Toronto Comprehensive	Projects	0

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25	Multifamily Energy Efficiency Rebates	Projects	0
26	Data Centre Incentive Program	Projects	0
27	EnWin Green Suites	Projects	0

¹ Please see "Methodology" tab for more information regarding attributing savings to LDCs

² Results are based on completed incentive projects (see "Methodology" tab for more information)

³ Includes: Roving Energy Managers, Key Account Managers and Embedded Energy Managers if projects are completed in 2011

2.4 Spending

Table 2: Spending

#	Initiative	Program Administration Budget (PAB)	Participant Based Funding (PBF)	Participant Incentives (PI)	Capability Building Funding (CBF)	Total
Consumer Program						
1	Appliance Retirement	\$ 49,218.32	\$ -	\$ -	\$ -	\$ 49,218.32
2	Appliance Exchange	\$ 7,993.64	\$ -	\$ -	\$ -	\$ 7,993.64
3	HVAC Incentives	\$ 49,309.32	\$ -	\$ -	\$ -	\$ 49,309.32
4	Conservation Instant Coupon Booklet	\$ 32,497.97	\$ -	\$ -	\$ -	\$ 32,497.97
5	Bi Annual Retailer Event	\$ 8,687.76	\$ -	\$ -	\$ -	\$ 8,687.76
6	Retailer Co -Op	\$ -	\$ -	\$ -	\$ -	\$ -
7	Residential Demand Response	\$ 41,506.50	\$ -	\$ -	\$ -	\$ 41,506.50
8	New Construction Program	\$ 17,603.00	\$ -	\$ -	\$ -	\$ 17,603.00
Business Programs						
9	Efficiency:Equipment Replacement	\$ 141,702.83	\$ -	\$ 184,122.00	\$ -	\$ 325,824.83
10	Direct Installed Lighting	\$ 14,326.48	\$ 132,009.25	\$ -	\$ -	\$ 146,335.73
12	Existing Building Commissioning Incentive	\$ -	\$ -	\$ -	\$ -	\$ -
13	New Construction and Major Renovation Initiative	\$ 23,879.79	\$ -	\$ -	\$ -	\$ 23,879.79
14	Energy Audit	\$ 24,192.29	\$ -	\$ 3,300.00	\$ -	\$ 27,492.29
15	Commercial Demand Response	\$ -	\$ -	\$ -	\$ -	\$ -
16	Demand Response 3	See Demand Response 3 under Industrial Programs	\$ -	\$ -	\$ -	\$ -
Industrial Program						
17	Process and System Upgrade	\$ -	\$ -	\$ -	\$ -	\$ -
	a. preliminary study	\$ 503.79	\$ -	\$ -	\$ -	\$ 503.79
	b. engineering study	\$ 503.79	\$ -	\$ -	\$ -	\$ 503.79
	c. project incentive	\$ 503.79	\$ -	\$ -	\$ -	\$ 503.79
18	Monitoring & Targeting	\$ 503.79	\$ -	\$ -	\$ -	\$ 503.79
19	Energy Manager	\$ 503.79	\$ -	\$ -	\$ -	\$ 503.79
20	Demand Response 3	\$ 8,346.98	\$ -	\$ -	\$ -	\$ 8,346.98
21	Efficiency:Equipment Replacement	See Efficiency: Equipment Replacement under Business Programs	\$ -	\$ -	\$ -	\$ -
Home Assistance Program						
22	Home Assistance Program	\$ 2,061.18	\$ -	\$ -	\$ -	\$ 2,061.18
Pre 2011 Programs Completed in 2011						
23	Electricity Retrofit Incentive Program	\$ 53,477.78	\$ -	\$ 1,488,446.34	\$ -	\$ 1,541,924.12
24	High Performance New Construction	\$ -	\$ -	\$ -	\$ -	\$ -
25	Toronto Comprehensive	\$ -	\$ -	\$ -	\$ -	\$ -
26	Multi Family Energy Efficiency Rebates	\$ -	\$ -	\$ -	\$ -	\$ -
27	Data Centre Incentive Program	\$ -	\$ -	\$ -	\$ -	\$ -
28	EnWin Green Suites	\$ -	\$ -	\$ -	\$ -	\$ -
Total Province Wide CDM Programs		\$ 477,322.79	\$ 132,009.25	\$ 1,675,868.34	\$ -	\$ 2,285,200.38

Table 2a: Allocation of PAB funding for Programs Not In Market

#	Initiative	Program Administration Budget (PAB)
Initiatives Not in Market		
1	Mid Stream Electronics	
2	Midstream Pool Equipment	
3	Demand Service Space Cooling	
4	Demand Response 1 (Commercial)	
5	Demand Response 1 (Industrial)	1634.55
6	Home Energy Audit Tool	
Total Province- wide CDM Programs Not in Market		

2.5 Evaluation

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2.5.1 EVALUATION FINDINGS

Table 3: Evaluation Findings

Table 3: OPA Province-Wide Evaluation Findings		
#	Initiative	OPA Province-Wide Key Evaluation Findings
Consumer Program		
1	Appliance Retirement	<ul style="list-style-type: none"> * Overall participation continues to decline year over year <ul style="list-style-type: none"> * Participation declined 17% from 2010 (from over 67,000 units in 2010 to over 56,000 units in 2011) * 97% of net resource savings achieved through the home pick-up stream <ul style="list-style-type: none"> * Measure Breakdown: 66% refrigerators, 30% freezers, 4% Dehumidifiers and window air conditioners * 3% of net resource savings achieved through the Retailer pick-up stream <ul style="list-style-type: none"> * Measure Breakdown: 90% refrigerators, 10% freezers * Net-to-Gross ratio for the initiative was 50% <ul style="list-style-type: none"> * Measure-level free ridership ranges from 82% for the retailer pick-up stream to 49% for the home pick-up stream * Measure-level spillover ranges from 3.7% for the retailer pick-up stream to 1.7% for the home pick-up stream
2	Appliance Exchange	<ul style="list-style-type: none"> * Overall eligible units exchanged declined by 36% from 2010 (from over 5,700 units in 2010 to over 3,600 units in 2011) <ul style="list-style-type: none"> * Measure Breakdown: 75% window air conditioners, 25% dehumidifiers * Dehumidifiers and window air conditioners contributed almost equally to the net energy savings achieved <ul style="list-style-type: none"> * Dehumidifiers provide more than three times the energy savings per unit than window air conditioners * Window air conditioners contributed to 64% of the net peak demand savings achieved

		<ul style="list-style-type: none"> * Approximately 96% of consumers reported having replaced their exchanged units (as opposed to retiring the unit) * Net-to-Gross ratio for the initiative is consistent with previous evaluations (51.5%)
3	HVAC Incentives	<ul style="list-style-type: none"> * Total air conditioner and furnace installations increased by 14% (from over 95,800 units in 2010 to over 111,500 units in 2011) <ul style="list-style-type: none"> * Measure Breakdown: 64% furnaces, 10% tier 1 air conditioners (SEER 14.5) and 26% tier 2 air conditioners (SEER 15) * Measure breakdown did not change from 2010 to 2011 * The HVAC Incentives initiative continues to deliver the majority of both the energy (45%) and demand (83%) savings in the consumer program <ul style="list-style-type: none"> * Furnaces accounted for over 91% of energy savings achieved for this initiative * Net-to-Gross ratio for the initiative was 17% higher than 2010 (from 43% in 2010 to 60% in 2011) <ul style="list-style-type: none"> * Increase due in part to the removal of programmable thermostats from the program, and an increase in the net-to-gross ratio for both Furnaces and Tier 2 air conditioners (SEER 15)
4	Conservation Instant Coupon Booklet	<ul style="list-style-type: none"> * Customers redeemed nearly 210,000 coupons, translating to nearly 560,000 products <ul style="list-style-type: none"> * Majority of coupons redeemed were downloadable (~40%) or LDC-branded (~35%) * Majority of coupons redeemed were for multi-packs of standard spiral CFLs (37%), followed by multi-packs of specialty CFLs (17%) * Per unit savings estimates and net-to-gross ratios for 2011 are based on a weighted average of 2009 and 2010 evaluation findings * Careful attention in the 2012 evaluation will be made for standard CFLs since it is believed that the market has largely been transformed
5	Bi-Annual Retailer Event	<ul style="list-style-type: none"> * Customers redeemed nearly 370,000 coupons, translating to over 870,000 products <ul style="list-style-type: none"> * Majority of coupons redeemed were for multi-packs of standard spiral CFLs (49%), followed by multi-packs of specialty CFLs (16%)

		<ul style="list-style-type: none"> * Per unit savings estimates and net-to-gross ratios for 2011 are based on a weighted average of 2009 and 2010 evaluation findings * Standard CFLs and heavy duty outdoor timers were reintroduced to the initiative in 2011 and contributed more than 64% of the initiative's 2011 net annual energy savings * While the volume of coupons redeemed for heavy duty outdoor timers was relatively small (less than 1%), the measure accounted for 10% of net annual savings due to high per unit savings * Careful attention in the 2012 evaluation will be made for standard CFLs since it is believed that the market has largely been transformed.
6	Retailer Co-op	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake. Verified Bi-Annual Retailer Event per unit assumptions and free-ridership rates were used to calculate net resource savings
7	Residential Demand Response	<ul style="list-style-type: none"> * Approximately 20,000 new devices were installed in 2011 * 99% of the new devices enrolled controlled residential central AC (CAC) * 2011 only saw 1 atypical event (in both weather and timing) that had limited participation across the province * The ex ante impact developed through the 2009/2010 evaluations was maintained for 2011; residential CAC: 0.56 kW/device, commercial CAC: 0.64 kW/device, and Electric Water Heaters: 0.30 kW/device
8	Residential New Construction	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to limited uptake * Business case assumptions were used to calculate savings
Business Program		
9	Efficiency: Equipment Replacement	<ul style="list-style-type: none"> * Gross verified energy savings were boosted by lighting projects in the prescriptive and custom measure tracks * Lighting projects overall were determined to have a realization rate of 112%; 116% when including interactive energy changes * On average, the evaluation found high realization rates as a result of both longer operating hours and larger wattage reductions than initial assumptions

		<ul style="list-style-type: none"> * Low realization rates for engineered lighting projects due to overstated operating hour assumptions * Custom non-lighting projects suffered from process issues such as: the absence of required M&V plans, the use of inappropriate assumptions , and the lack of adherence to the M&V plan * The final realization rate for summer peak demand was 94% <ul style="list-style-type: none"> * 84% was a result of different methodologies used to calculate peak demand savings * 10% due to the benefits from reduced air conditioning load in lighting retrofits * Overall net-to-gross ratios in the low 70's represent an improvement over the 2009 and 2010 ERIP program where net-to-gross ratios were in the low 60's and low 50's, respectively. Strict eligibility requirements and improvements in the pre-approval process contributed to the improvement in net-to-gross ratios
10	Direct Install Lighting	<ul style="list-style-type: none"> * Though overall performance is above expectations, participation continues to decline year over year as the initiative reaches maturity * 70% of province-wide resource savings persist to 2014 <ul style="list-style-type: none"> * Over 35% of the projects for 2011 included at least one CFL measure * Resource savings from CFLs in the commercial sector only persist for the industry standard of 3 years * Since 2009 the overall realization rate for this program has improved <ul style="list-style-type: none"> * 2011 evaluation recorded the highest energy realization rate to date at 89.5% * The hours of use values were held constant from the 2010 evaluation and continue to be the main driver of energy realization rate * Lights installed in "as needed" areas (e.g., bathrooms, storage areas) were determined to have very low realization rates due to the difference in actual energy saved vs. reported savings

11	Existing Building Commissioning Incentive	* Initiative was not evaluated in 2011, no completed projects in 2011
12	New Construction and Major Renovation Incentive	* Initiative was not evaluated in 2011 due to low uptake * Assumptions used are consistent with preliminary reporting based on the 2010 Evaluation findings and consultation with the C&I Work Group (100% realization rate and 50% net-to-gross ratio)
13	Energy Audit	* The evaluation is ongoing. The sample size for 2011 was too small to draw reliable conclusions.
14	Commercial Demand Response (part of the Residential program schedule)	* See residential demand response (#7)
15	Demand Response 3 (part of the Industrial program schedule)	* See Demand Response 3 (#20)
Industrial Program		
16	Process & System Upgrades	* Initiative was not evaluated in 2011, no completed projects in 2011
17	Monitoring & Targeting	* Initiative was not evaluated in 2011, no completed projects in 2011
18	Energy Manager	* Initiative was not evaluated in 2011, no completed projects in 2011

19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	* See Efficiency: Equipment Replacement (#9)
20	Demand Response 3	<ul style="list-style-type: none"> * Program performance for Tier 1 customers increased with DR-3 participants providing 75% of contracted MW for both sectors * Industrial customers outperform commercial customers by provide 84% and 76% of contracted MW, respectively * Program continues to diversify but still remains heavily concentrated with less than 5% of the contributors accounting for the majority (~60%) of the load reductions. * By increasing the number of contributors in each settlement account and implementation of the new baseline methodology the performance of the program is expected to increase
Home Assistance Program		
21	Home Assistance Program	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake * Business Case assumptions were used to calculate savings
Pre-2011 Programs completed in 2011		
22	Electricity Retrofit Incentive Program	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings (multifamily buildings 99% realization rate and 62% net-to-gross ratio and C&I buildings 77% realization rate and 52% net-to-gross ratio)
23	High Performance New Construction	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings (realization rate of 100% and net-to-gross ratio of 50%)
24	Toronto	* Initiative was not evaluated

	Comprehensive	* Net-to-Gross ratios used are consistent with the 2010 evaluation findings
25	Multifamily Energy Efficiency Rebates	* Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings
26	Data Centre Incentive Program	* Initiative was not evaluated
27	EnWin Green Suites	* Initiative was not evaluated

2.5.2 EVALUATION RESULTS

Table 4: Summarized Program Results

Table 5: Summarized Program Results											
Program		Gross Savings		Net Savings		Contribution to Targets					
		Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)			Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)		
Consumer Program Total		1,680	3,550,400	1,159	2,339,146	809	9,351,224				
Business Program Total		502	2,261,512	407	1,784,258	386	7,077,066				
Industrial Program Total		1,072	559,520	893	436,820	76	1,603,472				
Home Assistance Program Total		0	0	0	0	0	0				
Pre-2011 Programs completed in 2011 Total		870	5,048,651	474	2,789,914	474	11,159,656				
Total OPA Contracted Province-Wide CDM Programs		4,125	11,420,083	2,932	7,350,138	1,745	29,191,418				
#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings		Contribution to Targets	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program											
1	Appliance Retirement	100%	100%	113	812,689	50%	51%	54	390,644	53	1,561,968
2	Appliance Exchange	100%	100%	6	6,532	52%	52%	3	3,367	1	11,413
3	HVAC Incentives	100%	100%	1,179	2,116,229	61%	60%	715	1,270,156	715	5,080,624
4	Conservation Instant Coupon Booklet	100%	100%	15	244,006	114%	112%	17	269,806	17	1,079,222
5	Bi-Annual Retailer Event	100%	100%	21	370,045	113%	110%	23	404,274	23	1,617,098
6	Retailer Co-op	-	-	0	0	-	-	0	0	0	0
7	Residential Demand Response	0%	0%	347	899	-	-	347	899	0	899
8	Residential New Construction	-	-	0	0	-	-	0	0	0	0
Business Program											
9	Efficiency: Equipment Replacement	91%	119%	398	1,950,239	74%	77%	295	1,495,230	295	5,980,918
10	Direct Install Lighting	108%	90%	105	311,273	93%	93%	112	289,029	92	1,096,148
11	Existing Building Commissioning Incentive	-	-	0	0	-	-	0	0	0	0
12	New Construction and Major Renovation Incentive	-	-	0	0	-	-	0	0	0	0
13	Energy Audit	-	-	0	0	-	-	0	0	0	0
14	Commercial Demand Response (part of the Residential program schedule)	0%	0%	0	0	-	-	0	0	0	0
15	Demand Response 3 (part of the Industrial program schedule)	76%	100%	0	0	n/a	n/a	0	0	0	0
Industrial Program											
16	Process & System Upgrades	-	-	0	0	-	-	0	0	0	0
17	Monitoring & Targeting	-	-	0	0	-	-	0	0	0	0
18	Energy Manager	-	-	0	0	-	-	0	0	0	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	89%	107%	103	511,584	74%	76%	76	388,884	76	1,555,536
20	Demand Response 3	84%	100%	969	47,936	n/a	n/a	817	47,936	0	47,936
Home Assistance Program											
21	Home Assistance Program	-	-	0	0	-	-	0	0	0	0
Pre-2011 Programs completed in 2011											
22	Electricity Retrofit Incentive Program	83%	85%	841	4,900,260	55%	56%	459	2,715,719	459	10,862,875
23	High Performance New Construction	100%	100%	29	148,391	50%	50%	14	74,195	14	296,781
24	Toronto Comprehensive	-	-	0	0	-	-	0	0	0	0
25	Multifamily Energy Efficiency Rebates	-	-	0	0	-	-	0	0	0	0
26	Data Centre Incentive Program	-	-	0	0	-	-	0	0	0	0
27	EnWin Green Suites	-	-	0	0	-	-	0	0	0	0

Assumes demand response resources have a persistence of 1 year

3 Combined CDM Reporting Elements

3.1 Progress Towards CDM Targets

Table 5: Net Peak Demand and Energy Savings at the End User Level

Progress Towards CDM Targets					
Results are attributed to target using current OPA reporting policies. Energy efficiency resources persist for the duration of the effective useful life. Any upcoming code changes are taken into account. Demand response resources persist for 1 year. Please see methodology tab for more detailed information.					
Yellow cells are intended for the LDC to input information to complete their OEB Reporting Template.					
Table 6: Net Peak Demand Savings at the End User Level (MW)					
Implementation Period	Annual				
	2011	2012	2013	2014	
2011 - Verified	2.93	1.77	1.77	1.74	
2012					
2013					
2014				0.00	
Verified Net Annual Peak Demand Savings Persisting in 2014:				1.74	
Burlington Hydro Inc. 2014 Annual CDM Capacity Target:				21.95	
Verified Portion of Peak Demand Savings Target Achieved in 2014(%):				7.95%	
LDC Milestone submitted for 2011				-%	
Variance					
Table 7: Net Energy Savings at the End User Level (GWh)					
Implementation Period	Annual				Cumulative
	2011	2012	2013	2014	2011-2014
2011 - Verified	7.35	7.30	7.30	7.24	29.19
2012					
2013					
2014					
Verified Net Cumulative Energy Savings 2011-2014:				29.19	
Burlington Hydro Inc. 2011-2014 Cumulative CDM Energy Target:				82.37	
Verified Portion of Cumulative Energy Target Achieved (%):				35.44%	
LDC Milestone submitted for 2011				-%	

On a Gross Savings basis, at the end of 2011, BHI has delivered 17% of its demand and 55% cumulative energy targets. For BHI to “track” on a straight line towards achieving its targets, it would need to have achieved 25% of the demand and cumulative energy target.

While the demand achievement falls below the straight line, it should be noted that delays in program roll-out by the OPA resulted in BHI not commencing program delivery early in 2011. In some cases programs were delayed by 3 to 6 months and other programs have not yet been introduced at all.

When examined on a Contribution to Targets basis, the demand achievement drops to 8% and the cumulative energy savings drop to 35%. On this basis, BHI is well on its way to achieving the energy target but achievement of the demand target is at risk if its implementation strategy were not refined. BHI's results are well above the Provincial median; BHI is 7th of the 21 medium-sized LDCs reporting energy savings and 8th of the 18 medium-sized LDCs reporting demand savings. (Comparing BHI's achievement with all 76 reporting LDCs in the Province, BHI is in 22nd and 29th positions respectively.)

The value and impact of the EM&V Protocols were received by BHI in June 2012 and it is clear that BHI is at risk for not meeting CDM targets due to the results erosion arising from the Protocols which are established by the OPA.

The average impact of the Protocols is as follows:

Program	Demand Erosion	Energy Erosion
Consumer	39%	34%
Business	23%	21%
Industrial	93%	22%
Pre-2011 Programs Completed in 2011	46%	45%
All Programs Combined	54%	36%

The magnitude of the EM&V Protocol impact was not evident at the time of Master Agreement execution and will have an impact on BHI's ability to meet its OEB Targets. The following table illustrates the gross demand and energy conservation achievements required to meet the OEB Targets, taking into account the impact of the OPA EM&V Protocols:

	Demand	Energy
OEB Target	21.95 MW	82.37 GWh
Required Gross Conservation Achievement to Meet OEB Target	47.72 MW	128.70 GWh

3.2 CDM Strategy Modifications

The OEB Targets were initially viewed by BHI as being aggressive, but achievable. The 2007 to 2010 OPA CDM Programs were delivered at a rate of about 2 to 3 MW per year. The step required to achieve the OEB Targets was essentially a doubling of achievements, a significant but achievable challenge. This higher target requirement imposed by the EM&V Protocol may not be technically achievable. It represents approximately 16.4% of BHI's average demand and 7.7% of energy consumption.

BHI originally filed a CDM Strategy Plan with the OEB on November 1, 2010 which predicted achievement of its CDM Targets (after pro-rata redistribution of the Board Approved Program targets to the consumer and business sectors) as follows:

	Demand	Energy
Business Programs	13.9 MW	50.7 GWh
Consumer Programs	8.1 MW	31.7 GWh
Total	22.0 MW	82.7 GWh

From the 2011 results report, consumer programs are delivering approximately 2.0 MW and 5,324,251 kWh/yr (when prorated to a full year of operation) on a gross basis. This suggests that the consumer programs are performing as expected. Assuming that delivery levels continue at the current pace, when extrapolated to the end of 2014, the projection becomes 3.2 MW and 23.4 GWh after taking the EM&V Protocol into account.

The business programs delivered 2.444 MW and 7,869,782 kWh/yr. The business programs largely represent incentives to help offset capital costs. As such they are subject to the customer's capital and project planning processes and do not "ramp up" as quickly as consumer programs. Currently, customers are submitting 1.4 MW of projects per year and the BHI sales team will generate an additional 2.6 MW of projects per year. The sales team has generated 2.0 MW of projects consistently over the past four years. Sales support has been put into place to support the higher forecast. Demand response programs (DR-3) could generate an additional 2.0 MW/yr, but the EM&V Protocol will only consider their persistence if they are available in the final year (2014).

At this rate, the forecast after EM&V Protocols for the business programs is 15.0 MW and 124.8 GWh.

The following table provides additional forecast details:

Reconciliation of OPA 2011 Final Performance Report and Projection to 2014							
From OPA Draft 2011 Performance Report	Program	Gross Savings		Net Savings		Contribution to Targets	
		Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Net Annual Peak Demand Savings (kW) in 2014	2011-2014 Net Cumulative Energy Savings (kWh)
	Consumer Program Total	1,333	3,549,501	812	2,338,247	809	9,350,325
	Business Program Total	502	2,261,512	407	1,784,258	386	7,077,066
	Industrial Program Total	1,072	559,520	893	436,820	76	1,603,472
	Home Assistance Program Total	0	0	0	0	0	0
	Pre-2011 Programs completed in 2011 Total	870	5,048,651	474	2,789,914	474	11,159,656
	Total 2011 OPA Contracted Province-Wide CDM Programs	3,777	11,419,184	2,586	7,349,239	1,745	29,190,519
2012	Consumer Program Total	2,000	5,325,583	1,218	3,508,248	1,214	2,631,186
	Business Program Total	4,000	18,020,016	3,243	14,217,195	3,076	42,651,586
	Industrial Program Total	2,000	1,043,881	1,666	814,963	142	814,963
2013	Consumer Program Total	2,000	5,325,583	1,218	3,508,248	1,214	1,754,124
	Business Program Total	4,000	18,020,016	3,243	14,217,195	3,076	28,434,390
	Industrial Program Total	2,000	6,046,695	1,666	814,963	142	814,963
2014	Consumer Program Total	2,000	5,325,583	1,218	3,508,248	1,214	3,508,248
	Business Program Total	4,000	18,020,016	3,243	14,217,195	3,076	14,217,195
	Industrial Program Total	2,000	9,010,008	1,666	814,963	142	814,963
	TOTALS	27,777	97,556,564	20,968	62,970,455	15,039	124,832,135

BHI is expected to exceed its energy target by 41%, but may fall short on its demand target after taking the EM&V Protocols into account. Without these adjustments BHI would otherwise surpass each of its targets by a significant margin.

In order to meet the demand target, considerably greater effort is required to secure and retain additional demand. The greatest component of erosion occurs due to the EM&V Protocol not recognizing the persistence of the demand response program (DR-3) past the initial contract year. The Protocol does provide for recognition in 2014 if the DR-3 resource is available for curtailment. The above forecast projects approximately 7 MW of DR-3 of which 1 MW was achieved in 2011. Acquiring this load and maintaining its persistence is a key element to the plan to achieve demand targets. If this load is acquired and retained, then BHI will meet its demand target as well, provided the goals of the Business Programs are achieved.

The consumer programs are generally thought to be maturing, meaning that uptake rates can't be driven further. The remainder must originate through the business programs available to the commercial and industrial sectors. However, the opportunity may be nearing saturation as well.

The following table estimates the available conservation within the commercial and industrial sectors in Burlington:

Energy Conservation Assessment - Burlington - ICI											
	End Use			% of Total Energy Use	Pre-Retrofit Energy Consumption (kWhr/yr)	Pre-Retrofit Peak Demand (kW)	Conservation Potential (%)	Uptake Potential (%)	Potential Energy Savings (kWhr/yr)	Potential Peak Demand Savings (kW)	Notes
	Level 1	Level 2	Level 3								
Industrial	Process	Boilers		0.6%	2,250,868	585	75%	0%	-	-	Fuel Substitution is ineligible
		Direct Heat	Furnaces	6.5%	24,384,401	6,340	100%	0%	-	-	Fuel Substitution is ineligible
		Chillers		7.8%	29,261,281	7,608	33%	10%	965,622	251	Capital Intensive Measure - Only Feasible When Equipment Replacement is Required
		Forced Air Coolers		0.1%	375,145	98	20%	10%	7,503	2	Capital Intensive Measure - Only Feasible When Equipment Replacement is Required
		Cooling	Cooling Towers	1.4%	5,252,025	1,365	10%	20%	105,040	27	Conservation attributable to VFDs or motor replacement
		Motors		37.4%	140,304,092	36,478	5%	5%	350,760	91	Capital Intensive Measure - Only Feasible When Equipment Replacement is Required
		Pumps		9.4%	35,263,595	9,168	5%	5%	88,159	23	Capital Intensive Measure - Only Feasible When Equipment Replacement is Required
		Compressors		9.8%	36,764,174	9,558	40%	50%	7,352,835	1,912	Viable Measure
		Fans/Blowers		5.8%	21,758,389	5,657	5%	5%	54,396	14	Conservation attributable to VFDs or motor replacement
		Conveyors		1.5%	5,627,169	1,463	5%	5%	14,068	4	Conservation attributable to VFDs or motor replacement
	Electromechanical		0.7%	2,626,012	683	25%	25%	164,126	43	Specialized Measures	
	Other Processes		7.4%	27,760,703	7,217	10%	25%	694,018	180	Specialized Measures	
	Comfort	Lighting		6.8%	25,509,835	6,632	50%	75%	9,566,188	2,487	Viable Measure
		Heating		0.3%	1,125,434	293	75%	0%	-	-	Fuel Substitution is ineligible
		Cooling		2.4%	9,003,471	2,341	33%	10%	297,115	77	Capital Intensive Measure - Only Feasible When Equipment Replacement is Required
		Ventilation		2.1%	7,878,037	2,048	-	-	-	-	-
					100%	375,144,630	97,534			19,659,829	5,111
								5.2%	5.2%		
Commercial	Process	Office Equipment & Computers		6%	22,508,678	5,852.01	25%	20%	1,125,434	293	No OPA Program available other than Custom Retrofit
		Refrigeration		11%	41,265,909	10,728.69	25%	10%	1,031,648	268	Capital Intensive Measure - Only Feasible When Equipment Replacement is Required
		Other		15%	56,271,695	14,630.03	25%	25%	3,516,981	914	Specialized Measures
	Comfort	Lighting		38%	142,554,959	37,062.73	50%	75%	53,458,110	13,899	Viable Measure
HVAC			30%	112,543,389	29,260.05	15%	25%	4,220,377	1,097	Specialized Measures	
				100%	375,144,630	97,534			63,352,549	16,471	
								16.9%	16.9%		
				Sum Check:	750,289,260	195,067		TOTAL ICI:	83,012,379	21,582	
								ERIP Erosion:	10,000,000	2,000	
Input Data								NET ICI:	73,012,379	19,582	
					Burlington GS > 50 Peak Demand	195,067 kW					
					Burlington GS > 50 Annual kWhr	750,289,260 kWhr/yr					
					Commercial/Industrial Ratio (Assumed)	0.5					
Industrial End Use Data extracted from "Market Profile and Conservation Opportunity Assessment for Small and Medium-Sized Industry in Ontario" prepared by Marbek Resource Consultants and Altech Environmental Consulting, Sept. 2006											
Small and Medium-Sized Industry as defined in study means peak loads < 1.0 MW (Believed to represent 60 to 70% of Ontario industry) Burlington = 75%											

In summary, there is only 19,582 kW of economically viable conservation remaining within the industrial/commercial marketplace. Experience with past industrial/commercial programs has demonstrated that these consumers will only implement projects where paybacks are less than 3 years or when existing equipment has reached the end of its useful life and is replaceable with more efficient equipment. This is reflected in the "Uptake Potential" column in the above table.

The breakdown of which energy conservation measures will deliver the saving is as follows:

Measure	% of Total Conservation Opportunity
Lighting	76%
Air Compressors	9%
HVAC, Refrigeration, etc.	8%
All Other Measures Combined	7%

The lighting opportunity is heavily skewed towards the commercial sector.

In conclusion, if **all** of the commercial and industrial conservation opportunities were captured, BHI could readily meet its demand target after application of the EM&V Protocols. Securing all of these opportunities under current circumstances is unlikely, therefore raising the importance of securing additional demand response customers. For 2012, BHI has doubled its efforts towards potential demand response customers.

Meeting the CDM Delivery Challenge

BHI has taken the delivery of CDM Targets seriously and has created a delivery team made up of industry experts and leaders in their field, following these principles:

Focus on Largest Customers First

Delivery is designed to capture the largest MW and MWhr reductions first. This is important because the MWhr target is cumulative; the earlier large contributors are captured, the longer their benefit will accrue towards the accumulation. BHI's largest customers will be marketed to in descending order. Given the importance of these customers to the success of the program, BHI senior executive meetings will be arranged with the senior executives of these customers in order to explain the goals of CDM and to seek their executive commitment to cause their organizations to participate in the programs.

Delivery Channels

Experience with pre-2011 CDM Programs demonstrated that consumer programs are best delivered through internal staff. The infrastructure to generate mass market materials (brochures, handouts, pamphlets, media events, promotion at public events, etc.) exists and has proven to be economic. Excellent results when measured in terms of participation rates in the pre-2011 programs such as The Great Refrigerator Round-up, Summer Savings, and PeakSaver have been achieved. For the 2011 to 2014 programs, consumer programs are being driven by experienced internal staff.

Sales Strategy

The sales strategy employed for the pre-2011 general service customers was largely passive. Potential participants were made aware of the program availability and its benefits through seminars and other forms of outreach, but participation was largely left up to the individual customers. If customers needed assistance with identifying energy efficiency measures or completing incentive application forms this was provided. Currently, the sales strategy is more pro-active. Customers, starting with the largest users, will be targeted through an active sales campaign.

Direct assistance with identifying energy efficiency projects will be provided including site assessments, energy efficiency measure identification, conceptual designs, identification of suitable vendors, suppliers and installers, procurement, incentive applications, inspections and due diligence. GridSmartCity™ partners will be engaged wherever possible to maximize the effectiveness of the sales effort.

