Hydro Ottawa Limited

Conservation and Demand Management

2014 Annual Report

Submitted to:

Ontario Energy Board

Submitted on September 30, 2015

TABLE OF CONTENTS

Executive Summary

This annual report is submitted by Hydro Ottawa in accordance with the filing requirements set out in the Conservation and Demand Management ("CDM") Code for Electricity Distributors, issued September 16, 2010, Board File No. EB-2010-0215 specifically, the Appendix C Annual Report Template, as a progress report and update to Hydro Ottawa's Strategy filed with the Ontario Energy Board ("Board" or "OEB") on November 1, 2010. Accordingly, this report outlines Hydro Ottawa CDM activities for the period of January 1, 2014 to December 31, 2014. It includes net peak demand and net energy savings achieved in 2011, 2012, 2013, and 2014, CDM program activities, successes and challenges.

Hydro Ottawa did not apply for any Board-approved CDM programs during 2014. However, as noted in the Guidelines for Electricity Distributors Conservation and Demand Management ("CDM Guidelines" released April 26, 2012), the Board has deemed Time-of-Use ("TOU") pricing to be a province-wide Board-approved CDM program. The Ontario Power Authority ("OPA"), now Independent Electricity System Operator ("IESO"), was to provide measurement and verification on TOU results. In September 2015, the IESO allocated 3,513 kW of TOU savings to Hydro Ottawa for the 2011-2014 framework. These savings are substantially less than originally forecast by the OPA/IESO (see Additional Comments – Section 4.5).

In 2011 – 2014, Hydro Ottawa contracted with the IESO to deliver a portfolio of IESO-contracted province-wide CDM programs ("IESO Programs") to all customer segments including residential, commercial, institutional, industrial and low income. Most of these programs were rolled-out by the IESO in June 2011. In 2011 program activities were centered on building a foundation for full program execution over the next three years of the program term, including staffing, procurement, and program delivery.

In 2011, Hydro Ottawa contracted with the Ontario Power Authority (OPA) to deliver a portfolio of OPA-Contracted Province-Wide CDM Programs to all customer segments including residential, commercial, institutional, industrial and low income. These programs were rolled-out by the OPA in June 2011. In 2011 Program activities were centered on building a foundation for full program execution over the next three years of the program term, including staffing, procurement, and program delivery.

In 2011, Hydro Ottawa achieved 12.7 MW of net incremental peak demand savings and 35.9 GWh of net incremental energy savings.

In 2012, Hydro Ottawa focused efforts on lead generation and program execution. In the Commercial and Industrial segments the focus was on leveraging marketplace delivery channels such as heating, cooling and lighting manufacturers, suppliers and distributors for maximum program uptake. Hydro Ottawa achieved excellent program results by working with and through these delivery channels and with major property managers, high volume customers and the municipal, university, school and hospital (MUSH) segment. The efforts of Hydro Ottawa were augmented through the strategic deployment of Energy Managers embedded in a number of large customers including a national retailer, local Colleges and Universities, Federal and Municipal Governments and Property Management organizations with broad scale.

In the Residential segment, Hydro Ottawa focused on mass marketing, direct mail and on-line promotion to attract and enlist greater participation in this segment.

In 2012Hydro Ottawa achieved 16.5 MW of net incremental peak demand savings and 35.1 GWh of net incremental energy savings.

In 2013, Hydro Ottawa continued to focus on lead generation, expanded channel management and program execution as efforts were delivering increased results. Three additional Embedded Energy Managers were added. A street team was

deployed to deliver and install In-home Energy Displays to eligible customers. This had a very positive impact on the profile of the *peaksaver* PLUS program.

Hydro Ottawa achieved 22.5 MW of net incremental peak demand savings and 42.6 GWh of net incremental energy savings in 2013.

In 2014, Hydro Ottawa continued to increase its lead generation efforts, broadened its channel management reach and focused on helping customers with their program execution in an effort to complete as many commercial projects as possible.

The maturity of the CDM sales team contributed to the increased number of project applications for the third year in a row. Hydro Ottawa successfully delivered the province-wide conservation programs and saw strong participation by both residential and commercial customers - specifically with the Retrofit Program offered to our larger Commercial customers, the Small Business Lighting Program and the Fridge & Freezer Pick up Program and Residential Coupon Programs.

Over the course of 2014, Hydro Ottawa achieved an incremental 34.7 MW in peak demand savings and 72.0 GWh in energy savings. These were the highest results when compared to each of the four individual years.

The overall results achieved in 2011-2014 are 60.1 MW in peak demand savings and 414.9 GWh in energy savings, which represents 70.5% of our demand target and 110.7% of Hydro Ottawa's 2014 energy target.

These results are representative of considerable effort expended by Hydro Ottawa, in cooperation with other LDCs, our customers, and many channel partners and stakeholders. The commercial relationships built during the 2011-2014 CDM program term contributed in a significant way to the over-achievement of our GWh target and position us well for success in future CDM frameworks.

A summary of the achievements towards the CDM targets is shown below:

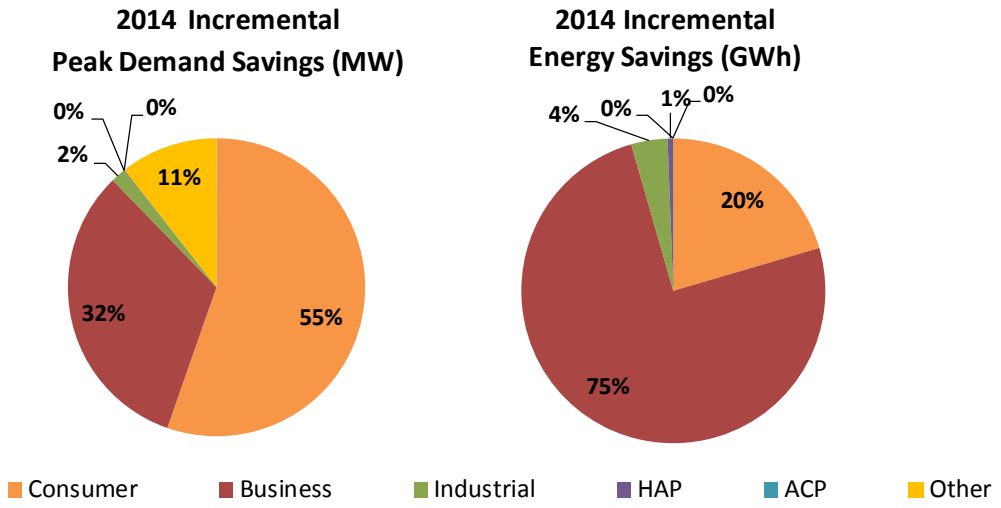
IESO-Contracted Province-Wide CDM Programs: 2011-2014 Final Results Report

LDC: Hydro Ottawa Limited

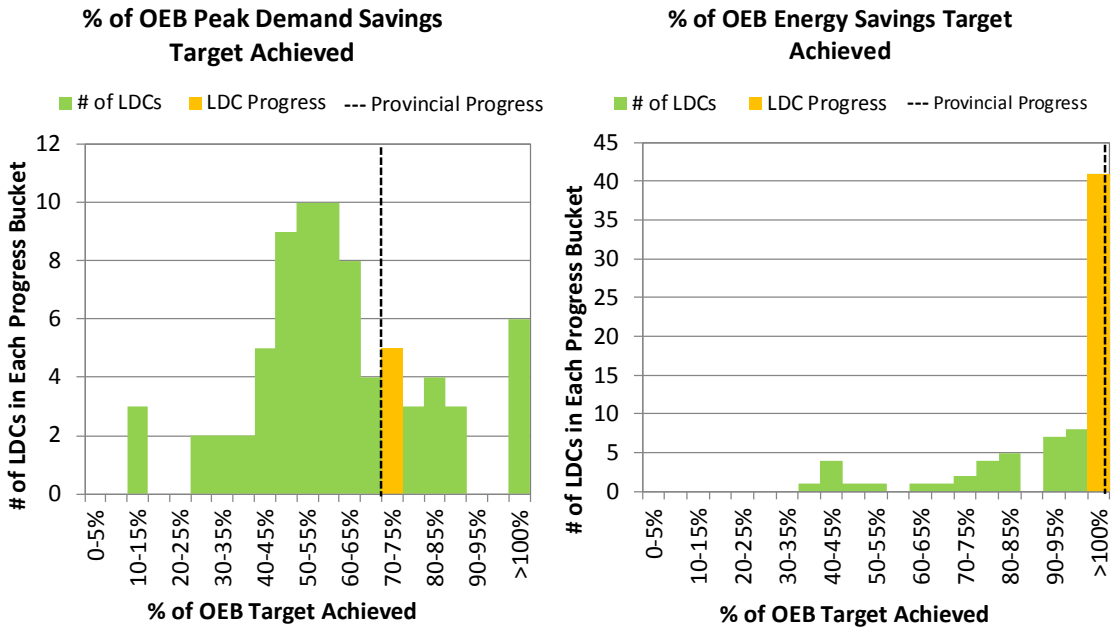
Final 2014 Achievement Against Targets	2014 Incremental	2011-2014 Achievement Against Target	% of Target Achieved
Net Annual Peak Demand Savings (MW)	34.7	60.1	**70.5%**
Net Energy Savings (GWh)	72.0	414.9	**110.7%**

Unless otherwise noted, results are presented using scenario 1 which assumes that demand response resources have a persistence of 1 year

Achievement by Sector



Comparison: LDC Achievement vs. LDC Community Achievement (Progress to Target)



From the above table, Hydro Ottawa has achieved 60.1 MW or 70.5 % and 414.9 MWh or 110.7 % towards Hydro Ottawa's 2014 peak demand reduction target and energy consumption reduction targets respectively . The shortfall of peak demand target was mainly due to late start of programs, cancellation of planned province wide programs including Direct Space Cooling since 2011. The prime candidates for demand savings programs are large industrial and manufacturing customers. The Ottawa region has a very light industrial and manufacturing customer base, so the opportunities for significant demand savings in Ottawa are minimal. The overachievement of energy target was due to Hydro Ottawa's successful delivery of province-wide conservation programs and strong participation by both residential and commercial customers. There were a number of programs that contributed to these results, including the Retrofit Program offered to our larger Commercial customers, the Small Business Lighting Program and the Fridge & Freezer Pick up Program and Residential Coupon Programs.

In 2015, the Conservation First Framework (CFF) for the period 2015 -2020 began to transition on August 1, 2015 as a result of approval of our CDM plan by the IESO on June 12, 2015. To ensure a smooth transition, the 2011- 2014 Programs and Rules were extended into 2015 until the effective implementation start date on January 1, 2016 under the Conservation First Framework.

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 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 LDC to require LDC, as a condition of its license, to achieve 374.73 GWh of energy savings and 85.26 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, Hydro Ottawa submitted its CDM Strategy on June 13, 2011 which provided a high level of description of how Hydro Ottawa intended to achieve its CDM targets.

The Code also requires a distributor to file annual reports with the Board. This is the fourth Annual Report by Hydro Ottawa and has been prepared in accordance with the Code requirements and covers the period from January 1, 2014 to December 31, 2014.

Hydro Ottawa submitted its 2011 Annual Report on September 30, 2012 which summarized the CDM activities, successes and challenges experienced by Hydro Ottawa for the January 1, 2011 to December 31, 2011 period. The OEB's 2011 CDM Results Report identified that the delay in the full suite of CDM programs being made available by the IESO, and the absence of some programs negatively impacted the final 2011 results for the LDCs. This issue was also highlighted in Volumes I and II of the Environmental Commissioner's Report on Ontario's Annual Energy Conservation Progress.

On December 21, 2012, the Minister of Energy directed the IESO to fund CDM programs which meet the definition and criteria for IESO-contracted province-wide CDM programs for an additional one-year period from January 1, 2015 to December 31, 2015.

The Ministerial Directive did not amend the timelines for LDCs to achieve their energy savings and demand savings targets. Therefore, the main focus of the LDCs remains the achievement of CDM targets by December 31, 2014.

Hydro Ottawa submitted its 2013 Annual Report on September 30, 2014 which summarized the CDM activities undertaken by Hydro Ottawa for the January 1, 2013 to December 31, 2013 period. The OEB's 2013 CDM Results report identified that the majority of LDCs achieved close to 50% of their net peak demand (MW) target from their 2013 results. However, LDCs generally advised the Board that meeting their peak demand (MW) target is not likely and that a shortfall is expected.

In 2014, LDCs collectively achieved approximately 19.5% of the energy savings (GWh) target, adding to the overall cumulative result of approximately 109% of the net energy target of 6,000 GWh.

The report identifies that although there have been improvements to programs there still remains some shortcomings to the design and delivery of certain initiatives that have resulted in a negative impact to some programs. In particular, the change management process still requires improvements to expedite enhancements to initiatives. The report also noted that certain initiatives may be reaching the point of market saturation and that new initiatives may need to be developed in order to take the place of the existing initiatives under the new framework.

1. Conservation Framework

1.1 2011-2014 Framework

Ontario's current CDM framework is a key step towards creating a culture of conservation in the Province. The Ontario Government ("Government") Directive to the OEB to establish CDM targets that would be met by electricity distributors recognizes the importance of CDM for both electricity customers and the electricity system. CDM helps customers manage rising energy costs, supports the provincial integrated supply plan, and addresses local distribution and transmission supply constraints. The past framework was intended to enable customers to benefit from a suite of both Board-approved and IESO province-wide programs and provide a portfolio that would meet both broad and specific customer needs.

The state of Board-approved programs and the current suite of province-wide IESO programs have limited CDM offerings to customers. This has restricted the potential savings and has created additional challenges for LDCs to meet their targets. The process to introduce changes to current program initiatives or to pilot new initiatives has been complicated, involving considerable time, cost and effort, which has resulted in reduced benefits to customers and CDM savings.

Challenges faced by LDCs in the 2011-2014 framework, such as overbuilt governance, excessive legal requirements and misalignment of control and risks, have been addressed through the new Directive. However, there are still many challenges to overcome and the new CDM framework should address other challenges of the current framework and build on its strengths.

1.2 Conservation First Framework

LDCs are supportive of the Government's renewed commitment for CDM in Ontario. LDCs are committed to working with the Government, IESO, Natural Gas Utilities and other stakeholders to develop programs for the new framework for CDM in the Province.

Long-term commitment for CDM funding and confirmation of the role of LDCs have been provided in the Minister's directive dated March 31, 2014, allowing LDCs to maintain current program infrastructure, including LDC staff and third party contracts as required.

The commitment also provided LDCs the program extensions required for continuity into the Conservation First Framework which was critical for all customers.

2 Board-Approved CDM Programs

2.1 Introduction

In its Decision and Order dated November 12, 2010 in EB-2010-0215 and EB-2010-0216, the OEB ordered that, to meet its mandatory CDM targets, "Each licensed electricity distributor must, as a condition of its licence, deliver Board-approved CDM programs, IESO-contracted province-wide CDM programs, or a combination of the two".

At this time, the implementation of TOU pricing is the only Board-approved CDM program that is being offered in Hydro Ottawa.

2.2 TOU Pricing

2.2.1 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 the Ministry directive dated March 31, 2010 by the Minister of Energy and Infrastructure, the OEB is of the view that any evaluation of savings from TOU pricing should be conducted by the IESO for the Province, and then allocated to distributors. Hydro Ottawa will report these results upon receipt from the IESO.

In 2013, IESO had retained the Brattle Group as the evaluation contractor and has been working with an expert panel convened to provide advice on methodology, data collection, models, savings allocation, etc. The initial evaluations were conducted in 2013 with five LDCs – Hydro One Networks Inc., Toronto Hydro-Electric System Limited, Hydro Ottawa Limited, Thunder Bay Hydro Electricity Distribution Inc. and Newmarket-Tay Power Distribution Ltd. Preliminary results from these five LDCs were issued to the five LDCs involved in the study in August 2013 and are now publically available on the IESO website. Preliminary results demonstrated load shifting behaviours from the residential customer class.

Three additional LDCs were added to the study in 2014 – Cambridge-North Dumphries, PowerStream and Sudbury. Preliminary results from this study are planned to be issued to the eight LDCs in September 2014. The IESO advised that the TOU study will be completed in the summer of 2015 and final verified savings will be available for LDCs to include in the 2014 Annual Report.

2.2.2 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.

Table 1: RPP TOU Pricing Summary

	Prices (cents/kWh)		
Effective Date	**On Peak**	**Mid Peak**	**Off Peak**
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
November 1, 2012	11.8	9.9	6.3
May 1, 2013	12.4	10.4	6.7
November 1, 2013	12.9	10.9	7.2
May 1, 2014	13.5	11.2	7.5
November 1, 2014	14.0	11.4	7.7

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

2.2.3 TOU Initiative Activities/Progress

Hydro Ottawa began transitioning its RPP customers to TOU billing on May 1, 2010. At December 31st, 2014, 315,965 RPP customers were on TOU billing.

2.3 Hydro Ottawa's Application with the OEB

Hydro Ottawa did not submit a CDM program application to the OEB in 2014.

2.4 Hydro Ottawa's Application with the IESO's Conservation Fund

In 2013, the IESO introduced the Conservation Fund's Program Innovation stream to help meet LDC interest in the development and launch of new local, regional and province-wide initiatives. The Conservation Fund's LDC Program Innovation stream provides a fast-track process for LDC-designed pilot projects prior to full scale deployment. By driving program innovation through the Conservation Fund, LDCs have the opportunity to realize additional savings through initiatives not currently offered by the IESO portfolio. It also provides LDCs with a process to test concepts for future local or province wide programs.

Hydro Ottawa submitted two CDM program applications to the IESO's Conservation Fund in 2014.

Conservation Voltage Regulation Pilot - Hydro Ottawa applied to the Ontario Power Authority (OPA) now Independent Electricity System Operator (IESO) Conservation Fund on November 10, 2014 for funding associated

with a pilot project to to demonstrate that the existing Elster AMI infrastructure at Hydro Ottawa can be used in conjunction with Conservation Voltage Regulation (CVR) software and technologies and that these combined efforts will provide quantifiable electricity savings to consumers. By using installed smart meters, we can measure the voltage at the consumer service point to deliver precise voltage control and electricity savings.

The Conservation Fund Grant Award Committee approved the funding December 10, 2014.

Hydro Ottawa Residential Demand Response Wi-Fi Thermostat Pilot - In August 2014 Hydro Ottawa received approval through the Local Distribution Company (LDC) Innovation Stream of the Ontario Power Authority's (OPA) now Independent Electricity System Operator (IESO) Conservation Fund to implement a Residential Wi-Fi Thermostat Demand Response pilot. This pilot is looking to enrol new peaksaver PLUS participants by offering a rebate toward Honeywell Wi-Fi thermostats. This pilot will seek to demonstrate that offering an innovative and fresh technology will drive more participation in the peaksaver PLUS initiative. This pilot will further explore energy efficiency and gas savings associated with Smart thermostats and demonstrate the benefits of leveraging retail and HVAC contractor partners to deliver a more cost effective residential demand response offering.

3 IESO-Contracted Province-Wide CDM Programs

3.1 Introduction

Effective February 10, 2011, Hydro Ottawa entered into an agreement with the IESO to deliver CDM programs extending from January 1, 2011 to December 31, 2014. The programs included under this agreement are listed in Table 2 below. Further program details are included in Appendix A. In addition, results include projects started pre 2011 which were completed in or after 2011:

Table 2: IESO-Contracted Province-Wide CDM Program Initiatives

Initiative	Schedule	Date schedule posted	Hydro Ottawa in Market Date
Residential Programs			
Appliance Retirement	Schedule B-1, Exhibit D	*Jan 26,2011*	*February 2011*
Appliance Exchange	Schedule B-1, Exhibit E	*Jan 26, 2011*	*May 2011*
HVAC Incentives	Schedule B-1, Exhibit B	*Jan 26, 2011*	*February 2011*
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	*Jan 26, 2011*	*March 2011*
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	*Jan 26, 2011*	*April 2011*
~~Retailer Co-op~~	n/a	*n/a*	*n/a*
Residential Demand Response	Schedule B-3	*Aug 22, 2011*	*May 2012*
New Construction Program	Schedule B-2	*Jan 26, 2011*	*Fall 2011*
Home Assistance Program	Schedule E-1	*May 9, 2011*	*January 2012*
Commercial & Institutional Programs			
Efficiency: Equipment Replacement	Schedule C-2	*Jan 26, 2011*	*February 2011*
Direct Install Lighting	Schedule C-3	*Jan 26, 2011*	*March 2011*
Existing Building Commissioning Incentive	Schedule C-6	*Feb 2011*	*March 2011*
New Construction and Major Renovation Initiative	Schedule C-4	*Feb 2011*	*July 2011*
Energy Audit	Schedule C-1	*Jan 26, 2011*	*March 2011*
Commercial Demand Response	Schedule B-3	*Jan 26, 2011*	*May 2013*
Industrial Programs			
Process & System Upgrades	Schedule D-1	*May 31, 2011*	*February 2011*
Monitoring & Targeting	Schedule D-2	*May 31, 2011*	*February 2011*
Energy Manager	Schedule D-3	*May 31, 2011*	*August 2012*
Key Account Manager ("KAM")	Schedule D-4	*May 31,2011*	*August 2012*
Demand Response 3	Schedule D-6	*May 31, 2011*	*October 2011*

In addition, results were realized towards Hydro Ottawa's 2011-2014 targets through the following pre-2011 programs:

- Electricity Retrofit Incentive Program
- High Performance New Construction

- ~~Toronto Comprehensive~~
- ~~Multifamily Energy Efficiency Rebates~~
- ~~Data Centre Incentive Program~~
- ~~EnWin Green Suites~~

As per the table below, several program initiatives are no longer available to customer or have not been launched in Table 3.

Table 3: Pre-2011 IESO Programs

Not in Market	Objective	Status
Residential Program		
Midstream Electronics	Encourages retailers to promote and sell high efficency televisions, and for distributors to distribute high efficiency set top boxes.	Did not launch and removed from Schedule in Q2, 2013.
Midstream Pool Equipment	Encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools.	Did not launch and removed from Schedule in Q2, 2013.
Home Energy Audit Tool	This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs.	Did not launch and removed from Schedule in Q2, 2013.
Commercial & Institutional Program		
Direct Service Space Cooling	Offers free servicing of air conditioning systems and refrigeration units for the purpose of achieving energy savings and demand reduction.	Did not launch.
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 service for the actual electricity reduction provided during a demand response event.	No customer uptake for this initiative. As a result this Initiative was removed from the Schedule in Q4, 2012.
Industrial Program		
DR1	As above	No customer uptake for this initiative. Removed in Q4, 2012.

The Master CDM Program Agreement between LDC and the IESO includes a program change management provision in Article 3. Collaboration between the IESO and LDC commenced in 2011, and continued in 2012, 2013 and 2014, as the change management process was implemented to enhance the saveONenergy program suite. The change management process allows for modifications to the Master CDM Program 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.

3.2 Program Descriptions

Full descriptions of IESO-contracted province-wide CDM programs are available on the IESO's intranet LDC and additional initiative information can be found on the saveONenergy website at https://saveonenergy.ca. The targeted customer types, objectives, and individual descriptions for each program initiative are detailed in Appendix A. Discussion of LDC's experience with these programs is provided below.

3.2.1 RESIDENTIAL PROGRAM

Description: Provides residential customers with programs and tools to help them understand and manage the amount of energy they use in their home and help the environment.

Objective: To provide incentives to both existing homeowners and developers/builders to motivate the installation of energy efficiency measures in both existing and new home construction.

Discussion:

The addition of Light Emitting Diode ("LED") technology into the bi-annual retailer events in 2012 and the annual coupons in 2013, as well as LDC custom coded coupons, has had a positive effect on consumer engagement and provided LDC with opportunities to achieve additional savings in their service territory. The Residential Demand Response program is the main residential initiative which drives savings for LDCs and has been well received by consumers eager to utilize an In-Home Display ("IHD") to help manage their energy consumption. Unfortunately, there were no savings associated with the Energy Display attributed to LDCs in the IESO's verified results to date.

The Heating and Cooling incentives program continues to be one of the strongest performer in the residential suite of programs. This program is mainly driven by contractors participating in the program but they may not always deliver results in the required manner (e.g. allowing customers to apply for their own incentives and tardy reporting).

The Residential Program Portfolio is predominately a carryover of initiatives from previous programs. Three new initiatives were never launched and subsequently removed from the schedule in 2013 with no new additions. Delays in communication with regards to initiative offerings and results reporting have hampered LDCs' abilities to engage customers and promote participation. Province-wide advertising has provided value in all residential programs except for *peaksaver* **PLUS**® due to technological inconsistency across LDCs.

Work to revitalize and increase the effectiveness and breadth of the initiatives through the residential program needs to be a high priority. There are opportunities within the residential marketplace that need to be addressed, program developed and offered to customers. The Version 5 schedules changes under the Master Agreement implemented in Q1/Q2 2014 have increased the number of LDC-coded coupons available and made new installations of central heating and cooling systems eligible for the Heating and Cooling Incentive.

3.2.1.1 Appliance Retirement Initiative (Exhibit D)

Initiative Activities/Progress:

Event Team promoted at over 100 community events

Print collateral included in omnibus FOR HOME brochure

'Last Chance' Fall promotion included: Online, bill insert, community newspapers, community magazines

Additional Comments:

- Due to the duration of the program, and the revised appliance eligibility requirements to a minimum age of 20 years old, this initiative appears to have reached market saturation, the program requires a revamp and there are plans for removal from the portfolio in the new Conservation First Framework.
- Results are very responsive to province-wide advertising. IESO provincial marketing plays a key role.
- Better relationships with retailers may play a role in increasing participation in this initiative. Retailers can provide opportunities to capture replacement appliances and have them decommissioned after a sale has been committed.
- In an effort to capture additional savings in the perceived last year of the initiative, the eligibility requirement for refrigerators was revised from 20 years old to 15 years old in Q2 2014, prior to the conclusion of this program by December 31, 2014.
- Due to the announcement by the IESO that the Appliance Retirement program was going to cease at the end of 2014, many LDCs executed 'last chance' marketing campaigns to support for the program.

3.2.1.2 Appliance Exchange Initiative (Exhibit E)

Initiative Activities/Progress:

Additional Comments:

- The design of the initiatives, including eligible measures and incentives amounts are developed through the Residential Working Group. Retail partner(s) are contracted by the IESO to deliver the initiatives province-wide. Individual LDCs have the opportunity to stage in-store events to drive the distribution of LDC coded coupons and promotion of other programs in the portfolio.
- This initiative, eligible measures and incentive amounts are influenced by the retail partner with very limited involvement from the LDCs. The restrictive, limited and sometimes non-participation of local stores can diminish the savings potential for this initiative.
- To date there has only been one retailer participant in the Appliance Exchange Initiative.

- Evaluation, Measurement, and Verification ("EM&V") results indicated that the value of savings for retired room air conditioners ("AC") has dropped resulting in the retail participant not accepting window ACs during the Spring 2013 event.
- Notification to LDCs regarding retailer participation and eligible measures continues to be delayed. Improved communications will aid in appropriate resource allocation and marketing of the initiative.
- This initiative may benefit from the disengagement of the retailer and allowing LDCs to conduct these events, possibly as part of a larger community engagement effort, with the backing of the IESO's contractor for appliance removal.
- The initiative appears to require more promotion from retailers and LDCs.

3.2.1.3 HVAC Incentives Initiative (Exhibit B)

Initiative Activities/Progress:

Event Team	promoted at over 100 community events	
Print collateral	included in omnibus FOR HOME brochure	
Bill insert	June	all residential customers
Print ads	May & Nov	community newspapers
	Nov	community magazine
Online web	Jan & June	HOL web site

Additional Comments:

- Incentive levels appear to be insufficient to prompt participants to upgrade HVAC equipment prior to end of useful life.
- This initiative is contractor driven with LDCs responsible for marketing efforts to customers. More engagement with the HVAC contractor channel should be undertaken to drive a higher proportion of furnace and central air conditioner sales to eligible units.
- There are cases where non-participating contractors are offering their own incentives (by discounting their installations to match the value of the IESO incentive) to make the sale. As this occurs outside of the initiative, savings are not credited to LDCs. IESO should consider this in future program impact evaluation studies.
- Changes to the schedules in 2014 allowed for incentives for new installations, rather than strictly replacement units.

3.2.1.4 Conservation Instant Coupon Initiative (Exhibit A)

Initiative Activities/Progress:

Event Team	promoted at over 100 community events	
Print collateral	included in omnibus FOR HOME brochure	
	Individual coupons for distribution at events	
Bill insert	Oct	all residential customers

Additional Comments:

- The timeframe for retailer submission of redeemed coupons vary from retailer to retailer, and in some cases has been lengthy. The delays and incomplete results reporting limits the ability to react and respond to initiative performance or changes in consumer behaviour.
- The product list could be distinctive from the Bi-Annual Retailer Event Initiative in order to gain more consumer interest and uptake.
- Program evolution, including new products and review of incentive pricing for the coupon initiatives, should be a regular activity to ensure continued consumer interest.
- All coupons have been provided with LDC custom coding in 2014 which allows LDCs to promote coupons based on local preferences. However, LDCs were not provided with customer coded coupon results until mid-2015 and thus, had no indication of their redemption rates.
- Consumer experience varies amongst retailers offering coupon discounts which can limit redemptions. For example, a particular high volume 'participating retailer' does not accept coupons and have their own procedure. In addition, some retailers have static lists of eligible products and will not discount eligible products unless the product on the list.
- The saveONenergy programs would benefit from specific end cap displays, aisle product stands and product-specific areas. Having products throughout a retail environment weakens the impact.

3.2.1.5 Bi-Annual Retailer Event Initiative (Exhibit C)

Initiative Activities/Progress:

Event Team	Apr & Oct	in store presence at retail locations
Print collateral	individual coupons for distribution at events	
Print ads	Apr & Oct	community newspapers

Additional Comments:

- This initiative is strongly influenced by the retail participants and has no direct involvement from the LDCs.
- LDCs have the opportunity to stage in-store events to drive the distribution of LDC-coded coupons and promotion of other programs in the portfolio; however, this requires cooperation from the local retailer and LDC staff resources.
- The product list has experienced minimal changes over the past four years.
- Limited engagement of local retailers can restrict the savings potential for this initiative.
- Program evolution, including new products and review of incentive pricing for the coupon initiatives, must be a regular activity to ensure continued consumer interest.
- The product list could be distinctive from the Conservation Instant Coupon Initiative in order to gain more consumer interest and uptake.
- A review conducted by the EDA Residential Working Group in 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 as retail staffs tend not to be knowledgeable regarding the products or promotion.
- This initiative may benefit from a more exclusive relationship with a retailer appropriate to the program. There should be a value proposition for both the retailer and LDC.
- Independently, the Retailer Co-op and Bi-Annual Retailer Event Initiative may not present a value for the investment of LDC resources to support these events and should be backed by a strong residential portfolio.

~~*3.2.1.6 Retailer Co-op*~~

Initiative Activities/Progress:

Additional Comments:

- This is a retailer initiative with no direct benefit to LDCs
- Limited engagement of local retailers can restrict the savings potential for this initiative.
- The availability of retailer and/or LDC staff with product knowledge and the ability to conduct demonstration in store during the events would be an asset. This could be a valuable role for LDCs, however many LDCs are limited by available resources and unable to participate.

3.2.1.7 New Construction Program (Schedule B-2)

Initiative Activities/Progress:

Print adsGreater Ottawa Home Builders Association annual directory and magazine

One-on-one outreach to local builders

Additional Comments:

- This initiative provides incentives to home builders for incorporating energy efficiency into their buildings. To support this, LDCs need to provide education to consumers regarding the importance of choosing the energy efficient builder upgrade options without an immediate benefit to the consumer.
- In 2012 the application process was streamlined, however continues to be too cumbersome for builders. This, combined with limited return, has resulted in this initiative continuing to under-achieve.
- Administrative requirements, particularly with individual home modeling, must align with perceived stakeholder payback.
- Applications increased in 2014 primarily because Hydro Ottawa agreed to manage the application process for some of the large builders. There is significant home building in the Ottawa market area.
- This initiative may benefit from collaboration with the natural gas utilities.

3.2.1.8 Residential Demand Response Program (Schedule B-3)

Initiative Activities/Progress:

Event Team	promoted at over 100 community events	
Print collateral	included in omnibus FOR HOME brochure	
	Postcards for event distribution	
Bill insert	Jan – Mar	all residential customers
	Jul – Aug	all residential customers
Print ads	Jan/May/Aug	community newspapers
	Spring / Summer	community magazines
Direct mail	Feb – Mar	new participants
	May – Sep	new participants

Street team	May – Aug	deliver Energy Displays to existing participants
Transit shelters	Summer	target neighbourhoods
Web feature	Feb & Jul	HOL web site

Additional Comments:

- Energy and demand savings have not been reported for the IHD portion of the program as 2013 EM&V results have determined zero savings associated with the IHD. IESO conducted another study in 2014, expanding its study territory beyond those included in the 2013 study to provincial rather than regional results. Results from the second study have did not produce saving results.
- Smart meters installed by most LDCs do not have the capability to communicate directly to an IHD and any mass replacement of newly installed meters with communicating abilities is not fiscally responsible. When proposing technical initiatives that rely on existing LDC infrastructure or technology there should be an extensive consultative process in order to prevent this type of problem in the future.
- Introduction of new technology requires incentives for the development of such technology. Appropriate lead times for LDC analysis and assessment, product procurement, and testing and integration into the smart meter environment are also required. Making seemingly minor changes to provincial technical specifications can create significant issues when all LDCs attempt to implement the solution in their individual environments.
- Given the different LDCs' smart meter environments and needs, each LDC is positioning the initiative with subtle differences. As such, greater program flexibility is required to address unique LDC needs

3.2.2 COMMERCIAL AND INSTITUTIONAL PROGRAM

Description: Provides commercial, institutional, agricultural and industrial organizations with energy-efficiency programs to help reduce their electrical costs while helping Ontario defer the need to build new generation and reduce its environmental footprint. Programs to help fund energy audits, replace energy-wasting equipment or pursue new construction that exceeds existing codes and standards. Businesses can also pursue incentives for controlling and reducing their electricity demand at specific times.

Targeted Customer Type(s): Commercial, institutional, agricultural, multi-family buildings, industrial.

Objective: Designed to assist building owners and operators as well as tenants and occupants in achieving demand and energy savings, and to facilitate a culture of conservation among these communities as well as the supply chains which serve them.

Discussion:

Throughout 2014 the Commercial and Institutional ("C&I") Working Group continued its efforts to enhance the existing C&I programs and rectify identified program and system deficiencies. This has proven to be a challenging undertaking, normally

taking months to complete sometimes relatively minor changes due to the current CDM framework. Overbuilt governance, numerous initiative requirements, complex program structure and lengthy change management have restricted growth without providing the anticipated improved measurement and verification results. In addition, Evaluation, Measurement and Verification (EM&V) has not yet achieved transparency. LDCs are held accountable for these results yet are mostly completely removed from the process.

LDC program management has been hampered by varying rule interpretation, limited marketing ability, a somewhat inflexible online system of checks and balances and revolving IESO support personnel.

Despite these challenges the C&I Working Group, working in cooperation with the IESO, have managed to iron out some of the issues which could be rectified. In particular, an accomplishment of 2012 was the advent of the expedited change management as a mean to accelerate certain program changes. The benefits of expedited change management process were seen in 2013 and carried over into 2014.

Looking ahead there is an opportunity to make valuable changes to the current program suite for the Conservation First Framework, but LDCs and the IESO should look beyond the current initiatives and work to launch new programs, built on the strengths of the 2011-2014 programs, which will meet the needs of the industry and consumers.

3.2.2.1 Efficiency: Equipment Replacement Incentive ("ERII") (Schedule C-2)

Initiative Activities/Progress:

Events	Apr & Nov	commercial customers
Video	case studies	target placement – You Tube, online
Eblast	Apr/Nov/Dec	reminder to existing customers with open applications
Collateral	Feb & Jul	brochure
Print ads	industry target magazines	
Online web	HOL web site	

Channel Sales Strategy – daily calls and meetings

Additional Comments:

- A large proportion of LDC savings are attributed to ERII.
- Capability building programs from industrial programs have had very positive contributions to ERII program.
- A number of customer-facing issues in iCon (the IESO's centralized application system) have been resolved; however, key LDC administrative back office processing issues continue to be a challenge. For example, currently LDCs are unable to record back office information to complete review and approval process using iCon.

- Applicants and applicant representatives continue to express dissatisfaction and difficulty with the online application system. This issue has been addressed by LDCs through application training workshops, Key Account Managers ("KAMs"), channel partner/contractor training and LDC staff acting as customer application representatives. Although this has been an effective method of overcoming some issues and encouraging submissions, it also reflects on the complexity and time consuming nature of the application process. LDC staff, along with applicant representatives, continue to influence the majority of applications submitted. Simplification of online process and continued development of channel partners is essential to program success.

- Lighting is still the most popular measure. Progress continues to be made regarding other market sectors. Non-lighting segment had impressive gains with advance technology driving greater savings through control systems. Barriers still exist within mechanical sector and channel partners can be more challenging to engage with various aspects of programs. CDM sales efforts have made the greatest impact on HVAC (includes Unitary AC) and engineering channel partners. Future growth will rely on continuing to engage non-lighting sector with sales support and relevant programs.

- Prescriptive and engineered worksheets provide a much needed simplified application process for customers. However, the eligible measures need to be updated and expanded in both technology and incentive amounts to address changing product costs and evolution of the marketplace.

- A focus on demand incentives has limited some energy project opportunities. In particular, night lighting projects have significant savings potential for customers but tend to have incentives of 10% or less of project cost.

- The requirement to have a customer invoice the LDC for their incentive is very burdensome for the customer and results in a negative customer experience and another barrier to participation.

- There is redundancy in the application process as customers may need to complete a worksheet and then enter most of that information over to the online application form. Duplication is cumbersome and unnecessary.

- Processing head office application became much easier for the lead LDC after schedule changes came into effect in August 2013. The changes implemented allowed the lead LDC to review and approve all facilities in a head office application on behalf of all satellite LDCs under certain circumstances.

- The application process for head office projects remains a significant barrier. Applicants need to manually enter one application per facility associated with the project which can be extremely onerous, often requiring a dedicated resource.

- Streamlining of the settlements systems resulted in significant improvement in the payment process in 2013.

- IESO implemented a cut-off date of July 31, 2014 for approval of 2014 social housing adder (SHA) under ERII program. IESO had instructed that any SHA applications that will be submitted to IESO after July 31, 2014 will not be honored for SHA, however, they failed to mention that it is the timeline to submit the funding request to the IESO by the LDCs and not the submission date of the applications to IESO's ICON system by the Applicant (Customer). As a result there were some confusions and some of the applications that were submitted to IESO's iCON by July 31, 2014 but LDCs submitted the funding request to IESO at a later date (once LDCs have completed review of the applications) were not honored for SHA. Additionally, the formal letter confirming that the SHA annual allocation has been exceeded was received by conservation officers on July 15, 2014 leaving them only 15 days to inform the customers and this created a negative customer experience.

- The handling of the exterior lighting incentives was a negative customer experience. In the fall of 2014 a new section was introduced in the prescriptive Lighting worksheet. It offered generous incentives for some exterior lighting projects and many municipal customers took advantage of the available incentives. Within 2 weeks of introducing the incentives, several incentives were suddenly removed for approximately 6 weeks until new incentives were created due to $/kWh incentive being too high for some of the measures. This caused a negative customer experience in several ways:
    - Some customers were planning on applying for rebates exterior prescriptive lighting measures based on the incentives offered but were suddenly not allowed to apply for prescriptive rebates.
    - The length of time from pulling out the exterior prescriptive lighting incentives to offering new incentives was too long. There should have been a temporary incentive level offered to allow LDCs to take in new applications.
    - The incentives should have been introduced at an appropriate level the first time. While market conditions can change, the incentives offered should have been researched and approved with the expectation that they would be in place for at least 6-12 months.
- Introduction of several new prescriptive measure worksheets including Plug Loads and Refrigeration were introduced in September 2014 allowed for new opportunities, albeit late in the framework.
- The Ministerial Directive provides continuity of the conservation programs for the participant, with clear direction on LDC administrative funding for 2015, which helps to avoid a gap in program delivery.

3.2.2.2 Direct Install Initiative ("DIL") (Schedule C-3)

Initiative Activities/Progress:

Events	Apr & Nov	commercial customers
Collateral	Feb & Jul	omnibus brochure and customized sell sheets for contractors
Online web	HOL web site	

Additional Comments:

- LED lighting was introduced in 2013 as a new measure and has been well received by customers who may not have previously qualified for DIL eligible upgrades. Addition of LEDs was a natural evolution of DIL program. CFLs are now considered an inferior lighting product. LEDs offer superior functionality (effective dimming for example), accurate lighting colour, longer lifecycle, and still provide significant energy savings (incandescent to LED). Product quality offers additional opportunity for DIL based energy savings in a hard to reach market.
- Cold start high output lighting was removed from the program. This particularly affected the farming customers who now have limited options within the program.

- The inclusion of a standard incentive for additional measures increased project size and drove higher energy and demand savings results in some situations. However, 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 potential to provide additional energy and demand savings.
- Many customers are not taking advantage of any additional measures, which may present an opportunity to for future savings with a new program offering.

3.2.2.3 Existing Building Commissioning Incentive Initiative (Schedule C-6)

Initiative Activities/Progress:

Events	Apr & Nov	commercial customers
Eblast	Apr/Nov/Dec	reminder to existing customers with open applications
Collateral	Feb & Jul	omnibus brochure
Online web	HOL web site	

Channel Sales Strategy

Additional Comments:

- Initiative name does not properly describe the initiative.
- There was minimal participation associated with this initiative. Program concept is sound, but complexity of application M&V is limiting participation, and limited scope of building measures reduces potential opportunities. In addition, it is suspected that the lack of participation in the program is a result of the initiative being limited to space cooling and a limited window of opportunity (cooling season) also impacted participation.
- Participation is mainly driven by engineering channel partners however the particulars of the initiative have presented a significant barrier for many channel partners to participate.
- The customer expectation is that the program be expanded to include a broader range of measures for a more holistic approach to building recommissioning. Chilled water systems used for other purposes should be made eligible. Expanded measures should be considered through change management process.
- This initiative should be reviewed for incentive alignment with ERII, as currently a participant will not receive an incentive if the overall payback is less than 2 years.
- Recommissioning should be a highly valued opportunity to enable customers to perform facility energy “deep dives” and find greater savings through less capital intensive replacement projects. Program refinement would enable greater participation and extract more unique energy savings opportunities.

3.2.2.4 New Construction and Major Renovation Initiative ("HPNC") (Schedule C-4)

Initiative Activities/Progress:

Hydro Ottawa had Enbridge under contract as delivery agent for this program. Enbridge worked in conjunction with the Hydro Ottawa sales team and engineering staff to deliver the program.

Collateral	Feb & Jul	omnibus brochure

Channel Sales Strategy

Additional Comments

- With the Ministerial Directive issued December 21, 2012, facilities with a completion date near the end of 2014 with some confidence that they will be compensated for choosing efficiency measures.
- Participants have until the end of 2014 to submit their applications for the projects that will be completed in 2015. However savings achieved will be accounted for in the new framework (2015 - 2020).
- The custom application process requires considerable customer support and skilled LDC staff. The effort required to participate through the custom stream exceeds the value of the incentive for many customers.
- There are no custom measure options for items that do not qualify under the prescriptive or engineered track as the custom path does not allow for individual measures, only whole building modelling.

3.2.2.5 Energy Audit Initiative

Initiative Activities/Progress:

Events	Apr & Nov	commercial customers
Collateral	Feb & Jul	omnibus brochure
Online web	HOL web site	

Channel Sales Strategy

Additional Comments

- The introduction of the new audit component for one system (i.e. compressed air), has increased customer participation.
- The energy audit Initiative is considered an 'enabling' initiative and 'feeds into' other saveONenergy initiatives (mainly ERII program).

- LDCs are receiving limited savings towards their targets based on average audit. Audit program optimization would enable more operational savings.

- Audit reports from consultants vary considerably and in some cases, while they adhere to the initiative requirements, do not maximize value for the participant. A standard template with specific energy saving calculation requirements should be considered.

- Participants are limited to one energy audit which restricts enabling and direction to the other initiatives. This has been revised in 2014 and LDCs are now able to consider additional customer participation when presented with a new scope of work. Optimization in this respect has enabled greater participation and more channel partners leverage audit funding in 2014.

- Consideration should be given to allowing a building owner to undertake an audit limited to their lighting system. This way they may receive valuable information from a neutral third party regarding the appropriate lighting solution for their facility instead of what a local supplier would like to sell. LDC should have greater autonomy to determine appropriate audit measures based on customer scenario.

3.2.3 INDUSTRIAL PROGRAM

Description: Owners of large facilities are discovering the benefits of energy efficiency through the Industrial Programs which are designed to help identify and promote energy saving opportunities. It includes financial incentives and technical expertise to help organizations modernize systems for enhanced productivity and product quality, as well as provide a substantial boost to energy productivity. This allows facilities to take control of their energy so they can create long-term competitive energy advantages which reach across the organization.

Targeted Customer Type(s): Industrial, Commercial, Institutional, Agricultural

Objective:

- Offer distribution 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 distribution customers to implement energy management and system optimization projects.

Discussion: The Industrial Program Portfolio has been able to provide valuable resources to large facilities such as energy managers and enabling engineering studies. The engineering studies in particular provide a unique opportunity for a customer to complete a comprehensive analysis of an energy intensive process that they would not otherwise be able to undertake. Energy managers provide customers with a skilled individual whose only role is to assist them with conservation initiatives. To date these energy managers have played a key role in customer participation. The KAM and the industrial project supervisors have also been instrumental in managing the embedded energy managers ("EEM") during the first and second half of the year respectively, and promoting activity to the Class A customers.

Due to the size, scope and long lead time of these initiatives and associated projects, the December 2012 Ministerial Directive provides some security for the continuation of the conservation programs and associated compensation for the participant; however the subsequent savings would not be attributed to an LDC's current target for projects that go into service after 2014.

Extensive legal documents, complex program structure and lengthy change management have restricted the change and growth of this portfolio. While the expedited change management has benefited the commercial portfolio, the industrial portfolio has not seen the same results due to the narrow scope of the process. For 2013 the change to the threshold for small capital projects and the new small capital project agreement improved the number of projects and savings achieved within Process and Systems Upgrades Initiation ("PSUI"). Likewise, a decision to proceed with applications for natural gas load displacement generation projects also increase uptake, although the limited time to bring new projects into service is a barrier.

3.2.3.1 Process and Systems Upgrades Initiative ("PSUI") (Schedule D-1)

Initiative Activities/Progress:

Events	Apr & Nov	commercial customers
Eblast	Apr/Nov/Dec	reminder to existing customers with open applications
Collateral	Feb & Jul	omnibus brochure
Online web	HOL web site	

Channel Sales Strategy

Additional Comments:

- A number of energy studies have been submitted and completed. This is an indication that there is potential for large projects with corresponding energy savings. Many of these studies have been initiated with the help of our engineering channel partners and associated education of key accounts.
- This initiative can be limited by the state of economy and ability of a facility to complete large capital intensive upgrades.
- There is typically a long sales cycle for these projects (18 to 24 months), and extended project development cycle. As such, limited results were generated in 2014. The majority of the results are expected in 2015 with a much reduced benefit to cumulative energy savings targets.
- Given the size of the projects involved, the contract required for PSUI is a lengthy and complicated document. A key to making PSUI successful is the new agreement for 'small' projects with simplified and less onerous conditions for the customer.
- To partially address this, changes were made to the ERII program which allowed smaller projects to be directed to the commercial stream. Most industrial projects to-date have been submitted as ERII projects due to less onerous contract

and M&V requirements. The bulk of projects have been Combined Heat and Power (CHP) systems. Therefore, PSUI engineering studies have contributed significant savings to other programs such as ERII, but also addressed niche market opportunities like CHP projects.

- A business case was submitted by the Industrial Working Group in July 2012 which changed the limit for a small project from 700 MWh to 1 million dollars in incentives. This would allow more projects to be eligible for the new small capital project agreement and increase participant uptake, while still protecting the ratepayer. This small capital project agreement was finalized through change management in September 2013.

- With the considerable customer interest in on-site load displacement (co-generation) projects, the initiative should be reviewed to ensure that these projects may be accepted as part of the PSUI Initiative. The IESO was reviewing waste heat projects only and all other co-generation projects were on hold prior to June 2013, when a decision was made to allow natural gas load displacement generation projects to proceed under PSUI. A number of projects have proceeded although results will not be counted towards LDC 2011-2014 framework target.

3.2.3.2 Monitoring and Targeting ("M&T") Initiative (Schedule D-2)

Initiative Activities/Progress:

Events	Apr & Nov	commercial customers
Eblast	Apr/Nov/Dec	reminder to existing customers with open applications
Collateral	Feb & Jul	omnibus brochure
Online web	HOL web site	

Channel Sales Strategy

Additional Comments:

- The M&T initiative is targeted at larger customers with the capacity to collect and review the data provided by monitoring systems. Program mandates that data review requires the customer facility to employ an energy manager, or a person with equivalent qualifications, which has been a barrier for some customers. As such, only six applications were completed under 2014 framework

- The savings target required for this initiative can present a significant challenge for smaller customers.

- M&T initiative could provide valuable educational opportunities that would enable customers to make significant savings based on new found energy knowledge. Program needs to be update and barriers to participation reduced.

- Through the change management process in 2013, changes were made to ERII to allow smaller facilities to employ M&T systems.

3.2.3.3 Energy Manager Initiative (Schedule D-3)

Initiative Activities/Progress:

Hydro Ottawa had five Embedded Energy Managers and two Roving Energy Managers in market during 2014

Additional Comments:

- The Embedded Energy Managers ("EEMs") have proven to be a popular and useful resource for larger customers. There are approximately 50 EEMs and 22 Roving Energy Managers ("REMs") being utilized by customers across the province.
- LDCs that are too small to qualify for their own REM are teaming up with other utilities to hire a REM to be shared by the group of utilities.
- At the beginning, it took longer than expected to set up the energy manager application process and unclear communication resulted in marketing and implementation challenges for many LDCs.
- Some LDCs and customers are reporting difficulties in hiring capable REMs and EEMs, in some instances taking up to several months to have a resource in place.
- There have been a number of studies identified by energy managers and they have been able to build capacity and deliver energy savings projects within their respective large commercial/industrial facilities.
- The requirement that 30% of targets must come from non-incented projects is identified as an issue for most EEMs/REMs. The EDA Industrial Working Group has proposed to remove this requirement for REMs only as they are not resident full time at a customer facility to find the non-incented savings.

3.2.3.4 Key Account Manager (Schedule D-4)

Initiative Activities/Progress:

Hydro Ottawa's Key Account Manager was transitioned to a Roving Energy Manager at the end of 2014.

Additional Comments

- 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.
- Finding this type of skill set has been difficult. In addition, the short-term contract and associated energy targets discourage some skilled applicants resulting in longer lead times to acquire the right resource.
- This resource has been found by some LDCs to be of limited value due to the part-time nature of the position and limited funding. In addition, the position role has been too narrow in scope to provide assistance to the wider variety of projects with which LDCs may be struggling.

3.2.3.5 Demand Response 3 ("DR3") (Schedule D-6)

Initiative Activities/Progress:

Hydro Ottawa supports the activities of DR aggregators in its service territory but itself is not directly participating in DR3.

Additional Comments:

- Until early 2013, customer data was not provided on an individual customer basis due to contractual requirements with the aggregators. This limited LDCs' ability to effectively market to prospective participants and confirm savings.
- The Industrial Working Group had a discussion with the IESO and representatives of the Ministry on proposed changes for the DR3 program. No program improvements were made in 2013. However, it was accepted that prior participants who renew their DR3 contract within the 2011-2014 term will contribute to LDC targets.
- As of 2013, aggregators are able to enter into contracts beyond 2014. This has allowed them to offer a more competitive contract price (five years) than the previously limited one- to two-year contracts. However on March 31, 2014 the Minister of Energy issued a directive entitled "Continuance of the IESO's Demand Response Program under IESO management" which restricts the IESO from granting any more contract schedules to aggregators, as the program is being transitioned from the IESO to the IESO. This decision will prevent the DR3 program from continuing to grow until the IESO is ready to assign DR3 capacity through a new auction process.
- Metering and settlement requirements are complicated and can reduce customer compensation amounts, and present a barrier to some customers.
- Compensation amounts have been reduced from the previous version of this program and subsequently there has been a corresponding decrease in renewal rates.

3.2.4 LOW INCOME INITIATIVE (HOME ASSISTANCE PROGRAM) (Schedule E-1)

Initiative Activities/Progress:

A third party was contracted to deliver this program on behalf of Hydro Ottawa. Outreach to the three largest social housing providers was the approach.

Additional Comments:

- The process for enrolling in social housing was complicated and time consuming. This was addressed in late 2012 and showed benefits since 2013.
- The financial scope, complexity, and customer privacy requirements of this initiative are challenging for LDCs and most have contracted this program out. This initiative may benefit from an IESO contracted centralized delivery agent.

3.2.5 PRE-2011 PROGRAMS

Savings were realized towards LDC's 2011-2014 target through pre-2011 programs. The targeted customer types, objectives, descriptions, and activities of these programs are detailed in Appendix B.

4 2014 Hydro Ottawa CDM Results

4.1 Participation and Savings

Table 4: 2014 Verified Results

Table 1: Hydro Ottawa Limited Initiative and Program Level Net Savings by Year

Initiative	Unit	Incremental Activity (new program activity occurring within the specified reporting period)				Net Incremental Peak Demand Savings (kW) (new peak demand savings from activity within the specified reporting period)				Net Incremental Energy Savings (kWh) (new energy savings from activity within the specified reporting period)				Program-to-Date Verified Progress to Target (excludes DR)	
														2014 Net Annual Peak Demand Savings (kW)	2011-2014 Net Cumulative Energy Savings (kWh)
		2011*	2012*	2013*	2014	2011	2012	2013	2014	2011	2012	2013	2014	2014	2014
Consumer Program															
Appliance Retirement	Appliances	4,110	2,604	1,602	1,643	246	146	104	110	1,754,416	1,040,845	681,703	716,646	597	12,213,082
Appliance Exchange	Appliances	183	178	191	291	19	25	40	60	22,795	43,987	70,563	107,507	132	461,436
HVAC Incentives	Equipment	7,863	7,275	7,037	7,752	2,880	1,606	1,448	1,615	5,465,411	2,835,583	2,563,561	3,010,372	7,549	38,505,885
Conservation Instant Coupon Booklet	Items	29,787	1,728	19,469	68,482	69	13	29	137	1,104,610	78,235	431,268	1,868,341	248	7,384,024
Bi-Annual Retailer Event	Items	53,276	59,361	52,864	269,963	94	83	66	450	1,644,342	1,498,537	961,278	6,876,882	693	19,872,416
Retailer Co-op	Items	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Demand Response	Devices	5,701	16,134	23,018	28,262	3,193	7,249	11,608	15,892	8,266	55,891	48,406	0	15,892	112,564
Residential Demand Response (IHD)	Devices	0	9,659	18,720	24,359	0	0	0	0	0	0	0	0	0	0
Residential New Construction	Homes	0	0	2	677	0	0	2	59	0	0	16,548	459,558	61	492,655
Consumer Program Total						**6,500**	**9,122**	**13,296**	**18,322**	**9,999,841**	**5,553,079**	**4,773,328**	**13,039,306**	**25,172**	**79,042,061**
Business Program															
Retrofit	Projects	338	625	857	878	2,832	5,116	4,897	5,592	14,868,304	22,549,482	26,220,638	34,825,481	18,021	212,851,962
Direct Install Lighting	Projects	1,063	1,107	1,143	2,563	1,416	843	1,011	2,269	3,870,853	3,365,166	3,655,868	8,627,005	4,902	39,584,187
Building Commissioning	Buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Construction	Buildings	0	11	16	18	0	14	125	938	0	16,176	117,105	2,930,033	1,077	3,212,772
Energy Audit	Audits	13	25	53	22	0	124	423	294	0	604,230	2,325,637	1,436,019	841	7,899,983
Small Commercial Demand Response	Devices	7	33	215	432	4	21	138	361	16	120	46	0	361	182
Small Commercial Demand Response (IHD)	Devices	0	0	25	51	0	0	0	0	0	0	0	0	0	0
Demand Response 3	Facilities	10	11	12	12	597	644	1,520	1,256	23,305	9,354	24,274	0	1,256	56,934
Business Program Total						**4,850**	**6,761**	**8,115**	**10,710**	**18,762,479**	**26,544,529**	**32,343,568**	**47,818,538**	**26,458**	**263,606,019**
Industrial Program															
Process & System Upgrades	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monitoring & Targeting	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy Manager	Projects	0	14	36	45	0	0	109	331	0	0	816,987	2,454,402	392	3,791,710
Retrofit	Projects	12	0	0	0	81	0	0	0	533,952	0	0	0	81	2,135,807
Demand Response 3	Facilities	0	1	2	2	0	42	189	189	0	1,010	4,299	0	189	5,309
Industrial Program Total						**81**	**42**	**297**	**520**	**533,952**	**1,010**	**821,286**	**2,454,402**	**662**	**5,932,826**
Home Assistance Program															
Home Assistance Program	Homes	0	450	990	949	0	26	32	30	0	319,766	384,041	388,673	88	2,113,531
Home Assistance Program Total						**0**	**26**	**32**	**30**	**0**	**319,766**	**384,041**	**388,673**	**88**	**2,113,531**
Aboriginal Program															
Home Assistance Program	Homes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Direct Install Lighting	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aboriginal Program Total						**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Pre-2011 Programs completed in 2011															
Electricity Retrofit Incentive Program	Projects	175	0	0	0	934	0	0	0	4,899,976	0	0	0	934	19,599,902
High Performance New Construction	Projects	16	12	3	0	321	807	286	0	1,651,092	2,431,058	1,899,180	0	1,415	17,695,901
Toronto Comprehensive	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multifamily Energy Efficiency Rebates	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LDC Custom Programs	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre-2011 Programs completed in 2011 Total						**1,255**	**807**	**286**	**0**	**6,551,068**	**2,431,058**	**1,899,180**	**0**	**2,348**	**37,295,803**
Other															
Program Enabled Savings	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time-of-Use Savings	Homes	0	0	0	n/a	0	0	0	3,513	0	0	0	0	3,513	0
LDC Pilots	Projects	0	0	0	2	0	0	0	31	0	0	0	543,761	31	543,761
Other Total						**0**	**0**	**0**	**3,513**	**0**	**0**	**0**	**0**	**3,513**	**0**
Adjustments to 2011 Verified Results							**-209**	**0**	**1**		**244,069**	**0**	**6,110**	**-216**	**978,093**
Adjustments to 2012 Verified Results								**478**	**645**			**2,376,882**	**3,023,205**	**1,118**	**16,186,157**
Adjustments to 2013 Verified Results									**958**				**4,724,139**	**958**	**9,165,873**
Energy Efficiency Total						**8,893**	**8,803**	**8,571**	**15,428**	**35,815,751**	**34,783,066**	**40,144,378**	**64,244,681**	**40,573**	**388,359,012**
Demand Response Total (Scenario 1)						**3,794**	**7,956**	**13,455**	**17,698**	**31,588**	**66,376**	**77,026**	**0**	**17,698**	**174,989**
Adjustments to Previous Years' Verified Results Total						**0**	**-209**	**478**	**1,605**	**0**	**244,069**	**2,376,882**	**7,753,454**	**1,861**	**26,330,123**
OPA-Contracted LDC Portfolio Total (inc. Adjustments)						**12,687**	**16,550**	**22,503**	**34,731**	**35,847,339**	**35,093,510**	**42,598,285**	**71,998,134**	**60,132**	**414,864,124**
													Full OEB Target:	**85,260**	**374,730,000**
													% of Full OEB Target Achieved to Date (Scenario 1):	**70.5%**	**110.7%**

Activity and savings for Demand Response resources for each year represent the savings from all active facilities or devices contracted since January 1, 2011 (reported cumulatively).

*Includes adjustments after Final Reports were issued

Results presented using scenario 1 which assumes that demand response resources have a persistence of 1 year

Table 5: Summarized Program Results

Hydro Ottawa Limited Initiative and Program Level Net Savings by Year

Initiative	Unit	Incremental Activity (new program activity occurring within the specified reporting period)			
		2011*	2012*	2013*	2014
Consumer Program					
Appliance Retirement	Appliances	4,110	2,604	1,602	1,643
Appliance Exchange	Appliances	183	178	191	291
HVAC Incentives	Equipment	7,863	7,275	7,037	7,752
Conservation Instant Coupon Booklet	Items	29,787	1,728	19,469	68,482
Bi-Annual Retailer Event	Items	53,276	59,361	52,864	269,963
Retailer Co-op	Items	0	0	0	0
Residential Demand Response	Devices	5,701	16,134	23,018	28,262
Residential Demand Response (IHD)	Devices	0	9,659	18,720	24,359
Residential New Construction	Homes	0	0	2	677
Consumer Program Total					
Business Program					
Retrofit	Projects	338	625	857	878
Direct Install Lighting	Projects	1,063	1,107	1,143	2,563
Building Commissioning	Buildings	0	0	0	0
New Construction	Buildings	0	11	16	18
Energy Audit	Audits	13	25	53	22
Small Commercial Demand Response	Devices	7	33	215	432
Small Commercial Demand Response (IHD)	Devices	0	0	25	51
Demand Response 3	Facilities	10	11	12	12
Business Program Total					
Industrial Program					
Process & System Upgrades	Projects	0	0	0	0
Monitoring & Targeting	Projects	0	0	0	0
Energy Manager	Projects	0	14	36	45
Retrofit	Projects	12	0	0	0
Demand Response 3	Facilities	0	1	2	2
Industrial Program Total					
Home Assistance Program					
Home Assistance Program	Homes	0	450	990	949
Home Assistance Program Total					
Aboriginal Program					
Home Assistance Program	Homes	0	0	0	0
Direct Install Lighting	Projects	0	0	0	0
Aboriginal Program Total					
Pre-2011 Programs completed in 2011					
Electricity Retrofit Incentive Program	Projects	175	0	0	0
High Performance New Construction	Projects	16	12	3	0
Toronto Comprehensive	Projects	0	0	0	0
Multifamily Energy Efficiency Rebates	Projects	0	0	0	0
LDC Custom Programs	Projects	0	0	0	0
Pre-2011 Programs completed in 2011 Total					
Other					
Program Enabled Savings	Projects	0	0	0	0
Time-of-Use Savings	Homes	0	0	0	n/a
LDC Pilots	Projects	0	0	0	2

Table 6: Net-to-Gross Results

Hydro Ottawa Limited Realization Rate & NTG																
Initiative	Peak Demand Savings								Energy Savings							
	Realization Rate				Net-to-Gross Ratio				Realization Rate				Net-to-Gross Ratio			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Consumer Program																
Appliance Retirement	1.00	1.00	n/a	n/a	0.52	0.47	0.42	0.42	1.00	1.00	n/a	n/a	0.52	0.47	0.44	0.44
Appliance Exchange	1.00	1.00	1.00	1.00	0.52	0.52	0.53	0.53	1.00	1.00	1.00	1.00	0.52	0.52	0.53	0.53
HVAC Incentives	1.00	1.00	n/a	1.00	0.60	0.49	0.48	0.51	1.00	1.00	n/a	1.00	0.60	0.49	0.48	0.51
Conservation Instant Coupon Booklet	1.00	1.00	1.00	1.00	1.14	1.00	1.11	1.61	1.00	1.00	1.00	1.00	1.11	1.05	1.13	1.62
Bi-Annual Retailer Event	1.00	1.00	1.00	1.00	1.13	0.91	1.04	1.74	1.00	1.00	1.00	1.00	1.10	0.92	1.04	1.75
Retailer Co-op	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Residential Demand Response	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Residential Demand Response (IHD)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Residential New Construction	n/a	n/a	1.12	1.48	n/a	n/a	0.63	0.63	n/a	n/a	1.53	0.77	n/a	n/a	0.63	0.63
Business Program																
Retrofit	0.93	0.95	0.92	0.83	0.73	0.74	0.74	0.71	1.24	1.05	1.00	0.96	0.75	0.75	0.73	0.72
Direct Install Lighting	1.08	0.68	0.82	0.78	0.93	0.94	0.94	0.94	0.90	0.85	0.84	0.83	0.93	0.94	0.94	0.94
Building Commissioning	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
New Construction	n/a	0.57	0.62	0.90	n/a	0.49	0.54	0.54	n/a	0.68	0.61	0.86	n/a	0.49	0.54	0.54
Energy Audit	n/a	n/a	1.02	0.96	n/a	n/a	0.66	0.68	n/a	n/a	0.97	1.00	n/a	n/a	0.66	0.67
Small Commercial Demand Response	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Small Commercial Demand Response (IHD)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Demand Response 3	0.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Industrial Program																
Process & System Upgrades	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Monitoring & Targeting	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Energy Manager	n/a	n/a	0.90	0.91	n/a	n/a	0.90	1.90	n/a	n/a	0.90	0.96	n/a	n/a	0.90	0.90
Retrofit																
Demand Response 3	0.84	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Home Assistance Program																
Home Assistance Program	n/a	1.07	1.07	0.88	n/a	1.00	1.00	1.00	n/a	1.00	0.90	0.76	n/a	1.00	1.00	1.00
Aboriginal Program																
Home Assistance Program	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Direct Install Lighting	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pre-2011 Programs completed in 2011																
Electricity Retrofit Incentive Program	0.79	n/a	n/a	n/a	0.53	n/a	n/a	n/a	0.78	n/a	n/a	n/a	0.53	n/a	n/a	n/a
High Performance New Construction	1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.50	1.00	1.00	1.00	1.00	0.50	0.50	0.50	0.50
Toronto Comprehensive	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Multifamily Energy Efficiency Rebates	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LDC Custom Programs	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Other																
Program Enabled Savings	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Time-of-Use Savings	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LDC Pilots	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 7: Summarized 2014 Program Results

Program	Gross Savings		Net Savings		Contribution to Targets	
	Incremental Peak Demand Savings (MW)	Incremental Energy Savings (GWh)	Incremental Peak Demand Savings (MW)	Incremental Energy Savings (GWh)	Program-to-Date: Net Annual Peak Demand Savings (MW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (GWh)
Consumer Program Total	20.062	13.803151	18.322	13.039306	25.172	79.042061
Business Program Total	13.984	65.145697	10.710	47.818538	26.458	26.3606019
Industrial Program Total	.557	2.727113	.520	2.454402	.662	5.932826
Home Assistance Program Total	.030	.388673	.030	.388673	.088	2.113531
Pre-2011 Programs completed in 2011 Total	0	0	0	0	2.348	37.295803
Other Adjustments to Previous Year's Verified Results*	3.513	0	.958	4.724139	.958	9.165873
Total IESO Contracted Province-Wide CDM Programs	**40.912**	**95.287257**	**34.731**	**71.998134**	**60.132**	**414.864124**

* TOU, enabled savings and adjustments to previous year results

4.2 Evaluation, Measurement and Verification ("EM&V") Findings

The following table provides a summary of the 2014 EM&V findings for the evaluated saveONenergy program initiatives. These key evaluation findings are derived from the 2014 evaluations of the saveONenergy programs and issued by the IESO.

Table 8: Evaluation Findings

CONSUMER PROGRAM
Appliance Retirement Initiative
• Participation increased slightly to 22,563 (7.7%) in 2014 compared with 20,952 in 2013. • Since 2011 overall Initiative participation has decreased nearly 60%. • The greatest decrease was seen in the number of refrigerators collected year-over-year • Of appliances collected, refrigerators and freezers remain the most dominate measures accounting for 90%. However, window AC units and dehumidifiers saw a marked increase of 29.6% and 27% respectively in 2014. • Net to gross ratio (NTG) increased slightly to 47% compared to 43% as reported for 2013 and 2012 program years.
Appliance Exchange Initiative
• Participation in 2014 increased by 6.5% to 5,685 appliances from 5,337 compared to 2013 • Per-unit savings has increased by 36.6% as ENERGY STAR criteria increases and more participants purchase ENERGY STAR replacements appliances. This resulted in a 6.5% increase in Net Energy & Demand savings. • Net to Gross ratio (NTG) remained unchanged from 2013 at 52.6%
Heating and Cooling Initiative
• In 2014 net savings increased by 20% from 2013 and overall participation increased by 17% to 113,002 compared to 2013

- The ECM measure has remained the dominant source of savings since 2011
- Per unit furnace savings increased 12.7% due to a shift in the number of participants who use their furnace fan continuously both before and after the retrofit.
- Per unit energy and demand savings assumptions for central air conditioners decreased by 56% due to reduced run hours
- Net to Gross ratio (NTG) remained unchanged from 2013 at 48%

Annual Coupons

- Customers redeemed more than five times as many annual coupons in 2014 as in 2013. In total, approximately 500, 000 Annual Coupons were redeemed in 2014 with 110,000 being LDC Coded Coupons.
- There was a further reduction in savings for lighting measures from changes in the baseline due to the phase out of 72W and 100W incandescent bulbs.
- Despite the significant per unit savings reductions for lighting measure, the Net Annual Savings from Annual Coupons in 2014 was more than six times that in 2013. This is primarily because of higher participation and the inclusion of LED coupons and full year availability of all coupons.
- Measured NTG ratios grew significantly in 2014. The NTG ratio is 53% higher in 2014 than in 2013 due to the inclusion of participant spillover, i.e., purchase of additional coupon initiative measures and general energy efficient measures without the use of a coupon but influenced by the coupon program.

Bi-Annual Coupon Events

- Over 2.5 million coupons were redeemed in 2014 compared with 2013 redemptions
- The Bi-Annual Coupon Event saw a substantial increase in the number of coupons redeemed during the Spring and Fall Events in 2014 compared to 2013. The increase can be linked to a substantial increase in LED purchases with event coupons accounting for 84% of all Bi-Annual Coupons redeemed.
- Reductions in per unit savings were overshadowed by the increase in coupon redemptions. Overall savings increased by approximately 85% in 2014 compared with 2013 Demand and Energy Savings.
- Similar to the Annual Coupon Event measured NTG ratios rose by 53% compared to 2013 NTG ratios. The rise is due to the inclusion of participant spillover, i.e., purchase of additional coupon initiative and general energy efficient measures without the use of a coupon but influenced by the Bi-Annual Coupon event.

***peaksaver*PLUS**

- There were an additional 55,000 CAC load control devices enrolled in the program in 2014 relative to 2013, which increased the capacity of the residential segment of the program from 129 MW in 2013 to 143 MW in 2014.
- Ex-ante impacts on a per device basis were lower than 2013 average.
- There were no energy savings in 2014 because there were no system-wide events were called.
- Load impact estimates for the average small and medium business and for electric water heaters among residential customers remain consistent with prior year's analysis
- IHD's yielded no statistically significant energy savings.

Residential New Construction
• The most significant growth in the initiative has been participation in the prescriptive track. MW savings in the prescriptive track increased from zero summer peak MW savings in 2011 to 352 summer peak kW savings in 2014. • The custom track saw participation for the first time in 2014. One custom project of 55 homes contributed 37 kW demand savings and 0.5 GWh of energy savings. • New deemed savings for performance track homes were developed and implemented, resulting more consistent realization rates for 2014. • ENERGY STAR New Homes was introduced as an eligible measure within the performance track in 2014. As a result, these ENERGY STAR New Homes provided 1% of peak kW savings and 4% of kWh savings.

HOME ASSISTANCE PROGRAM

Home Assistance Program
• Participation decreased by 5 % to 25,424 participants compared with 2013 (26,756). The decrease was due to six LDCs not participating in the Home Assistance Program in 2014. • Realization rates for demand doubled in 2014 to 56% compared with 2013 (26%). However, energy realization rates decreased by 10% to 77% compared with 2013 results. • Realization rate for demand savings increased due to the adoption of the new FAST Tool which incorporated updated kW savings for weatherization measures in particular insulation measures.

BUSINESS PROGRAM

Retrofit

- The number of prescriptive projects increased slightly (1.2%) in 2014 to a total of 4,812. However, total net verified savings and peak demand savings dropped significantly (19% and 30% respectively). This is due to a 19% drop in per-project net verified savings, which can be attributed to lower track level realization rate and net-to-gross ratio and is related to smaller average project sizes.
- The quantity of engineered projects increased 22% to a total of 3,906 in 2014, combined with a net verified savings per project increase of 17% the track saw a dramatic 47% increase in net energy savings.
- Lower demand realization rates across the program as a whole were tied to equipment differences between reported and calculated values. For lighting projects the difference was most often seen in baseline and retrofit lamp wattages and ballast factors. Non-lighting tracks exhibited lower demand realization rates due to the following factors:
    - Variations in load profiles where the evaluation team found equipment that operated fewer hours or at a lower capacity than expected from the project documentation.
    - Inconsistencies in equipment nameplate data (typically efficiency or capacity) between project documentation and equipment installed on-site.
    - Weather dependent control systems leading to shifts in how often the equipment operated.

Small Business Lighting

- 23,784 projects were completed in 2014 (34% increase from 2013)
- The category of 'Other' business type projects increased 71% when compared to 2013. Agribusinesses make up 74% of the 'Other' business type category. While growth in the number of projects is good, agribusinesses projects, in particular, have a realization rate of only 58.5%. This is primarily due to the verified annual operating hours being approximately 45% less than the assumed annual operating hours.
- In 2014 LED measures provide the most net savings of any other SBL measure making up 59% of net energy savings in 2014. Their long effective useful life and retention of a larger amount of savings after the baseline adjustment allow LED measures to also contribute substantially more lifetime savings than CFLs and linear fluorescents.
- Overall energy and demand realization rates decreased by 1.8 and 3.1 %, respectively, from 2013.
    - Sampled rural projects have lower energy realization rather than urban projects (63.8% compared to 83.5%) across the 2011 – 2014 sample

- Sampled rural projects have even lower demand realization rather than urban projects (49.7% compared to 74.1%) across the 2011 – 2014 sample
- The annual proportion of net energy savings from rural projects has increased from 30% in 2011 to 41% in 2014

Audit Funding

- The number of audits carried out in 2014 decreased by 20% when compared to 2013.
- The average per audit net energy savings attributable to the Audit Funding Initiative was estimated to be 65 MWh and 13 kW of summer peak demands savings.
- Time series analysis quantified additional savings from measures implemented after initial program year. It was found that an additional 7.2%, 5.0% and 0.1% can be added to all previously reported projects in 2011, 2012 and 2013 projects, respectively.

Existing Building Commissioning

- 5 projects completed the Hand-off stage in 2014.
- Energy realization rate was estimated at 116% and demand realization rate at 202%.
- About 31 participants are still in the scoping stage or implementation stage.

High Performance New Construction

- Savings have increased every year of the initiative with an increased participation of 50% from 2013
- In 2014, most savings came from the custom track providing 71% of demand savings.
- Participation from HVAC measures occurred for the first time in 2014 (providing 14% of summer peak kW savings and 5% of kWh savings).
- The measures with the greatest impact on low realization rates for prescriptive measures were high volume low speed (HVLS) fans and variable frequency drives (VFDs).
- Province-wide realization rates declined slightly for 2014, as a result of the wider variety of measures being implemented.
- Key drivers for participation are: initial project cost, followed by electricity costs and expected energy savings are the key drivers to participation.

INDUSTRIAL PROGRAM

Process and Systems – Capital Incentive Initiative

• 10 PSUI Capital Incentive projects implemented in 2014, compared to 5 in2013.
  o 4 projects are Behind the Meter Generation (BMG) projects.
  o The remaining projects were energy efficiency improvements in pumping, cooling, compressed air systems and industrial processes.
• Each project received its own Net to Gross (NTG) value. NTG ratios ranged from 62% to 100% for the 10 projects
• Realization rates remained high in 2014, ranging from 90 to over 100%.

Process and Systems Energy Managers Initiative – Non incented savings
• 379 Energy Manager projects were completed in 2014 compared to 306 in 2013 • Energy Managers are important drivers of non incented savings projects. • In 2014, the Energy Mangers initiative has contributed to 35% of energy savings for Industrial Programs •

Process and Systems Monitoring and Targeting Initiative – Non incented savings
• 5 projects were completed in 2014, compared to 3 in 2013. • Low realization rates (36% for energy savings and 59% for demand savings) are attributed to reported savings based on total potential savings rather than non-incentivized realized savings, while the verified savings only include non-incentivized savings).

Demand Response - DR-3
• The largest 25 contributors account for 60% of the contractual demand reduction – that is, less than 4% of contributors account for the majority of the load reductions. • A multi-year analysis indicates 2012 was the best year for program performance. After 2012, a single large contributor left the program, resulting in a decrease in overall performance in 2013 and 2014. This highlights the risk having a highly concentrated program with a few large contributors representing a large share of the program capacity. • There were no events called in 2014 and the contracted capacity was similar to 2013.

Note:

The Key Evaluation findings are derived from the 2014 evaluations of the saveONenergy programs. These findings were developed by 3rd party evaluation contractors. Complete findings are detailed in the contractors' full evaluation reports, which will be available publicly in Q4 2015.

4.3 Evaluation

See 4.5 Additional Comments

4.4 Spending

Table provides a summary of the total spending by initiative that Hydro Ottawa has incurred in 2014 and cumulatively since 2011. It is detailed by the Program Administration Budget (PAB), Participant Based Funding (PBF), Participant Incentives (PI) and Capability Building Funding (CBF).

Table 9: 2014 Spending

Initiative	PAB	PBF	PI	CBF	TOTAL
Consumer Program					
Appliance Retirement	65,381				65,381
Appliance Exchange	31,250				31,250
HVAC Incentives	138,238				138,238
Conservation Instant Coupon Booklet	187,483				187,483
Bi-Annual Retailer Event	124,526				124,526
Retailer Co-op					
Residential Demand Response	1,272,415		2,409,259		3,681,675
New Construction Program	63,160		596,763		659,923
Business Program					
Efficiency: Equipment Replacement	546,691		11,106,616		11,653,307
Direct Installed Lighting	258,601	640,898	3,126,476		4,025,975,
Existing Building Commissioning Incentive	34,558				
New Construction and Major Renovation Initiative	465,362		1,288,075		1,753,438,
Energy Audit	34,706		235,359		270,065
Small Commercial Demand Response (part of the Residential program schedule)					
Demand Response 3 (part of the Industrial program schedule)					
Industrial Program					
Process & System Upgrades					
a) preliminary engineering study					
b) detailed engineering study					
c) program incentive	29,920		25,000		54,920
Monitoring & Targeting	29,950				29,950
Energy Manager					
Key Account Manager	34				34
Efficiency Equipment Replacement Incentive (part of the C&I program schedule)					
Demand Response 3	119,800				119,800
Home Assistance Program					
Home Assistance Program	-52,601		462,535		409,934
TOTAL SPENDING	3,349,476	640,898	19,250,084		23,240,457

Table 10: 2011-2014 Spending

Initiative	PAB	PBI	PI	CBF	TOTAL
Consumer Program					
Appliance Retirement	321,942				321,942
Appliance Exchange	127,560				127,560
HVAC Incentives	505,731				505,731
Annual Coupons	518,996				518,996
Bi-Annual Retailer Event	337,572				337,572
Retailer Co-op					
Residential Demand Response	3,909,337		8,266,540		12,175,877
New Construction Program	69,560		596,763		666,323
Business Program					
Equipment Replacement	2,522,455		20,463,178		22,985,633
Direct Installed Lighting	1,789,578	1,340,359	6,207,283		9,337,219
Existing Building Commissioning Incentive	193,166				193,166
New Construction and Major Renovation Initiative	1,462,156		1,919,332		3,381,488
Energy Audit	201,365		684,312		885,677
Small Commercial Demand Response					
Demand Response					
Industrial Program					
Process & System Upgrades					
a) preliminary engineering study					
b) detailed engineering study					
c) program incentive	86,774		25,000		111,774
Monitoring & Targeting	86,625				86,625
Energy Manager	18,280				18,280
Key Account Manager (“KAM”)	5,270				5,270
Equipment Replacement Incentive					
Demand Response 3	346,233				346,233
Home Assistance Program					
Home Assistance Program	650,890		965,358		1,616,248
Pre 2011 Programs					
Electricity Retrofit Incentive Program			3,188,460		3,188,460
High Performance New Construction					
Toronto Comprehensive					
Multifamily Energy Efficiency Rebates					
Data Centre Incentive Program					
EnWin Green Suites					
Initiatives Not In Market					
Midstream Electronics					
Midstream Pool Equipment					
Demand Service Space Cooling	1,646				1,646
Demand Response 1	362,522				362,522
Home Energy Audit Tool					
Total CDM Program Spending	13,517,655	1,340,359	42,316,225		57,174,240

4.5 Additional Comments

Over the 4-year period of 2011- 2014, Hydro Ottawa saw steadily increasing customer participation from our Commercial customers – typically close to 20% higher participation from one year to the next. Customer awareness along with their increasing desire to support Hydro Ottawa's conservation efforts and enhance their Corporate Social Responsibility has led to increased results each year. The Retrofit results were a strong contributor to the over- achievement of our energy (GWH) savings target (110% of target).

A few of the province wide programs still have critical processes and issues that are being corrected for the next Framework (New Home Construction, High Performance New Construction, etc.). These programs might have delivered significantly more savings if the program's shortcomings had been amended sooner. However, we should see these programs contribute stronger results in the 2015-2020 Framework.

Our expectations at the outset of the 2011-2014 program for results associated with TOU are best described as idealistic. The OPA (now the IESO) projected at the time that HOL would save 15 MWs over the 4-year term and this factor was built into the HOL program forecasts. In fact in 2015, after the completion of the program, it was determined by IESO that the TOU demand savings were only 3.4 MWs or about 20% of the original estimate. This resulted in a significant shortfall in our demand target.

Hydro Ottawa developed a very successful In-home Display (IHD) program to help educate customers about TOU rates and encouraged customers to shift their usage away from the high peak time (in the middle of the day) to the off peak times. This should have been a contributing element in achieving our TOU MW reductions but, two factors made achieving these targets very difficult:

1. The TOU results apportioned to each LDC were a province-wide average. Ottawa's successful efforts were shared across the province, so Ottawa didn't benefit directly from its successful IHD program – other than to raise the overall provincial average moderately.

2. Further to that, the Program results were only verified in mid-2015 – too late to react to any shortcomings.

Hydro Ottawa operated a very successful capability building initiative enabled by the Energy Manager Initiative. These individual Energy Managers required some time to establish themselves within our larger customer's environments, but once in place, were very successful at identifying and delivering significant energy efficiency opportunities. Many will remain in place during the next Framework.

As a summary, we learned a great deal throughout the 2011 – 2014 timeframe. We became more customer-focused in our training, delivery and execution of CDM programs. Our advertising became more targeted and our sales calls became more direct. We learned how to target the right person in each company and better understand their motivation for working with us. All of this bodes well for a successful next framework.

5 Combined CDM Reporting Elements

5.1 Progress Towards CDM Targets

Table 11: Net Peak Demand Savings at the End User Level (MW)

Implementation Period	Annual (MW)			
	2011	2012	2013	2014
2011 – Verified by IESO	12.7	8.9	8.9	8.3
2012 – Verified by IESO+	-0.2	16.6	8.5	8.4
2013 – Verified by IESO+		0.5	22.5	8.8
2014 – Verified by IESO+		0.6	1.6	34.7
Verified Net Annual Peak Demand Savings in 2014:				60.1
Hydro Ottawa 2014 Annual CDM Capacity Target:				85.3
Verified Portion of Peak Demand Savings Target Achieved (%):				70.5%

†Includes adjustments to previous years' verified results

Results presented using scenario 1 which assumes that demand response resources have a persistence of 1 year

Table 12: Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual (GWh)				Cumulative (GWh)
	2011	2012	2013	2014	2011-2014
2011 – Verified by IESO	35.8	35.8	35.7	34.0	141.4
2012 – Verified by IESO+	0.2	35.1	34.9	34.4	104.6
2013 – Verified by IESO+		2.4	42.6	41.6	86.4
2014 – Verified by IESO+		3.0	7.47	72.0	82.5
Verified Net Cumulative Energy Savings 2011-2014:					**414.9**
Hydro Ottawa 2011-2014 Cumulative CDM Energy Target:					**374.7**
Verified Portion of Cumulative Energy Target Achieved (%):					**110.7%**

†Includes adjustments to previous years' verified results

Results presented using scenario 1 which assumes that demand response resources have a persistence of 1 year

5.2 Variance from Strategy

There is no variance from strategy.

6 Conclusion

Over the course of 2014, Hydro Ottawa achieved an incremental 34.7 MW in peak demand savings and 72.0 GWh in energy savings. These were the highest results when compared to each of the four individual years.

The overall results achieved in 2011-2014 are 60.1 MW in peak demand savings and 414.9 GWh in energy savings, which represents 70.5% of our demand target and 110.7% of Hydro Ottawa's 2014 energy target.

These results are representative of considerable effort expended by Hydro Ottawa, in cooperation with other LDCs, our customers, and many channel partners and stakeholders. The commercial relationships built during the 2011-2014 CDM program term contributed in a significant way to the over-achievement of our GWh target and position us well for success in future CDM frameworks.

Future reports on Conservation First will be provided by LDCs to the IESO who will report annually to the OEB.

Appendix A: Initiative Descriptions

Residential Program

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: IESO centrally contracts for the province-wide marketing, call centre, appliance pick-up and decommissioning process. LDC's provides local marketing and coordination with municipal pick-up where available.

Additional detail is available:

- Schedule B-1, Exhibit D. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer/Programs/Appliance-Retirement.aspx.

In Market Date: February 2011

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 that are in Ontario.

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. Window ACs were discontinued from the program in 2013.

Targeted End Uses: Window air conditioners and portable dehumidifiers

Delivery: IESO contracts with participating retailers for collection of eligible units. LDCs provide local marketing.

Additional detail is available:

- Schedule B-1, Exhibit C. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer.aspx.

In Market Date: May 2011

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: IESO contracts centrally for delivery of the program. LDCs provide local marketing and encourage local contractors to participate in the initiative.

Additional detail is available:

- Schedule B-1, Exhibit B. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer.aspx.

In Market Date: February 2011

CONSERVATION INSTANT COUPON 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.saveoneenergy.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, clothesline, baseboard programmable thermostats.

Delivery: The IESO develops the electronic version of the coupons and posts them online for download. Three LDC specific coupons were made available for local marketing and utilization by LDCs. The IESO enters into agreements with retailers to honour the coupons.

Additional detail is available:

- Schedule B-1, Exhibit A. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer.aspx.

In Market Date: March 2011

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: As per the Conservation Instant Coupon Initiative

Delivery: The IESO enters into arrangements with participating retailers to promote the discounted products, and to post and honour related coupons. LDCs also refer retailers to the IESO and market this initiative locally.

Additional detail is available:

- Schedule B-1, Exhibit C. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer.aspx.

In Market Date: April 2011

~~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: As per the Conservation Instant Coupon Initiative

Delivery: Retailers apply to the IESO for co-op funding to run special promotions that promote energy efficiency to customers in their stores. LDCs can refer retailers to the IESO. The IESO provides each LDC with a list of retailers who have qualified for Co-Op Funding as well as details of the proposed special events.

In Market Date: NA

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 IESO air coverage driving builders to their LDC for additional information.

Additional detail is available:

- Schedule B-1, Exhibit C. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer.aspx.

In Market Date: Fall 2011

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 uses 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).

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

Delivery: LDC's recruit customers and procure technology

Additional detail is available:

- Schedule B-1, Exhibit C. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Consumer.aspx.

In Market Date: May 2012

C&I Program

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. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business/Program-Overviews/Retrofit-for-Commercial.aspx.

In Market Date: February 2011

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 $1,500 to eligible owners and tenants of small commercial, institutional and agricultural facilities and multi-family buildings, 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 $1,500 at no cost to qualifying small businesses. In addition, standard prescriptive incentives are available for eligible equipment beyond the initial $1,500 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. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business.aspx.

In Market Date: March 2011

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. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business/Program-Overviews/Existing-Building-Commissioning.aspx.

In Market Date: March 2011

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/major renovators 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, 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. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business/Program-Overviews/New-Construction.aspx.

In Market Date: July 2011

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: LDC delivered.

Additional detail is available:

- Schedule C-1. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business/Program-Overviews/Audit-Funding.aspx.

In Market Date: March 2011

Industrial Program

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 distribution customers capital incentives and enabling initiatives to assist with the implementation of large projects and project portfolios;

- Implement system optimization project in systems which are intrinsically complex and capital intensive; and
- Increase the capability of distribution 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 cost

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. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business.aspx.

In Market Date: February 2011

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 ("M&T") 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 M&T 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: Process and systems

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

Additional detail is available:

- Schedule D-2. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business.aspx.

In Market Date: February 2011

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: Process and systems

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

Additional detail is available:

- Schedule D-3. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business.aspx.

In Market Date: August 2012

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: Process and systems

Delivery: LDC delivered

Additional detail is available:

- ScheduleD-4. Available on IESO's extranet.

In Market Date: August 2012

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 consumption by a pre-defined amount during a DR 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 IESO. The IESO administers contracts with all DRPs and Direct Participants (who provide in excess of 5 MW of demand response capacity). IESO 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. Available on IESO's extranet;
- saveONenergy website https://saveonenergy.ca/Business.aspx

In Market Date: October 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.

LOW INCOME INITIATIVE (HOME ASSISTANCE PROGRAM) (Schedule E-1)

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., CFL bulbs)

Delivery: LDC delivered.

Additional detail is available:

- Schedule E. Available on IESO's extranet.

In Market Date: January 2012

Appendix B: Pre-2011 Programs

ELECTRICITY RETROFIT INCENTIVE PROGRAM

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

Delivery: LDC Delivered

HIGH PERFORMANCE NEW CONSTRUCTION

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

Initiative Frequency: Year round

Objective: 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 IESO (and subcontracted to Union Gas), which ran until December 2010.

Description: 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.

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

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

~~TORONTO COMPREHENSIVE INITIATIVE~~

Target Customer Type(s): Commercial and Institutional Customers

Initiative Frequency: Year round

Objective:

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

Targeted End Uses:

Delivery:

MULTIFAMILY ENERGY EFFICIENCY REBATES

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

Initiative Frequency: Year round

Objective: Improve energy efficiency of Multi-unit building

Description: IESO'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 IESO contracted with GreenSaver to deliver the MEER Initiative outside of the Toronto Hydro service territory. Activities delivered in Toronto were contracted with the City of Toronto.

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: IESO contracted with Greensaver

~~DATA CENTRE INCENTIVE PROGRAM~~

Target Customer Type(s):

Initiative Frequency: Year round

Objective:

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

Targeted End Uses:

Delivery:

~~ENWIN GREEN SUITES~~

Target Customer Type(s):

Initiative Frequency: Year round

Objective:

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

Targeted End Uses:

Delivery: