



Waterloo North Hydro Inc.

Electricity Distributor License ED-2002-0575

**Conservation and Demand Management
2014 Annual Report**

Submitted to:

Ontario Energy Board

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Executive Summary

This annual report is submitted by Waterloo North Hydro Inc. (“Waterloo North”) 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 Waterloo North’s Strategy filed with the Ontario Energy Board (“Board” or “OEB”) on November 1, 2010. Accordingly, this report outlines Waterloo North’s 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.

Waterloo North 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 OEB has deemed Time-of-Use (“TOU”) pricing a Province-wide Board-Approved CDM Program. The Ontario Power Authority (“OPA”), now the Independent electricity System Operator (“IESO”), is to provide measurement and verification on TOU. The TOU savings allocated to Waterloo North’s 2011 -2014 targets are 651 kW in demand savings. No energy savings were realized through TOU.

In 2011, Waterloo North 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 program term, including staffing, procurement, and program delivery.

In 2012, WNH achieved 2.50 MW of net incremental peak demand savings and 5.50 GWh of net incremental energy savings, with cumulative demand and energy savings of 2.70 MW of and 41.30 GWh respectively towards the 2011-2014 CDM targets.

In 2013, Waterloo North achieved 2.80 MW of net incremental peak demand savings and 6.40 GWh’s of net incremental energy savings with cumulative demand and energy savings of 3.90 MW and 54.40 GWh’s respectively towards the 2011-2014 CDM targets.

Table 1: 2014 Net Incremental and 2014 Cumulative CDM Results

Final 2014 Achievement Against Targets	Target	2014 Incremental Net Savings	2011-2014 Achievement Against Target	% of Target Achieved
Net Peak Demand Savings (MW)	15.79	4.20	8.10	51.3%
Net Energy Savings (GWh)	66.49	9.90	66.20	99.6%

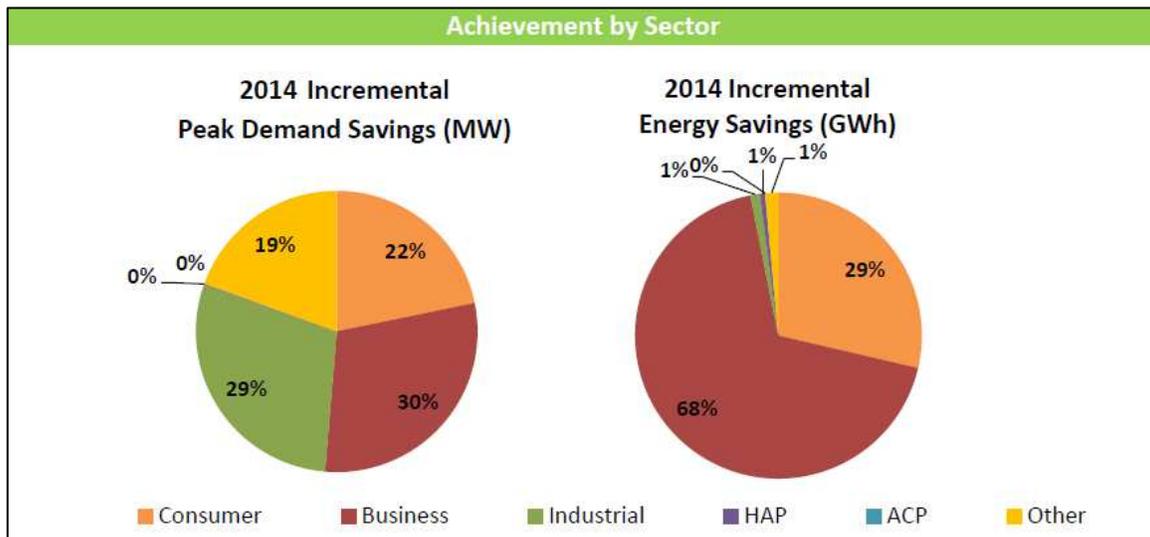
Unless otherwise noted, results are presented using scenario 1 which assumes that demand response resources have a persistence of 1 year

From Table 1, Waterloo North has achieved 8.10 MW or 51.3 % and 66.2 GWh or 99.6 % towards Waterloo North’s 2014 peak demand reduction and energy consumption reduction targets respectively. The shortfall of peak demand target was mainly due to a diminished suite of programs, delays in program launches, smaller projects due to

customer composition and size, and reduced financial returns for demand response activity. The shortfall of energy target was mainly due to a diminished suite of programs, delays in program launches, delays with projects and higher than anticipated net-to-gross factors as a result of provincial rather than regional or local program evaluations.

Waterloo North’s incremental achievements for 2014 continued to be heavily weighted in the business segment as shown in Graph 1 below. This is a direct result of the program offerings, the energy and peak demand savings available in each customer segment, and does not correlate to the marketing and resource focus and investment.

Graph 1: 2014 Incremental Results by Sector



Background

On March 31, 2010, the Minister of Energy and Infrastructure of Ontario, under the guidance of sections 27.1 and 27.2 of the *Ontario Energy Board Act, 1998*, directed the Ontario Energy Board (OEB) to establish Conservation and Demand Management (CDM) targets to be met by electricity distributors. Accordingly, on November 12, 2010, the OEB amended the distribution license of Waterloo North to require Waterloo North, as a condition of its license, to achieve 66.59 GWh's of energy savings and 15.79 MW's 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, Waterloo North submitted its CDM Strategy on November 1, 2010, which provided a high-level description of how Waterloo North 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 Waterloo North, and has been prepared in accordance with the Code requirement and covers the period from January 1, 2014 to December 31, 2014.

Waterloo North submitted its 2011 Annual Report on September 30, 2012 which summarized the CDM activities, successes and challenges experienced by Waterloo North 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 OPA, and the absence of some programs negatively affected the final 2011 results for the LDCs. This issue was also highlighted in Volumes I & II of the Environmental Commissioner's Report on Ontario's Annual Energy Conservation Progress.

On December 21, 2012, the Minister of Energy directed the Ontario Power Authority (OPA) to fund CDM programs that meet the definition and criteria for OPA-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 focus of the LDCs remains the achievement of CDM targets by December 31, 2014.

Waterloo North submitted its 2012 Annual Report on September 30, 2013 which summarized the CDM activities undertaken by Waterloo North for the January 1, 2012 to December 31, 2012 period. The OEB's 2012 CDM Results report identified that the majority of LDCs achieved close to 20% of their net peak demand (MW) target from their 2012 results. However, LDCs generally advised the Board that meeting their peak demand (MW) target is not likely and that a shortfall is expected. However, LDCs

generally advised the Board that meeting their peak demand (MW) target is not likely and that a shortfall is expected.

In Waterloo North's 2013 Annual Report, submitted on September 30, 2014, Waterloo North noted that although there have been program improvements, there still remain shortcomings to the design and delivery of certain initiatives that created negative impacts to the related programs. As a result, Waterloo North forecasted a 50% achievement of its demand target and 90% achievement of its energy savings target. 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.

The report identifies that although there have been improvements to programs there 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 Current 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 produced limited savings and has restricted the associated opportunity for LDCs to meet their targets. The process to introduce changes to current program initiatives or to pilot new initiatives has been challenging, involving considerable cost and effort, which has resulted in limited benefits to customers and CDM savings.

Challenges faced by LDCs in the 2011-2014 framework, such as overbuilt governance and unnecessarily excessive legal requirements and misalignment of control and risks, have been addressed by 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 Future 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 Program

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 by Waterloo North.

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.

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 and North Dumfries, PowerStream, and Sudbury Hydro. The IESO completed the study in the summer of 2015 and final verification was made available for LDCs to include in this 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 below in Table 2.

Table 2 – RPP TOU Pricing Summary

RPP TOU	Rates (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	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 rates; LDCs install and maintain the smart meters; LDCs convert customers to TOU billing.

Initiative Activities/Progress:

Waterloo North began transitioning its RPP customers to TOU billing May of 2011 and as of December 31, 2013, all RPP customers were on TOU billing representing 100 % of Waterloo North’s mandated customer base.

2.3 Waterloo North Hydro's Application with the OEB

Waterloo North did not submit a CDM program application to the OEB in 2014.

2.4 Waterloo North Hydro's Application with the OPA's Conservation Fund

In 2013, the OPA introduced the Conservation Fund to help meet LDC's interest in the development and launch of new local, regional, and province-wide initiatives. The Conservation Fund's LDC Program Innovation Stream fast tracks LDC-led program design and the launch of successfully piloted initiatives prior to full scale deployment. By driving program innovation through the Conservation Fund, LDCs have the opportunity to both realize additional savings through the piloting and implementation of initiatives not currently addressed by the OPA portfolio and the means to test concepts for future local or province wide programs post 2014. As per the OPA, as of March 2014, three pilots have been contracted and are underway with Toronto Hydro and Niagara Peninsula Energy and ten others are in various stages of the contracting and development process.

In addition, building on LDC interest in social benchmarking services for the residential sector, in 2013 the Conservation Fund in collaboration with Hydro One, Milton Hydro and Horizon Utilities completed the procurement of three social benchmarking pilot projects. Beginning in 2014 these services will be offered to more than 100,000 customers for a one-year period, with evaluation reports published shortly thereafter.

Waterloo North did not submit a CDM program application to the OPA's Conservation Fund in 2014.

3 OPA-Contracted Province-Wide CDM Programs

3.1 Introduction

Effective February 25, 2011, Waterloo North entered into an agreement with the OPA (now IESO) to deliver CDM programs extending from January 1, 2011 to December 31, 2014, which are listed below in Table 3. Further program details are included in Appendix A.

Table 3: OPA-Contracted Province-Wide CDM Programs in Market in 2014

Initiative	Schedule	Date Schedule Posted	Customer Class	LDC In Market Date
Residential Program				
Appliance Retirement	Schedule B-1, Exhibit D	Jan 26 2011	All residential rate classes	Jan 26 2011
Appliance Exchange	Schedule B-1, Exhibit E	Jan 26 2011	All residential rate classes	Jan 26 2011
HVAC Incentives	Schedule B-1, Exhibit B	Jan 26 2011	All residential rate classes	Jan 26 2011
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	Jan 26 2011	All residential rate classes	Jan 26 2011
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	Jan 26 2011	All residential rate classes	Jan 26 2011
Retailer Co-op		Jan 26 2011	All residential rate classes	Jan 26 2011
Residential Demand Response	Schedule B-3	Aug 22 2011	All general service classes	Sep 01 2013
New Construction Program	Schedule B-2	Jan 26 2011	All residential rate classes	Jan 26 2011
Commercial & Institutional Program				
Efficiency: Equipment Replacement	Schedule C-2	Jan 26 2011	All general service classes	Mar 01 2011
Direct Install Lighting	Schedule C-3	Jan 26 2011	General Service < 50 kW	May 01 2011
Existing Building Commissioning Incentive	Schedule C-6	Feb 01 2011	All general service classes	Mar 01 2011
New Construction and Major Renovation	Schedule C-4	Feb 01 2011	All general service classes	Nov 01 2011
Energy Audit	Schedule C-1	Jan 26 2011	All general service classes	Mar 01 2011
Commercial Demand Response	Schedule B-3	Jan 26 2011	All general service classes	Sep 01 2013
Demand Response 3	Schedule D-6	May 31 2011	General Service 50 kW & above	May 31 2011
Industrial Program				
Process & System Upgrades	Schedule D-1	May 31 2011	General Service 50 kW & above	May 31 2011
Monitoring & Targeting	Schedule D-2	May 31 2011	General Service 50 kW & above	May 31 2011
Energy Manager	Schedule D-3	May 31 2011	General Service 50 kW & above	May 31 2011
Equipment Replacement Incentive Initiative	Schedule C-2	May 31 2011	General Service 50 kW & above	May 31 2011
Demand Response 3	Schedule D-6	May 31 2011	General Service 50 kW & above	May 31 2011
Home Assistance Program				
Home Assistance Program	Schedule E-1	May 09 2011	All residential rate classes	Jan 03 2012

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

- Electricity Retrofit Incentive Program
- High Performance New Construction

As per Table 4 below, several program initiatives are no longer available to customers or have not been launched in 2014.

Table 4: OPA-Contracted Province-Wide CDM Initiatives Not in Market in 2012

Initiative Not in Market in 2011	Objective	Status
Residential Program		
Midstream Electronics	The objective of this initiative is to encourage retailers to promote and sell high efficiency televisions, and for distributors to distribute high efficiency set top boxes.	Never launched and removed from Schedule in Q2, 2013.
Midstream Pool Equipment	The objective of this initiative is to encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools.	Never launched and removed from Schedule in Q2, 2013.
Aboriginal Conservation Program	First Nations programs are delivered by OPA and results are attributed to LDCs for reporting.	Launched in 2013 by OPA.
Home Energy Audit Tool	This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs.	Never launched and removed from Schedule in Q2, 2013.
Commercial & Institutional Program		
Direct Service Space Cooling	The objective of this initiative is to offer free servicing of air conditioning systems and refrigeration units for the purpose of achieving energy savings and demand reduction.	Never launched.
Demand Response 1	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		
Demand Response 1	As above	No customer uptake for this initiative. Removed in Q4, 2012.

The Master CDM Program Agreement includes program change management provision in Article 3. Collaboration between the OPA and the Local Distribution Companies (LDCs) commenced in 2011, and continued through the 2014 program year, as the change management process was implemented to enhance the saveONenergy program suite. The change management process allows for modifications to the Master Service Agreement and initiative Schedules. The program enhancements give LDCs additional tools and greater flexibility to deliver programs in a way that meets the needs of customers and further drives participation in the Initiatives.

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 throughout their entire 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 inclusion of Light Emitting Diode ("LED") technology into the bi-annual retailer events in 2012 and the annual coupons in 2013, as well as some LDC-custom coded coupons, has had a positive effect on consumer engagement. The revamped *peaksaver* PLUS[®] 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.

The residential program portfolio is predominately a carryover of initiatives from previous programs. It is mostly driven by retailers and contractors who may not have fully delivered what was anticipated. Three new initiatives were never launched and subsequently removed from the schedule in 2013 with no new additions. Delays in communication about 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 identified, developed, and offered to customers. The version 5 schedules changes implemented in the first and second quarter of 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.

The Heating and Cooling incentives program continues to be one of the strongest performers 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).

Program Activity: In 2014, Waterloo North Hydro continued to develop and evolve the marketing strategy to ensure it was comprehensive, integrated, and multi-channel. Social media has continued to provide Waterloo North with the opportunity to develop long lasting two-way relationships with customers, and leverage the collective social nature of social media. Social media was not only used to promote the programs but also to build a robust network of followers that in themselves become marketing agents and ambassadors of energy conservation.

In addition to cobranding marketing between Initiatives, every effort was made to collaborate and co-promote, share material, ad space and creative costs with Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro Inc. in our effort to jointly deliver the program, drive efficiencies, and build the awareness of the saveONenergy brand and programs.

A holistic approach was used to promote the saveONenergy FOR HOME initiatives to increase program awareness, leverage cross program opportunities and to achieve cost-efficiencies. Below is a comprehensive list of initiatives and activities undertaken by Waterloo North to promote the Residential Program Initiatives.

- Newspaper ads ran in the Waterloo Chronicle, Elmira Independent, Woolwich Observer, Waterloo Region Record weekly and monthly in Snapd KW from January to December 2014. The ads promoted the Heating & Cooling Incentive program, the Coupon program, the Fridge & Freezer Pickup program, and *peaksaver PLUS*[®] program.
- Various special advertisements in the Waterloo Region Record sections and inserts including Green Living Magazine and Heating and Cooling inserts were leveraged to promote energy savings tips and the saveONenergy FOR HOME programs with a primary focus on the Heating & Cooling Incentive program.
- Bill inserts were distributed bi-monthly to all Waterloo North customers promoting saveONenergy FOR HOME initiatives including the Heating & Cooling Incentive, Coupons, Fridge & Freezer Pickup, and *peaksaver PLUS*[®] programs.
- Program banners to promote the programs displayed in Waterloo North's lobby and at special events.
- Seasonal sponsorship with the Kitchener Rangers Ontario Hockey League Club with advertisements running on the scoreboard including two 30-second center ice commercials supporting the saveONenergy FOR HOME initiatives, concourse signage, 150,000 online impressions on the team's website, print advertisement in the team's programs and a promotional game night.
- Program brochures to promote the programs displayed in Waterloo North's lobby, in local community centers and at various events.
- Residential 30-second commercial videos promoted the programs in local Cineplex movie theatres running January to December 2014.

- Residential 30-second commercial videos promoted on YouTube for 24 weeks between January and December 2014.
- Radio advertisements with Waterloo Region Rogers Radio Group promoted the FOR HOME programs running between January and December 2014.
- Waterloo North specific coupons and initiative brochures distributed to community outreach partners and retailers for distribution at community events and partner offices.
- saveONenergy FOR HOME initiatives promoted via Waterloo North website and Waterloo North co-branded micro-site.
- Geographically targeted online and mobile advertisements were displayed on the Weather Network, Cineplex, Waterloo Region Record, Waterloo Chronicle, and Flyerland websites in 2014.
- Digital Screen advertisements appeared in local community centers and Tim Horton's.
- Promotional events showcasing the FOR HOME residential programs including co-operative retailer events for the COUPON and *peaksaver* PLUS[®] initiatives as well as numerous community events including, Sustainability in the Park and EcoFest.
- Waterloo North Facebook and Twitter, profile pages primary focus on Waterloo North's saveONenergy conservation programs. The objective was to leverage social medias cost effective platforms to further increase customer education and engagement, build increased awareness of the saveONenergy FOR HOME programs amongst Waterloo North customers, and leverage new and cost efficient marketing channels. A wide variety of tweets and Facebook posts promoting the saveONenergy FOR HOME initiatives, seasonal energy conservation facts and tips and retailer and community events were released daily. In addition, promoted Facebook posts were piloted to gauge engagement and program uptake.
- Ugliest Fridge contest was launched on Facebook to make use of the ever-growing gamification strategy to further educate and engage customers. Customers entered photos and stories on their old fridge with the winner being selected by the number of votes their entry received from social media followers.

3.2.1.1 Appliance Retirement Initiative (Exhibit D)

Initiative Activities: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North's incremental activity is summarized in Table 5 below.

Table 5 – Waterloo North’s 2014 Incremental Appliance Retirement Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Appliances	182	12	80,001

Additional Comments:

- Due to the duration of the program, and the revised eligibility requirements to a minimum of 20 years old, this Initiative appears to have reached market saturation and has been under consideration for removal from the Portfolio.
- 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 anticipated last year of the Initiative, the eligibility requirement for refrigerators was revised from 20 years old to 15 years old in Q2 2014.
- Locally, the Region of Waterloo offers a strong curbside pick-up program that does not require a pickup to be scheduled, the homeowner to be home, the appliance to be plugged in or in working order and there is no cost to customer. As a result, program uptake is reduced.

3.2.1.2 Appliance Exchange Initiative (Exhibit E)

Initiative Activities: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 6 below.

Table 6 – Waterloo North 2014 Incremental Appliance Exchange Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Appliances	142	29	52,460

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: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 7 below.

Table 7 – Waterloo North 2014 Incremental HVAC Incentives Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Equipment	1,521	296	544,462

Additional Comments:

- Incentive levels appear to be insufficient to prompt customers to upgrade HVAC equipment prior to end of useful life. An Air Miles incentive was introduced in 2013 to try to encourage early replacement.
- 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 CAC sales to eligible units.

- In an effort to build capability, mandatory training has been instituted for all participating HVAC contractors. This could present too much of a barrier for participation for some contractors as the application process already presents a restriction to contractor sales. It has been noted that there are approximately 4,500-5,000 HVAC contractors in the Province, however in 2013, only 1,587 contractors completed the mandatory HVAC training and can participate in the program.
- There are cases where non-participating contractors are offering their own incentives (by discounting their installations to match value of the OPA incentive). As this occurs outside of the Initiative, savings are not credited to LDCs. OPA should consider this in future program impact evaluation studies.
- Changes to the Schedule in 2014 to allow for incentives for new installations, rather than strictly replacement units, did not generate participation for Waterloo North due to the lack of new eligible homes being built in its service territory.

3.2.1.4 Conservation Instant Coupon Initiative (Exhibit A)

Initiative Activities: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North's incremental activity is summarized in Table 8 below.

Table 8 – Waterloo North 2014 Incremental Conservation Instant Coupon Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Items	18,825	15	515,369

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 early 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: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 9 below.

Table 9 – Waterloo North 2014 Incremental Bi-Annual Retailer Event Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Items	48,338	81	1,231,340

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 had 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: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 10 below.

Table 10 – Waterloo North 2014 Incremental Retailer Co-op Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Items	0	0	0

Additional Comments:

- This is a retailer Initiative with no direct benefit to the 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: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 11 below.

Table 11 – Waterloo North 2014 Incremental New Construction Program Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Homes	0	0	0

Additional Comments:

- This Initiative provides incentives to homebuilders for incorporating energy efficiency into their buildings. To support this, LDCs need to provide education to the 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 to continue to under-achieve.
- Administrative requirements, in particular individual home modeling, must align with perceived stakeholder payback
- The addition of LED light fixtures, application process improvement, and moving the incentive from the builder to the homeowner may increase participation.
- This Initiative may benefit from collaboration with the Natural Gas utilities.

3.2.1.8 Residential Demand Response Program (Schedule B-3)

Initiative Activities: All activities are detailed above in Section 3.2.1 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 12 below. Please note the activity in Table 12 includes small commercial, which accounts for 10 new participants and 2 past participants.

Table 12 – Waterloo North 2014 Incremental Residential Demand Response Program Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Devices - Thermostats - Residential	1031	365	0
Devices - In Home Displays - Residential	853	0	0

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 not yet been announced.
- The variable funding associated with installing a load controllable thermostat is not sufficient unless it is combined with an IHD. This might not be possible at all times or when IHD is optional.
- 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, to replace energy-wasting equipment or to pursue new construction that exceeds our 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 many 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.

Program Activity: The commercial and institutional programs continue to provide Waterloo North with the majority of energy and demand savings with the Efficiency Equipment Replacement Initiative as the flagship initiative. Momentum from past years and persistency with customers continued to drive larger and more complex projects with deeper more sustainable savings.

In 2014, Waterloo North Hydro continued to develop and evolve the marketing strategy to ensure it was comprehensive, integrated, and multi-channel. Social media has continued to provide Waterloo North with the opportunity to develop long lasting two-way relationships with customers, and leverage the collective social nature of social media. Social media was not only used to promote the programs but also to build a robust network of followers that in themselves become marketing agents and ambassadors of energy conservation.

Cobranding and co-promotion of the C&I Program Initiatives continued to build on the momentum and success achieved in past years. As a result of the geographic proximity of Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro joint events, channel partner outreach and marketing have driven efficiencies, ensured consistency and resulted in cost efficiencies, improved awareness of the saveONenergy brand and increased program participation.

This collaboration was extended by focusing on Regional channel partners, thereby strengthening relationships, and educating them on the benefits of higher efficiency technologies and saveONenergy FOR BUSINESS initiatives. This resulted in developing an extensive extended sales force that has increased program outreach, participation, and a year over year increase in projects.

Below is a comprehensive list of marketing, promotion, outreach, delivery, and educational activities undertaken by Waterloo North to promote the C&I Program Initiatives.

- A series of key account breakfasts were offered to all commercial customers within the Waterloo Region and were held in collaboration with Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro. In total, 9 breakfast sessions were held focusing on energy savings opportunities, end uses and the value of energy efficiency to businesses.
- Newspaper ads ran in the Waterloo Chronicle, Elmira Independent, Woolwich Observer, and Waterloo Region Record weekly and monthly in Snapd KW from January to December 2014. The ads promoted various technologies that could be used to retrofit facilities to save energy, money and gain operational efficiency.
- In partnership with Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro, Waterloo North held a full day Dollars to Sense Course for regional customers.
- In partnership with Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro, Waterloo North held an executive engagement event where 200+ community and business leaders heard about the value of investing in their company from keynote speaker local Waterloo Region resident, author of the Wealthy Barber and the Wealthy Barber Returns and star of Dragon's Den David Chilton.
- Half-page and full-page advertisements in the Exchange Magazine promoting the saveONenergy FOR BUSINESS initiatives.
- Initiative banners, sell sheets and folders co-branded with Cambridge and North Dumfries and Kitchener Wilmot Hydro were widely used to educate and promote the initiatives at breakfast events, direct mails, and face-to-face customer engagement.
- Sponsorship of the joint Greater Kitchener Waterloo Chamber of Commerce and Cambridge Chamber of Commerce Business to Business show on 570News offers a new engagement opportunity through live radio segments and commercials.
- Presenting sponsors of Sustainable Waterloo Region connects with local businesses that have made a pledge to reduce greenhouse gas emissions and made energy efficiency a priority in their business.

- Produced video case studies¹ on projects completed in the ERII and Direct Install Lighting program to showcase technology and participants and motivate others to do the same.
- Regularly met with customers to educate them on the various initiatives, the process for completing applications and perform site walkthroughs to identify potential energy conservation projects. In addition, assistance with various steps of the project were provided including identifying opportunities, connecting the customers to the appropriate channel partners, building the business case and application support.
- In partnership with Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro, Waterloo North ran breakfast seminars for Channel Partners in the Region to engage and educate them on the saveONenergy FOR BUSINESS initiatives, the application process, provide them with tips and communicate initiative and application requirements. In addition, Regional LDC's shared our challenges and successes, acknowledged and celebrated channel partner successes and leverage these events to promote networking between channel partner segments.
- Continued one-on-one channel partner engagement, education and training on the application process, program rules, how to leverage the programs into increased business and further understand how and where to spot additional energy savings.
- Waterloo North Facebook and Twitter, profile pages primary focus on Waterloo North's saveONenergy conservation programs. The objective was to leverage social medias cost effective platforms to further increase customer education and engagement, build increased awareness of the saveONenergy FOR BUSINESS programs amongst Waterloo North customers, and leverage new and cost efficient marketing channels. A wide variety of tweets and Facebook posts promoting the saveONenergy FOR BUSINESS initiatives, case studies, incentive cheque presentations, and technology information. In addition, promoted Facebook posts were piloted to gauge engagement and program uptake.

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

Initiative Activities: All activities are detailed above in Section 3.2.2 under the Program Activity section.

Initiative Progress: Waterloo North's incremental activity is summarized in Table 13 below.

Table 13 – Waterloo North 2014 Incremental Efficient Equipment Replacement Initiative Progress

¹ The videos can be viewed on a joint youtube.com webpage.

Unit	Incremental Activity	Incremental kW	Incremental kWh
Projects	134	805	4,881,353

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.
- This Initiative is limited by the state of the economy and the ability of commercial/institutional facility to complete capital upgrades.
- 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, channel partner/contractor training, and LDC staff acting as customer Application Representatives. Although this has been an effective method of overcoming these issues and encouraging submissions, it also reflects on the complexity and time-consuming nature of the application process. As such, Applicant Representatives continue to influence the majority of applications submitted. Continued development of Channel Partners is essential to program success.
- 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.
- 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. This can be cumbersome.
- Lighting is still the most popular measure. Other market sectors are not as engaged yet, specifically the mechanical sector. There continues to be significant barriers to program participation from HVAC (Unitary AC) and compressed air channel partners
- 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: All activities are detailed above in Section 3.2.2 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 14 below.

Table 14 – Waterloo North 2014 Incremental Direct Install Initiative Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Projects	114	94	349,433

Additional Comments:

- LED lighting helped to continue momentum with the program and enabled customers who may not have previously qualified for DIL eligible upgrades. This is an efficient product with a long estimate useful life.
- 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 upgrades has potential to provide additional energy and demand savings
- Successful execution of the previous rendition of this Initiative has resulted in diminished potential for the 2011-2014 Initiative in some LDC’s territories.

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

Initiative Activities: All activities are detailed above in Section 3.2.2 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 15 below.

Table 15 – Waterloo North 2014 Incremental Existing Building Commissioning Incentive Initiative Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Buildings	0	0	0

Additional Comments:

- Initiative name does not properly describe the initiative.
- There was minimal participation for this initiative. 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) for participation.
- The customer expectation is that the program be expanded to include a broader range of measures for a more holistic approach to building recommissioning and chilled water systems used for other purposes should be made eligible and considered through change management.
- 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.

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

Initiative Activities: All activities are detailed above in Section 3.2.2 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 16 below.

Table 16 – Waterloo North 2014 Incremental New Construction and Major Renovation Initiative Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Buildings	4	30	147,947

Additional Comments

- Participants estimated completion dates tend to be inaccurate and are usually six months longer. This could result in diminished savings towards target when facilities are not substantially completed by December 31, 2014.
- 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.

- The barriers to participation due to long project implementation, cumbersome upfront requirements on what are evolving, living projects and the ratio of the incentive to the overall project cost continue to limit participation.

3.2.2.5 Energy Audit Initiative

Initiative Activities: All activities are detailed above in Section 3.2.2 under the Program Activity section.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 17 below.

Table 17 – Waterloo North 2014 Incremental Energy Audit Initiative Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Audits	6	80	391,641

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.
- Evaluators in 2012 and 2013 recognized savings towards LDCs targets as a result of customers implementing low/no cost recommendations from their energy audits.

3.2.3 INDUSTRIAL PROGRAM

Description: 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: To provide incentives to both existing and new industrial customers to motivate the installation of energy efficient measures and to promote participation in demand management.

Discussion: The Industrial Program Portfolio has been able to provide significant incentives and valuable resources to large facilities to help them with energy efficiency

upgrades and process system improvements. The Engineering Studies in particular as well as the Monitoring and Targeting initiative provide a unique opportunity for a customer to complete a comprehensive analysis of an energy intensive process that they otherwise may not undertake. The Energy Manager Initiative provides 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.

Due to the size, scope, and long lead-time of these Initiatives and associated projects, the Ministerial Directive provides some security for the continuation of the conservation programs and associated compensation for the participant.

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.

Participation in the Industrial Programs by Waterloo North customers has been limited due to the make-up of the customer base.

3.2.3.1 *Process & Systems Upgrades Initiative (PSUI) (Schedule D-1)*

Initiative Activities: This initiative is focused on very large customer with capital-intensive energy savings opportunities and requires intensive direct customer engagement and interaction. Waterloo North has a limited market segment from which it has and continues to engage in the program opportunities and but experienced increased activity in 2014.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 18 below.

Table 18 – Waterloo North 2014 Incremental Energy Audit Initiative Progress

Unit	Submitted	Approved	Completed
Preliminary Engineering Study	5	5	2
Detailed Engineering Study	8	8	1
Capital Projects	0	0	0

Additional Comments:

- This Initiative is limited by the state of the economy and the ability of a facility to complete large capital upgrades.
- There is typically a long sales cycle for these projects, and then a long project development cycle. As such, limited results are expected to be generated in 2013. The majority of the results are expected in 2014 with a much-reduced benefit to cumulative energy savings targets.
- Revisions were made to the ERII Initiative, which allowed smaller projects to be directed to the Commercial stream.
- A business case was submitted by the Industrial Working Group in July 2012, which would change the upper 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 in August 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. It is expected that a number of projects may proceed although results may not be counted towards LDC 2011-2014 framework target unless applications are submitted before the end of 2014 and the projects are in service before December 31, 2015.

3.2.3.2 Monitoring & Targeting Initiative (Schedule D-2)

Initiative Activities: The monitoring and targeting Initiative (M&T), because of the program requirements has limited market opportunity and appeal. Modifications to the program have peaked interest in the initiative and initiated discussions, although Waterloo North has yet to receive a project application.

Initiative Progress: Waterloo North's incremental activity is summarized in Table 19 below.

Table 19 – Waterloo North 2014 Incremental Monitoring & Targeting Initiative Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Projects	0	0	0

Additional Comments:

- The M&T initiative is targeted at larger customers with the capacity to review the M&T data. This review requires the customer facility to employ an energy manager, or a person with equivalent qualifications, which has been a barrier for some customers. As such, only five applications has been completed in 2014, province wide.
- The savings target required for this initiative can present a significant challenge for smaller customers.
- 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: Waterloo North engaged with a number of customers on the initiative and received favourable support for the Roving Energy Manager although discussions with several customers about an Embedded Energy Manager are ongoing.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 20 below. Results for the Roving Energy Manager role are misleading because the projects developed by the Energy Manager are larger and have lengthy planning and implementation timelines. The existing pipeline of projects developed by the Roving Energy Manager more than triples the two-year target of 600 kW annually.

- Embedded Energy Manager:
 - One active shared EEM (shared with Cambridge and North Dumfries Hydro and Kitchener Wilmot Hydro)
- Roving Energy Manager:
 - One active REM was hired (shared with Cambridge and North Dumfries Hydro)

Table 20 – Waterloo North 2014 Incremental Energy Manager Initiative Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Energy Manager	14	24	91,267

Note much of the savings associated with the REM and EEM are captured in the results by programs such as ERII.

Additional Comments:

- The Energy Managers have proven to be a popular and useful resource for larger customers.
- LDCs that are too small to qualify for their own REM are teaming up with other utilities to hire an REM to be shared by the group of utilities.
- Some LDCs and Customers are reporting difficulties in hiring capable Roving and Embedded Energy Managers (REM/EEM), in some instances taking up to 7 months to have a resource in place.

3.2.3.4 Key Account Manager (Schedule D-4)

Initiative Activities: Waterloo North did not have a Key Account Manager in 2014.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 21 below.

Table 21 – Waterloo North 2014 Incremental Key Account Manager Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Key Account Manager	0	0	0

Additional Comments

- Customers appreciate dealing with a single point of 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 discourages some skilled applicants resulting in longer lead times to acquire the right resource.

3.2.3.5 Demand Response 3 (D-6)

Initiative Activities: Waterloo North has difficulty promoting the demand response program as a result of reduced financial incentives and the uncertainty surrounding contracts.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 22 below. Please note that the activity includes commercial and institutional Demand Response 3 incremental results.

Table 22 – Waterloo North 2014 Incremental Demand Response Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Facilities	13	1185	0

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: Waterloo North engaged GreenSaver in late 2012 for the program management of the Home Assistance Program (HAP) in partnership with REEP Green Solutions. The program was kicked off in February of 2012 with a regional outreach and engagement event for social agencies. It was identified early on in the delivery of the initiative that the Region of Waterloo was a significant stakeholder in the program and intelligence and resourcing from the Region could be utilized to improve and increase initiative outreach. In 2014, Waterloo North focused on the cooperative and senior housing customers as the majority of social housing had already participated in the program.

Initiative Progress: Waterloo North’s incremental activity is summarized in Table 23 below.

Table 23 – Waterloo North 2015 Low Income Initiative Incremental Progress

Unit	Incremental Activity	Incremental kW	Incremental kWh
Homes	124	4	48,046

Additional Comments:

- The process for enrolling in social housing was complicated and time consuming. This was addressed in late 2012 and showed some benefits in 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 OPA contracted centralized delivery agent.
- The primary, cost-effective delivery model for this Initiative remains working through social agencies. Reaching out to engage individual households, without access to the Low Income Energy Assistance Program data in our customer database, is too costly and time consuming.

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 2013 LDC CDM Results

4.1 Participation and Savings

2014 evaluation results for the OPA-Contracted Province-Wide CDM programs offered by Waterloo North has been segmented by initiative and summarized in the following tables. These results were taken directly from Waterloo North's 2014 Verified Annual Report Data provided by the IESO.

Table 24 – 2011 – 2014 Evaluation Results

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)	
		2011*	2012*	2013*	2014	2011	2012	2013	2014	2011	2012	2013	2014	2014 Net Annual Peak Demand Savings (kW)	2011-2014 Net Cumulative Energy Savings (kWh)
														2014	2014
Consumer Program															
Appliance Retirement	Appliances	433	246	148	182	24	14	10	12	180,566	99,292	63,885	80,001	60	1,227,809
Appliance Exchange	Appliances	22	75	63	142	2	11	13	29	3,051	18,832	23,275	52,460	54	166,552
HVAC Incentives	Equipment	1,199	1,155	1,196	1,521	417	255	240	296	773,162	439,314	409,133	544,462	1,209	5,773,317
Conservation Instant Coupon Booklet	Items	5,070	309	3,486	18,825	12	2	3	42	186,550	14,008	77,221	515,369	61	1,458,036
Bi-Annual Retailer Event	Items	9,539	10,629	9,465	48,338	17	15	12	81	294,427	268,321	172,122	1,231,340	124	3,558,254
Retailer Co-op	Items	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Demand Response	Devices	129	0	511	1,031	72	0	196	365	0	0	652	0	365	652
Residential Demand Response (IHD)	Devices	0	0	381	853	0	0	0	0	0	0	0	0	0	0
Residential New Construction	Homes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Consumer Program Total						544	298	476	826	1,437,756	839,767	746,287	2,423,632	1,874	12,184,620
Business Program															
Retrofit	Projects	40	63	155	134	263	762	557	805	1,433,122	4,566,653	3,060,259	4,881,353	2,369	30,341,738
Direct Install Lighting	Projects	225	106	114	114	248	82	114	94	617,168	307,810	408,875	349,433	466	4,348,248
Building Commissioning	Buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Construction	Buildings	0	2	3	4	0	4	1	30	0	3,763	1,047	147,947	35	161,329
Energy Audit	Audits	3	8	35	6	0	36	282	80	0	176,234	1,550,425	391,641	398	4,021,192
Small Commercial Demand Response	Devices	8	0	10	15	5	0	6	8	0	0	10	0	8	10
Small Commercial Demand Response (IHD)	Devices	0	0	2	3	0	0	0	0	0	0	0	0	0	0
Demand Response 3	Facilities	3	3	3	3	111	111	113	104	4,323	1,614	1,504	0	104	7,442
Business Program Total						626	986	1,073	1,123	2,054,613	5,056,074	5,022,723	5,770,374	3,381	38,879,957
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	0	1	17	0	0	0	24	0	0	0	91,627	24	91,627
Retrofit	Projects	11	0	0	0	180	0	0	0	1,128,878	0	0	0	180	4,515,511
Demand Response 3	Facilities	4	7	6	10	392	1,260	1,151	1,081	23,003	30,360	30,917	0	1,081	84,279
Industrial Program Total						572	1,260	1,151	1,105	1,151,881	30,360	30,917	91,627	1,284	4,691,417
Home Assistance Program															
Home Assistance Program	Homes	0	40	420	124	0	2	12	4	0	26,655	170,106	48,046	18	467,034
Home Assistance Program Total						0	2	12	4	0	26,655	170,106	48,046	18	467,034
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	28	0	0	0	181	0	0	0	913,663	0	0	0	181	3,654,650
High Performance New Construction	Projects	6	1	0	0	182	21	0	0	932,887	105,383	0	0	203	4,047,698
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						362	21	0	0	1,846,550	105,383	0	0	384	7,702,349
Other															
Program Enabled Savings	Projects	0	0	0	3	0	0	0	89	0	0	0	125,622	89	125,622
Time-of-Use Savings	Homes	0	0	0	n/a	0	0	0	651	0	0	0	0	651	0
LDC Pilots	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Total						0	0	0	739	0	0	0	125,622	739	125,622
Adjustments to 2011 Verified Results							-36	0	1		-589,797	0	3,666	-37	-2,350,395
Adjustments to 2012 Verified Results								66	87			387,881	927,582	152	2,746,451
Adjustments to 2013 Verified Results									277				892,901	277	1,795,785
Energy Efficiency Total						1,524	1,206	1,246	2,238	6,463,473	6,026,264	5,936,950	8,459,300	6,122	63,958,615
Demand Response Total (Scenario 1)						580	1,371	1,466	1,559	27,327	31,974	33,083	0	1,559	92,384
Adjustments to Previous Years' Verified Results Total						0	-36	66	365	0	-589,797	387,881	1,424,149	393	2,191,842
OPA-Contracted LDC Portfolio Total (inc. Adjustments)						2,104	2,541	2,777	4,161	6,490,800	5,468,441	6,357,914	9,883,449	8,074	66,242,840
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.														Full OEB Target:	
														15,790	66,490,000
														51.1%	99.6%

Table 25 - 2011 - 2014 CDM Program Activities - Participation Results

#	Initiative	Activity Unit	Uptake / Participation Units			
			2011	2012	2013	2014
Consumer Program						
1	Appliance Retirement	Appliances	433	246	148	182
2	Appliance Exchange	Appliances	22	75	63	142
3	HVAC Incentives	Equipment	1,199	1,155	1,196	1,521
4	Conservation Instant Coupon Booklet	Items	5,070	309	3,486	18,825
5	Bi-Annual Retailer Event	Items	9,539	10,629	9,465	48,338
6	Retailer Co-op	Items	0	0	0	0
7	Residential Demand Response	Devices	129	0	511	1,031
8	Residential Demand Response (IHD)	Devices	0	0	381	853
9	Residential New Construction	Homes	0	0	0	0
Business Program						
10	Retrofit	Projects	40	63	155	134
11	Direct Install Lighting	Projects	225	106	114	114
12	Building Commissioning	Buildings	0	0	0	0
13	New Construction	Buildings	0	2	3	4
14	Energy Audit	Audits	3	8	35	6
15	Small Commercial Demand Response	Devices	8	0	10	15
16	Small Commercial Demand Response (IHD)	Devices	0	0	2	3
17	Demand Response 3	Facilities	3	3	3	3
Industrial Program						
18	Process & System Upgrades	Projects	0	0	0	0
19	Monitoring & Targeting	Projects	0	0	0	0
20	Energy Manager	Projects	0	0	1	17
21	Retrofit	Projects	11	0	0	0
22	Demand Response 3	Facilities	4	7	6	10
Home Assistance Program						
23	Home Assistance Program	Homes	0	40	420	124
Pre-2011 Programs completed in 2011						
24	Electricity Retrofit Incentive Program	Projects	28	0	0	0
25	High Performance New Construction	Projects	6	1	0	0
26	Toronto Comprehensive	Projects	0	0	0	0
27	Multifamily Energy Efficiency Rebates	Projects	0	0	0	0
28	LDC Custom Programs	Projects	0	0	0	0

Table 26 – 2011-2014 Verified Results

#	Initiative	Relization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings		Contribution to Targets	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Savings (kWh)	Program-to-Date: Net Annual Peak Demand Savings (kW)	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program											
1	Appliance Retirement	n/a	n/a	26	169,628	0.42	0.44	12	80,001	60	1,227,809
2	Appliance Exchange	1.00	1.00	56	99,672	0.53	0.53	29	52,460	54	166,552
3	HVAC Incentives	1.00	1.00	621	1,145,708	0.51	0.51	296	544,462	1,209	5,773,317
4	Conservation Instant Coupon Booklet	1.00	1.00	25	300,894	1.34	1.39	42	515,369	61	1,458,036
5	Bi-Annual Retailer Event	1.00	1.00	46	703,866	1.74	1.75	81	1,231,340	124	3,558,254
6	Retailer Co-op	n/a	n/a	0	0	n/a	n/a	0	0	0	0
7	Residential Demand Response	n/a	n/a	365	0	n/a	n/a	365	0	365	652
8	Residential Demand Response (IHD)	n/a	n/a	0	0	n/a	n/a	0	0	0	0
9	Residential New Construction	n/a	n/a	0	0	n/a	n/a	0	0	0	0
Business Program											
10	Retrofit	0.85	0.93	1,190	7,061,007	0.70	0.70	805	4,881,353	2,369	30,341,738
11	Direct Install Lighting	0.78	0.83	100	370,213	0.94	0.94	94	349,433	466	4,348,246
12	Building Commissioning	n/a	n/a	0	0	n/a	n/a	0	0	0	0
13	New Construction	0.78	0.92	56	273,975	0.54	0.54	30	147,947	35	161,329
14	Energy Audit	0.96	1.00	119	583,668	0.68	0.67	80	391,641	398	4,021,192
15	Small Commercial Demand Response	n/a	n/a	8	0	n/a	n/a	8	0	8	10
16	Small Commercial Demand Response (IHD)	n/a	n/a	0	0	n/a	n/a	0	0	0	0
17	Demand Response 3	n/a	n/a	104	0	n/a	n/a	104	0	104	7,442
Industrial Program											
18	Process & System Upgrades	n/a	n/a	0	0	n/a	n/a	0	0	0	0
19	Monitoring & Targeting	n/a	n/a	0	0	n/a	n/a	0	0	0	0
20	Energy Manager	0.91	0.96	26	101,808	0.90	0.90	24	91,627	24	91,627
21	Retrofit	n/a	n/a	0	0	n/a	n/a	0	0	180	4,515,511
22	Demand Response 3	n/a	n/a	1,081	0	n/a	n/a	1,081	0	1,081	84,279
Home Assistance Program											
23	Home Assistance Program	0.95	0.74	4	48,046	1.00	1.00	4	48,046	18	467,034
Pre-2011 Programs completed in 2011											
26	Electricity Retrofit Incentive Program	n/a	n/a	0	0	n/a	n/a	0	0	181	3,654,650
27	High Performance New Construction	1.00	1.00	0	0	0.50	0.50	0	0	203	4,047,698
28	Toronto Comprehensive	n/a	n/a	0	0	n/a	n/a	0	0	0	0
29	Multifamily Energy Efficiency Rebates	n/a	n/a	0	0	n/a	n/a	0	0	0	0
30	LDC Custom Programs	n/a	n/a	0	0	n/a	n/a	0	0	0	0
Other											
31	Program Enabled Savings	0.90	0.94	89	125,622	1.00	1.00	89	125,622	89	125,622
32	Time-of-Use Savings	n/a	n/a	651	0	n/a	n/a	651	0	651	0
33	LDC Pilots	n/a	n/a	0	0	n/a	n/a	0	0	0	0

Table 27 – Summarized 2014 Results

Program	Gross Savings		Net Savings		Contribution to Targets	
	Incremental Peak Demand Savings in 2014 (MW)	Incremental Energy Savings in 2014 (GWh)	Incremental Peak Demand Savings in 2014 (MW)	Incremental Energy Savings in 2014 (GWh)	Program-to-Date: Net Annual Peak Demand Savings (MW)	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (GWh)
Consumer Program Total	1.14	2.42	0.83	2.42	1.87	12.18
Business Program Total	1.58	8.29	1.12	5.77	3.38	38.88
Industrial Program Total	1.11	0.10	1.11	0.09	1.28	4.69
Home Assistance Program Total	0.00	0.05	0.00	0.05	0.02	0.47
Pre-2011 Programs completed in 2011 Total	0.00	0.00	0.00	0.00	0.38	7.70
Program Enabled Savings	0.09	0.13	0.09	0.13	0.09	0.13
Time-of-Use Savings	0.65	0.00	0.65	0.00	0.65	0.00
Adjustments	0.54	2.01	0.37	1.42	0.39	2.19
Total OPA Contracted Province-Wide CDM Programs	5.11	12.99	4.16	9.88	8.07	66.24

4.2 Evaluation

Evaluation findings for the OPA-Contracted Province-Wide CDM program offered by Waterloo North were provided by the OPA (now IESO) from the document “2014 EMV Key Evaluation Findings_FINAL” posted on the IESO extranet.

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.

peaksaverPLUS

- 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 in 2013.
 - 4 projects are Behind the Meter Generation (BMG) projects.
 - 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. Third party evaluation contractors developed these findings. Complete findings are detailed in the contractors' full evaluation reports, which will be available publicly in Q4 2015.

4.3 Spending

2014 spending for the OPA-Contracted Province-Wide CDM program offered by Waterloo North has been segmented by initiative and summarized in Table 28 while cumulative spending is segmented by initiative and summarized in Table 29.

Table 28: Waterloo North 2014 Incremental Spending

#	Initiative	Program Administration Budget (PAB)	Participant Based Funding (PBF)	Participant Incentives (PI)	Capability Building Funding (CBF)	TOTAL
Consumer Program						
1	Appliance Retirement	\$ 147,928.19	\$ -	\$ -	\$ -	\$ 147,928.19
2	Appliance Exchange	\$ 15,824.86	\$ -	\$ -	\$ -	\$ 15,824.86
3	HVAC Incentives	\$ 260,880.63	\$ -	\$ -	\$ -	\$ 260,880.63
4	Conservation Instant Coupon Booklet	\$ 106,933.00	\$ -	\$ -	\$ -	\$ 106,933.00
5	Bi-Annual Retailer Event	\$ -	\$ -	\$ -	\$ -	\$ -
6	Retailer Co-op	\$ -	\$ -	\$ -	\$ -	\$ -
7	Residential Demand Response	\$ 136,517.87	\$ 222,859.37	\$ -	\$ -	\$ 359,377.24
10	New Construction Program	\$ 14,727.09	\$ -	\$ -	\$ -	\$ 14,727.09
Business Program						
11	Efficiency: Equipment Replacement	\$ 663,184.83	\$ -	\$ 1,003,158.05	\$ -	\$ 1,666,342.88
12	Direct Installed Lighting	\$ 48,146.28	\$ 28,060.00	\$ 136,007.00	\$ -	\$ 212,213.28
14	Existing Building Commissioning Incentive	\$ 1,438.93	\$ -	\$ -	\$ -	\$ 1,438.93
15	New Construction and Major Renovation	\$ 61,212.97	\$ -	\$ 85,288.54	\$ -	\$ 146,501.51
16	Energy Audit	\$ 61,393.50	\$ -	\$ 76,004.70	\$ -	\$ 137,398.20
17	Commercial Demand Response	\$ -	\$ 1,715.65	\$ -	\$ -	\$ 1,715.65
19	Demand Response 3	\$ -	\$ -	\$ -	\$ -	\$ -
Industrial Program						
20	Process & System Upgrades					
	a) preliminary study	\$ 20,258.82	\$ -	\$ 20,000.00	\$ -	\$ 40,258.82
	b) engineering study	\$ 8,461.00	\$ -	\$ 50,000.00	\$ -	\$ 58,461.00
	c) program incentive	\$ 2,935.09	\$ -	\$ -	\$ -	\$ 2,935.09
21	Monitoring & Targeting	\$ 300.56	\$ -	\$ -	\$ -	\$ 300.56
22	Energy Manager	\$ 5,313.90	\$ -	\$ -	\$ 91,042.92	\$ 96,356.82
23	Key Account Manager	\$ 2,016.73	\$ -	\$ -	\$ -	\$ 2,016.73
24	Equipment Replacement Incentive Initiative	Included as part of Efficiency Equipment Replacement Business Initiative				
25	Demand Response 3	\$ 22,665.29	\$ -	\$ -	\$ -	\$ 22,665.29
Home Assistance Program						
26	Home Assistance Program	\$ 40,458.90	\$ 45,550.00	\$ 48,518.45	\$ -	\$ 134,527.35
Pre 2011 Programs Completed in 2011						
27	Electricity Retrofit Incentive Program	\$ -	\$ -	\$ -	\$ -	\$ -
28	High Performance New Construction	\$ -	\$ -	\$ -	\$ -	\$ -
Initiatives Not In Market						
29	Midstream Electronics	\$ -				\$ -
30	Midstream Pool Equipment	\$ -				\$ -
31	Demand Service Space Cooling	\$ -				\$ -
32	Demand Response 1 (Commercial)	\$ -				\$ -
33	Demand Response 1 (Industrial)	\$ -				\$ -
34	Home Energy Audit Tool	\$ -				\$ -
TOTAL Province-wide CDM PROGRAMS		\$ 1,620,598.44	\$ 298,185.02	\$ 1,418,976.74	\$ 91,042.92	\$ 3,428,803.12

Table 29: Waterloo North Cumulative Spending (2011-2014)

#	Initiative	Program Administration Budget (PAB)	Participant Based Funding (PBF)	Participant Incentives (PI)	Capability Building Funding (CBF)	TOTAL
Consumer Program						
1	Appliance Retirement	\$ 219,706.25	\$ -	\$ -	\$ -	\$ 219,706.25
2	Appliance Exchange	\$ 19,131.90	\$ -	\$ -	\$ -	\$ 19,131.90
3	HVAC Incentives	\$ 439,727.29	\$ -	\$ -	\$ -	\$ 439,727.29
4	Conservation Instant Coupon Booklet	\$ 236,058.98	\$ -	\$ -	\$ -	\$ 236,058.98
5	Bi-Annual Retailer Event	\$ -	\$ -	\$ -	\$ -	\$ -
6	Retailer Co-op	\$ -	\$ -	\$ -	\$ -	\$ -
7	Residential Demand Response	\$ 243,537.85	\$ 328,757.52	\$ -	\$ -	\$ 572,295.37
10	New Construction Program	\$ 21,164.60	\$ -	\$ -	\$ -	\$ 21,164.60
Business Program						
11	Efficiency: Equipment Replacement	\$ 1,076,592.69	\$ -	\$ 2,132,217.84	\$ -	\$ 3,208,810.53
12	Direct Installed Lighting	\$ 111,982.14	\$ 136,425.00	\$ 600,460.75	\$ -	\$ 848,867.89
14	Existing Building Commissioning Incentive	\$ 5,835.41	\$ -	\$ -	\$ -	\$ 5,835.41
15	New Construction and Major Renovation	\$ 121,937.89	\$ -	\$ 91,443.54	\$ -	\$ 213,381.43
16	Energy Audit	\$ 134,964.79	\$ -	\$ 120,389.00	\$ -	\$ 255,353.79
17	Commercial Demand Response	\$ -	\$ 2,977.90	\$ -	\$ -	\$ 2,977.90
19	Demand Response 3	\$ 2,206.42	\$ -	\$ -	\$ -	\$ 2,206.42
Industrial Program						
20	Process & System Upgrades					
	a) preliminary study	\$ 25,929.02	\$ -	\$ 20,000.00	\$ -	\$ 45,929.02
	b) engineering study	\$ 13,737.18	\$ -	\$ 50,000.00	\$ -	\$ 63,737.18
	c) program incentive	\$ 9,429.61	\$ -	\$ -	\$ -	\$ 9,429.61
21	Monitoring & Targeting	\$ 5,654.12	\$ -	\$ -	\$ -	\$ 5,654.12
22	Energy Manager	\$ 15,451.54	\$ -	\$ -	\$ 214,820.92	\$ 230,272.46
23	Key Account Manager	\$ 16,624.47	\$ -	\$ -	\$ -	\$ 16,624.47
23	Equipment Replacement Incentive Initiative	Included as part of Efficiency: Equipment Replacement Business Initiative				
25	Demand Response 3	\$ 71,971.59	\$ -	\$ -	\$ -	\$ 71,971.59
Home Assistance Program						
26	Home Assistance Program	\$ 93,951.95	\$ 130,450.00	\$ 69,871.95	\$ -	\$ 294,273.90
Pre 2011 Programs Completed in 2011						
27	Electricity Retrofit Incentive Program	\$ 18,458.30	\$ 27,272.07	\$ 5,950.99	\$ -	\$ 51,681.36
28	High Performance New Construction	\$ -	\$ -	\$ -	\$ -	\$ -
Initiatives Not In Market						
29	Midstream Electronics	\$ 178.57				\$ 178.57
30	Midstream Pool Equipment	\$ 178.57				\$ 178.57
31	Demand Service Space Cooling	\$ 597.02				\$ 597.02
32	Demand Response 1 (Commercial)	\$ 2,206.42				\$ 2,206.42
33	Demand Response 1 (Industrial)	\$ 3,007.96				\$ 3,007.96
34	Home Energy Audit Tool	\$ 178.57				\$ 178.57
TOTAL Province-wide CDM PROGRAMS		\$ 2,910,401.09	\$ 625,882.49	\$ 3,090,334.07	\$ 214,820.92	\$ 6,841,438.57

4.4 Additional Comments

Although the 2011 – 2014 framework provides a period of four-year certainty surrounding the initiatives and their associated incentives, engaging customers, getting into their business cycles and capital budgets requires significant time. Furthermore, project and funding delays, operation distraction and competing priorities have and continue to delay larger projects.

Many of the initiatives being offered specifically to residential (i.e. Appliance Retirement, Various Coupons within the Annual and Bi-Annual Initiatives and the Heating and Cooling Incentive) and small business customers (i.e. Direct Install Lighting) have been in market for several years and are reaching market saturation. Therefore, new and/or significantly refreshed initiatives are required to ensure we are addressing the market needs, engaging the market and continuing momentum.

Waterloo North's CDM strategy was developed based on a full portfolio of programs and initiatives, being ready for deployment January 1, 2011 and available for the full 4 years, but as programs and initiatives were rolled out throughout the 2011 year. In addition, a number of programs were not available in 2011 (and even 2012), or had minimal uptake due to inadequate market research and deficient program design. Furthermore, although some initiatives were released to the market by the OPA, Waterloo North nor the market was ready with established let alone available technologies (i.e. *peaksaver* PLUS[®] initiative) and skilled, experienced resources (i.e. Key account Manager, Embedded Energy Manager and Roving Energy Manager initiatives), which additional slowed progress towards CDM targets. All of these factors when combined further challenged Waterloo North's delivery strategy, and results.

The reporting provided by the OPA about Waterloo North's program and initiative results is not timely and does not provide for timely strategy modification. In addition, the accuracy of the reporting has been subject to question on numerous occasions because of including data that should not be included or missing data altogether. Waterloo North's ability to successfully achieve their 2011-2014 CDM Targets requires accurate, timely results that allow Waterloo North to modify their strategy in response to market conditions and results and this inability greatly impedes Waterloo North's ability to do so.

A result of the OPA's evaluation, measurement and verification process is the program and initiative net to gross (NTG) factors. These NTG factors significantly affect the net results that LDC's are awarded, yet LDC's have very little influence over the factors. In addition, the NTG factors are provincially based and do not reflect LDC activity, impact and market conditions at a region level and therefore this one-size fits all approach diminishes efforts and results. Furthermore, large projects as a requirement of the initiatives have measured and verified base case and efficiency case results. These projects are discounted more than projects that require far less documentation and rigor. The theory of discounting projects that provide measured results, and then discounting as result of the measurement and verification process essentially results in double discounting. Lastly, the larger projects are more often than not the projects that moved forward as a direct result of the incentive opportunities the saveONenergy programs

provide, whereas the simpler projects, that require less rigor in the application process are more likely to have occurred without the incentives.

Waterloo North's non-residential customer base is primarily made up of commercial and institutional customers with a limited mix of small and medium industrial. This customer mix results in limited opportunities for large demand based projects, including demand response. In addition, it presents challenges as many of the programs are positioned towards the industrial customer segment, which in itself deters customers from participating as they feel they are ineligible. Furthermore, the industrial focus of the measures within the programs has limited uptake, as many projects have to move through the custom paths, which can be costly and time consuming. Waterloo North is actively exploring how to modify the programs to better serve its customer mix, but believes the current offering further hinders their abilities to deliver on target.

5 Combined CDM Reporting Elements

5.1 Progress Towards CDM Targets

Waterloo North achieved an incremental net peak demand savings of 4.16 MW's and net energy savings of 9.88 GWh's in 2014. Tables 30 and 31 summarize net peak demand and net energy savings and their contribution towards the CDM targets.

Table 30: Net Peak Demand Savings at the End User Level (MW)

Implementation Period	Annual			
	2011	2012	2013	2014
2011 - Verified	2.1	1.5	1.5	1.5
2012 - Verified†	0.0	2.5	1.2	1.2
2013 - Verified†	0.0	0.1	2.8	1.3
2014 - Verified†	0.00	0.09	0.37	4.16
Verified Net Annual Peak Demand Savings Persisting in 2014:				8.1
Waterloo North Hydro Inc. 2014 Annual CDM Capacity Target:				15.8
Verified Portion of Peak Demand Savings Target Achieved in 2014(%):				51.3%

†Includes adjustments to previous Years' verified results

Table 31: Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual				Cumulative
	2011	2012	2013	2014	2011-2014
2011 - Verified	6.5	6.5	6.4	6.3	25.7
2012 - Verified†	-0.59	5.5	5.4	5.4	15.7
2013 - Verified†	0.00	0.39	6.36	6.32	13.07
2014 - Verified†	0.00	0.53	1.43	9.88	11.85
Verified Net Cumulative Energy Savings 2011-2014:					66.2
Waterloo North Hydro Inc. 2011-2014 Cumulative CDM Energy Target:					66.5
Verified Portion of Cumulative Energy Target Achieved (%):					99.6%

†Includes adjustments to previous Years' verified results

5.2 Variance from Strategy

Table 30 and Table 31 above show a peak demand reduction shortfall of 7.7 MW or 48.7% and the peak energy savings shortfall of 0.2 GWh's or 0.37%.

The main factors contributing to Waterloo North's net peak demand savings shortfall include:

- The withdrawal of several program initiatives in the marketplace in 2012 including Residential Program Midstream Electronics and Midstream Pool Equipment, Small Business Direct Service Space Cooling, and Demand Response 1.
- Significant delays in program launches slowed the initial rollout of programs and intern slowed the sales cycle and delayed projects.
- Several program initiatives continued to attract zero or very low uptake by participants, including Residential New Construction, New Construction and Major Renovations, Building Commissioning, Process and Systems Upgrade Initiatives.
- Long lead times are expected for project completion under the Industrial Programs Process and Systems Upgrade Initiative, which would result in savings being achieved beyond December 31, 2014.
- Some of the program initiatives or similar programs were being run prior to 2011 and are now experiencing the market saturation phase, along with smaller average project savings, including Residential Appliance Retirement, and Small Business Direct Install Program.
- Significant sales cycles, capital requirements, and project timelines for larger projects often result in project savings beyond the 2011-2014 target period.
- Demand reduction based programs such as Demand Response 3 and Residential Demand Response have significant barriers to entry and weigh heavily on results. As such, the remaining program initiatives do not offer enough peak demand savings.
- Commercial and institutional are more prevalent customer segments within Waterloo North's distribution territory with minimal large industrial driving large demand based projects.

The main factors contributing to Waterloo North's net energy savings shortfall include::

- The withdrawal of several program initiatives in the marketplace in 2012 including Residential Program Midstream Electronics and Midstream Pool Equipment, Small Business Direct Service Space Cooling, and Demand Response 1.

- Significant delays in program launches slowed the initial rollout of programs and intern delayed the sales cycle and customer and channel partner uptake.
- Several program initiatives continued to attract zero or very low uptake by participants, including Residential New Construction, New Construction and Major Renovations, Building Commissioning, Process and Systems Upgrade Initiatives.
- Long lead times are expected for project completion under the Industrial Programs Process and Systems Upgrade Initiative, which would result in savings being achieved beyond December 31, 2014.
- Some of the program initiatives or similar programs were being run prior to 2011 and are now experiencing the market saturation phase, along with smaller average project savings, including Residential Appliance Retirement, and Small Business Direct Install Program.
- Significant sales cycles, capital requirements, and project timelines for larger projects often result in project savings beyond the 2011-2014 target period.
- Delays with customer projects due to varying constraints such as human, financial and technical resources.

6 Conclusion

Over the course of 2014, Waterloo North has achieved 4.1 MW's in peak demand savings and 9.8 GWh's in energy savings, which represents 25.9% and 14.8% of Waterloo North 2011-2014 CDM Targets respectively. Over the 2011-2014 period, Waterloo North achieved 8.1 MW's and 66.2 GWh's which represents 51.3% and 99.6% of Waterloo North 2011-2014 CDM Targets respectively. These results are representative of a considerable effort expended by Waterloo North, in cooperation with other LDCs, customers, channel partners, and stakeholders to overcome many operational and structural issues that limited program effectiveness across all market sectors. This achievement is a success and the relationships built within the 2011-2014 CDM program term will aid results in a subsequent CDM terms.

Appendix A: Initiative Descriptions

RESIDENTIAL PROGRAM

APPLIANCE RETIREMENT INITIATIVE

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

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

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

Additional detail is available:

- Schedule B-1, Exhibit D
- saveONenergy website <https://saveonenergy.ca/Consumer/Programs/Appliance-Retirement.aspx>

In Market Date: January 26, 2011

APPLIANCE EXCHANGE INITIATIVE

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.

Targeted End Uses: Window air conditioners and portable dehumidifiers

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

Additional detail is available:

- Schedule B-1, Exhibit C
- saveONenergy website <https://saveonenergy.ca/Consumer.aspx>

In Market Date: January 26, 2011

HVAC INCENTIVES INITIATIVE

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

Targeted End Uses: Central air conditioners and furnaces

Delivery: OPA contracts centrally for delivery of the program. LDCs provide local marketing and encourage local contractors to participate in the Initiative.

Additional detail is available:

- Schedule B-1, Exhibit B
- saveONenergy website <https://saveonenergy.ca/Consumer.aspx>

In Market Date: January 26, 2011

CONSERVATION INSTANT COUPON INITIATIVE

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 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 OPA 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 OPA enters into agreements with retailers to honour the coupons.

Additional detail is available:

- Schedule B-1, Exhibit A
- saveONenergy website <https://saveonenergy.ca/Consumer.aspx>

In Market Date: January 26, 2011

BI-ANNUAL RETAIL EVENT INITIATIVE

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

Additional detail is available:

- Schedule B-1, Exhibit C
- saveONenergy website <https://saveonenergy.ca/Consumer.aspx>

In Market Date: January 26, 2011

NEW CONSTRUCTION INITIATIVE

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

Objective: The objective of this Initiative is to provide incentives to participants for 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, and Energuide 85 whole homes

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

Additional detail is available:

- Schedule B-1, Exhibit C
- saveONenergy website <https://saveonenergy.ca/Consumer.aspx>

In Market Date: January 26, 2011

RESIDENTIAL DEMAND RESPONSE PROGRAM INITIATIVE

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
- saveONenergy website <https://saveonenergy.ca/Consumer.aspx>

In Market Date: September 30, 2013

COMMERCIAL AND INSTITUTIONAL PROGRAM

EFFICIENCY REPLACEMENT INCENTIVE INITIATIVE

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
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Retrofit-for-Commercial.aspx>

In Market Date: March 1, 2011

DIRECT INSTALL LIGHTING INITIATIVE

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

Initiative Frequency: Year round

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

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

Target End Uses: Lighting and electric water heating measures

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

Additional detail is available:

- Schedule C-3
- saveONenergy website <https://saveonenergy.ca/Business.aspx>

In Market Date: May 1, 2011

EXISTING BUILDING COMMISSIONING INCENTIVE INITIATIVE

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
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Existing-Building-Commissioning.aspx>

In Market Date: March 1, 2011

HIGH PERFORMANCE NEW CONSTRUCTION INITIATIVE

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
saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/New-Construction.aspx>

In Market Date: November 1, 2011

ENERGY AUDIT INITIATIVE

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 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
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Audit-Funding.aspx>

In Market Date: March 1, 2011

INDUSTRIAL PROGRAM

PROCESS AND SYSTEMS INITIATIVE (PSUI)

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 costs
- c) A one year pay back

Targeted End Uses: Process and systems

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

Additional detail is available:

- Schedule D-1
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Process-and-System-Upgrades.aspx>

In Market Date: May 31, 2011

MONITORING AND TARGETING INITIATIVE

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

Initiative Frequency: Year round

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

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

Targeted End Uses: Process and systems

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

Additional detail is available:

- Schedule D-2
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Process-and-System-Upgrades/Monitoring-and-Targeting.aspx>

In Market Date: May 31, 2011

ENERGY MANAGER INITIATIVE

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
- SaveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Process-and-System-Upgrades/Embedded-Energy-Manager.aspx>

In Market Date: May 31, 2011

KEY ACCOUNT MANAGER (KAM)

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 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

In Market Date: May 31, 2011

DEMAND RESPONSE 3

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

Additional detail is available:

- Schedule D-6
- SaveONenergy website <https://saveonenergy.ca/Business.aspx>

In Market Date: May 31, 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)

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 achieving electricity and peak demand savings.

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

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

Delivery: LDC delivered.

Additional detail is available:

- Schedule E

In Market Date: January 3, 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 OPA (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)