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# **Niagara Peninsula Energy Inc.**

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**Conservation and Demand Management**

## **2014 Annual Report**

**Submitted to:**

**Ontario Energy Board**

**Submitted on September 30, 2015**

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## Executive Summary

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

NPEI did not apply for any Board-approved CDM programs during 2014 however, as noted in the Guidelines for Electricity Distributors Conservation and Demand Management (“CDM Guidelines”), released April 26, 2012, the Board has deemed Time-of-Use (“TOU”) pricing to be a province-wide Board-approved CDM program. The Ontario Power Authority (“OPA”), now Independent Electricity System Operator (“IESO”), is to provide measurement and verification on TOU. The TOU savings allocated to NPEI’s 2011 -2014 targets are 683kW.

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

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

In 2012, NPEI continued to deliver a portfolio of the OPA Contracted Province Wide CDM Programs to all customers. Residential programs were heavily promoted through a variety of marketing initiatives, including bill inserts, radio and at various retail and community events. While some initiatives, such as Appliance Exchange experienced diminishing results due to market saturation, others like the peaksverPlus initiative generated increase uptake. There was more awareness of the Home Assistance Program in 2012. NPEI hosted a session with social service providers in the Niagara Region that educated this Program to the various agencies.

In 2013, NPEI continued to deliver a portfolio of the OPA Contracted Province Wide CDM Programs to all customers. Residential programs were again heavily promoted through a variety of marketing tactic including bill inserts, radio, and various retail and community events. In addition, NPEI tried a new medium in partnership with Cineplex Odeon with the peaksaver PLUS commercial prior to blockbuster movies. The in lobby presence and the commercial assisted NPEI with promoting this residential initiative and create an awareness of Conservation. Also, in 2013, the commercial portfolio continued to gain considerable momentum. NPEI shared a Commercial Key Account Manager who assisted in delivering our

Commercial Programs, in particular the Retrofit Program, to NPEI's large customers. In addition, NPEI worked with Enbridge to deliver the HPNC Program which NPEI had a significant uptake in 2013.

In 2014, NPEI continued to deliver a portfolio of the OPA Contracted Province Wide CDM Programs to all customers. Residential programs were again promoted through a variety of marketing tactic including bill inserts, radio, and various retail and community events. Also, in 2014 we gained a great partner with The Niagara Parks Commission (NPC) through the development and implementation of a pilot project to study a load-shifting program for non-road electric vehicles (EVs) in Ontario's commercial and industrial sectors. This pilot was funded by the OPA's Conservation Fund and included market research and consultation with market actors. The purpose of the pilot and research work is to assess the feasibility and market for a provincial roll-out of the proposed load-shifting solution. The program was piloted in NPEI's territory. Data was collected from the implementation of load shifting projects in 2014 at the two NPC golf courses, Legends on the Niagara and Whirlpool and two industrial facilities; Parker Hannifin Motion and Control Technologies and Westbrook Greenhouse Systems. This pilot assisted NPEI with a demand based program concept for their segmented customers and that NPEI would be able to capture some demand savings to assist us This pilot did help increase our demand savings slightly; unfortunately not enough as NPEI's peak demand savings was not achieved.

To date NPEI has achieved 3.1MW of net incremental peak demand savings and 10.6GWh of net incremental energy savings in 2014. A summary of the achievements towards the CDM targets is shown below:

Implementation Period	Annual			
	2011	2012	2013	2014
<b>2011 - Verified</b>	1.4	1.2	1.2	1.1
<b>2012 - Verified†</b>	0.0	1.5	1.3	1.3
<b>2013 - Verified†</b>	0.2	0.3	2.0	1.3
<b>2014 - Verified†</b>	0.1	0.3	0.3	3.1
<b>Verified Net Annual Peak Demand Savings Persisting in 2014:</b>				<b>6.7</b>
<b>Niagara Peninsula Energy Inc. 2014 Annual CDM Capacity Target:</b>				<b>15.5</b>
<b>Verified Portion of Peak Demand Savings Target Achieved in 2014 (%):</b>				<b>43.2%</b>

Implementation Period	Annual				Cumulative
	2011	2012	2013	2014	2011-2014
<b>2011 - Verified</b>	5.0	5.0	4.9	4.6	19.6
<b>2012 - Verified†</b>	-0.2	5.6	5.6	5.5	16.5
<b>2013 - Verified†</b>	1.3	3.4	7.1	7.1	18.9
<b>2014 - Verified†</b>	1.0	1.5	1.82	10.6	15.0
<b>Verified Net Cumulative Energy Savings 2011-2014:</b>					<b>69.9</b>
<b>Niagara Peninsula Energy Inc. 2011-2014 Annual CDM Energy Target:</b>					<b>58.0</b>
<b>Verified Portion of Cumulative Energy Target Achieved in 2014 (%):</b>					<b>120.5%</b>

From the above tables, NPEI has achieved 6.7MW or 43.2% and 69.9 MWh or 120.5% towards NPEI's 2014 peak demand reduction target and energy consumption reduction targets respectively. The shortfall of peak demand targets were mainly due to late start of programs, cancellation of planned province wide programs including Direct Space Cooling since 2011, NPEI has partnered with other LDCs, and has been working with the Ontario Power Authority (OPA) and the Electrical Distribution Association (EDA) to improve program effectiveness. NPEI worked actively on participant engagement and in fact achieved our Energy Target at 120.5%. In turn, NPEI went further to come forth with a load-shifting program for non-road electric vehicles (EVs) in Ontario's commercial and industrial sectors. This pilot was funded by the OPA's Conservation Fund and included market research and consultation with market actors. This pilot assisted us with an increase of our demand savings in 2014 however, NPEI did not fully overcome the forecasted peak demand savings.

In 2015, the Conservation First Framework (CFF) for the period 2015 -2020 will be implemented effective on January 1, 2016. To ensure a smooth transition, most 2011- 2014 Programs and Rules were extended into 2015.

## **Background**

On March 31, 2010, the Minister of Energy and Infrastructure of Ontario, under the guidance of sections 27.1 and 27.2 of the *Ontario Energy Board Act, 1998*, directed the OEB to establish Conservation and Demand Management ("CDM") targets to be met by electricity distributors. Accordingly, on November 12, 2010, the OEB amended the distribution license of LDC to require LDC, as a condition of its license, to achieve 58 GWh of energy savings and 15.5 MW of summer peak demand savings, over the period beginning January 1, 2011 through December 31, 2014.

In accordance with the same Minister's directive, the OEB issued the Conservation and Demand Management Code for Electricity Distributors (the "Code") on September 16, 2010. The Code sets out the obligations and requirements with which electricity distributors must comply in relation to the CDM targets set out in their licenses. To comply with the Code requirements, NPEI submitted its CDM Strategy on May 2, 2011 which provided a high level of description of how NPEI 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 NPEI and has been prepared in accordance with the Code requirements and covers the period from January 1, 2014 to December 31, 2014.

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

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

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

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

In 2014, LDCs collectively achieved approximately 109.2% of the energy savings (GWh) target.

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

## **1. Conservation Framework**

### **1.1 2011-2014 Framework**

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

The state of Board-approved programs and the current suite of province-wide IESO programs have limited CDM offerings to customers. This has 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 Conservation First Framework**

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

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

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

### **Board-Approved CDM Programs**

## **1.3 Introduction**

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

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

## **1.4 TOU Pricing**

### **1.4.1 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-North Dumphries, PowerStream and Sudbury.

NPEI achieved a final verified savings of 638 kW related to Time-of-Use.

### 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.

**Table 1: RPP TOU Pricing Summary**

Effective Date	Prices (cents/kWh)		
	On Peak	Mid Peak	Off Peak
November 1, 2010	9.9	8.1	5.1
May 1, 2011	10.7	8.9	5.9
November 1, 2011	10.8	9.2	6.2
May 1, 2012	11.7	10.0	6.5
November 1, 2012	11.8	9.9	6.3
May 1, 2013	12.4	10.4	6.7
November 1, 2013	12.9	10.9	7.2
May 1, 2014	13.5	11.2	7.5
November 1, 2014	14.0	11.4	7.7

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

### 2.2.3 TOU Initiative Activities/Progress

NPEI began transitioning its RPP customers to TOU billing on October 1, 2011. At December 31<sup>st</sup>, 2014, 52,314 RPP customers were on TOU billing.

## 1.5 NPEI's Application with the OEB

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

## 1.6 NPEI's Application with the IESO's Conservation Fund

In 2013, the IESO introduced the Conservation Fund's Program Innovation stream 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 IESO portfolio and the means to test concepts for future local or province wide programs post 2014. As per the IESO, 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.

NPEI developed and implemented a pilot project to study a load-shifting program for non-road electric vehicles (EVs) in Ontario's commercial and industrial sectors. This pilot was funded by the OPA's Conservation Fund and included market research and consultation with market actors. The purpose of the pilot and research work is to assess the feasibility and market for a provincial roll-out of the proposed load-shifting solution. The program was piloted in Niagara Peninsula Energy's territory. Data was collected from the implementation of load shifting projects in 2014 at the two NPC golf courses, Legends on the Niagara and Whirlpool and two industrial facilities; Parker Hannifin Motion and Control Technologies and Westbrook Greenhouse Systems. This pilot recommended that the OPA consider the inclusion of a prescriptive measure in the ERII for timers at golf courses to shift electric charging and other load to off-peak hours. Also, to implement a targeted marketing campaign with the National Golf Owners Association and others to encourage uptake, continue to offer a custom incentive in ERII, which can be used for the installation of timers to shift electric charging loads at industrial facilities to off-peak hours, monitor the progress of interval meter adoption in golf course and industrial facilities and consider

developing a specific province wide program for load shifting of the charging of non road EV vehicles in these facilities at that time; and should the IESO consider developing demand-based programs in the future, consider of this measure as part of a holistic facility approach with shifting or reducing other coincident loads, such as irrigation pumps.

## 2 IESO-Contracted Province-Wide CDM Programs

### 3.1 Introduction

Effective February 16, 2011, NPEI entered into an agreement with the IESO to deliver CDM programs extending from January 1, 2011 to December 31, 2014. The programs included under this agreement are listed in Table 2 below. Further program details are included in Appendix A. In addition, results include projects started pre 2011 which were completed in or after 2011:

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

<b>Initiative</b>	<b>Schedule</b>	<b>Date schedule posted</b>	<b>Customer Class</b>
<b>Residential Programs</b>			
Appliance Retirement	Schedule B-1, Exhibit D	Jan 26, 2011	All residential rate classes
Appliance Exchange	Schedule B-1, Exhibit E	Jan 26, 2011	All residential rate classes
HVAC Incentives	Schedule B-1, Exhibit B	Jan 26, 2011	All residential rate classes
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	Jan 26, 2011	All residential rate classes
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	Jan 26, 2011	All residential rate classes
Retailer Co-op	n/a	n/a	All residential rate classes
Residential Demand Response	Schedule B-3	Aug 22, 2011	All general service classes
New Construction Program	Schedule B-2	Jan 26, 2011	All residential rate classes
Home Assistance Program	Schedule E-1	May 9, 2011	All residential rate classes
<b>Commercial &amp; Institutional Programs</b>			
Efficiency: Equipment Replacement	Schedule C-2	Jan 26, 2011	All general service classes
Direct Install Lighting	Schedule C-3	Jan 26, 2011	General Service < 50 kW
Existing Building Commissioning Incentive	Schedule C-6	Feb 2011	All general service classes
New Construction and Major Renovation Initiative	Schedule C-4	Feb 2011	All general service classes
Energy Audit	Schedule C-1	Jan 26, 2011	All general service classes
Commercial Demand Response	Schedule B-3	Jan 26, 2011	General Service <50 kW
<b>Industrial Programs</b>			

Process & System Upgrades	Schedule D-1	May 31, 2011	General Service 50 kW & above
Monitoring & Targeting	Schedule D-2	May 31, 2011	General Service 50 kW & above
Energy Manager	Schedule D-3	May 31, 2011	General Service 50 kW & above
Key Account Manager ("KAM")	Schedule D-4	May 31, 2011	General Service 50 kW & above
Demand Response 3	Schedule D-6	May 31, 2011	General Service 50 kW & above

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

- Electricity Retrofit Incentive Program
- High Performance New Construction
- Toronto Comprehensive
- Multifamily Energy Efficiency Rebates
- Data Centre Incentive Program
- EnWin Green Suites

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

**Table 3: Pre-2011 IESO Programs**

Not in Market	Objective	Status
<b>Residential Program</b>		
Midstream Electronics	Encourages retailers to promote and sell high efficiency televisions, and for distributors to distribute high efficiency set top boxes.	Did not launch and removed from Schedule in Q2, 2013.
Midstream Pool Equipment	Encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools.	Did not launch and removed from Schedule in Q2, 2013.
Home Energy Audit Tool	This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs.	Did not launch and removed from Schedule in Q2, 2013.
<b>Commercial &amp; Institutional Program</b>		
Direct Service Space Cooling	Offers free servicing of air conditioning systems and refrigeration units for the purpose of achieving energy savings and demand reduction.	Did not launch.
Demand Response 1 ("DR1")	This initiative allows distribution customers to voluntarily reduce electricity demand during certain periods of the year pursuant to the DR 1 contract. The initiative provides DR payment for service for the actual electricity reduction provided during a demand response event.	No customer uptake for this initiative. As a result this Initiative was removed from the Schedule in Q4, 2012.

Not in Market	Objective	Status
<b>Industrial Program</b>		
DR1	As above	No customer uptake for this initiative. Removed in Q4, 2012.

The Master CDM Program Agreement between LDCs and the IESO includes a program change management provision in Article 3. Collaboration between the IESO and LDCs commenced in 2011, and continued in 2012, 2013 and 2014, as the change management process was implemented to enhance the saveONenergy program suite. The change management process allows for modifications to the Master CDM Program Agreement and initiative Schedules. The program enhancements give LDCs additional tools and greater flexibility to deliver programs in a way that meets the needs of customers and further drives participation in the Initiatives.

## 3.2 Program Descriptions

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

### 3.2.1 RESIDENTIAL PROGRAM

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

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

**Discussion:**

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

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

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

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

### **3.2.1.1 Appliance Retirement Initiative (Exhibit D)**

#### **Initiative Activities/Progress:**

- In 2014 NPEI was able to maintain a slightly increased appliance pickup rate over the previous year. 2011 and 2012 remain the most active years for this program.

#### **Additional Comments:**

- Due to the duration of the program, and the revised appliance eligibility requirements to a minimum age of 20 years old, this initiative appears to have reached market saturation and has been under consideration for removal from the portfolio.
- IESO's results are very responsive to province-wide advertising, IESO provincial marketing should continue to play a key role. in
- Better relationships with retailers may play a role in increasing participation in this initiative. Retailers can provide opportunities to capture replacement appliances and have them decommissioned after a sale has been committed.
- In an effort to capture additional savings in the perceived last year of the initiative, the eligibility requirement for refrigerators was revised from 20 years old to 15 years old in Q2 2014, prior to the conclusion of this program by December 31, 2014.
- Due to the announcement by the IESO that the Appliance Retirement program was going to cease at the end of 2014, many LDCs lowered (or removed) their marketing support for the program.
- The end of 2014 saw several events that caused disruption in the Appliance Retirement program. ARCA Canada Inc., the provincial administrator and pick-up agent of appliances, had lowered internal staffing requirements.

### **3.2.1.2      *Appliance Exchange Initiative (Exhibit E)***

#### **Initiative Activities/Progress:**

- Participation levels for this program remained consistent with volumes from previous years.

#### **Additional Comments:**

- The design of the initiatives, including eligible measures and incentive amounts are developed through the Residential Working Group. Retail partner(s) are contracted by the IESO to deliver the initiatives province-wide. Individual LDCs have the opportunity to stage in-store events to drive the distribution of LDC coded coupons and promotion of other programs in the portfolio
- This initiative, eligible measures and incentive amounts are influenced by the retail partner with very limited involvement from the LDCs. The restrictive, limited and sometimes non-participation of local stores can diminish the savings potential for this initiative.
- To date there has only been one retailer participant in the Appliance Exchange Initiative.
- Evaluation, Measurement, and Verification (“EM&V”) results indicated that the value of savings for retired room air conditioners (“AC”) has dropped resulting in the retail participant not accepting window ACs during the Spring 2013 event.
- Notification to LDCs regarding retailer participation and eligible measures continues to be delayed. Improved communications will aid in appropriate resource allocation and marketing of the initiative.
- This initiative may benefit from the disengagement of the retailer and allowing LDCs to conduct these events, possibly as part of a larger community engagement effort, with the backing of the IESO’s contractor for appliance removal.
- The initiative appears to require more promotion from retailers and LDCs.
- 

### **3.2.1.3      *HVAC Incentives Initiative (Exhibit B)***

#### **Initiative Activities/Progress:**

- In 2014 NPEI experienced the highest volume of equipment installations in this program. The increase in participation levels can be tied to strategic marketing and promotional efforts administered by NPEI.

#### **Additional Comments:**

- Incentive levels appear to be insufficient to prompt participants to upgrade HVAC equipment prior to end of useful life. An Air Miles incentive was introduced in 2013 to try and 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 central air conditioner sales to eligible units.
- There are cases where non-participating contractors are offering their own incentives (by discounting their installations to match the value of the IESO incentive) to make the sale. As this occurs outside of the initiative, savings are not credited to LDCs. IESO should consider this in future program impact evaluation studies.
- Changes to the schedules in 2014 to allow for incentives for new installations, rather than strictly replacement units, may prove to be effective in providing greater results, increasing provincial participation by 20% over 2013.

#### **3.2.1.4 Conservation Instant Coupon Initiative (Exhibit A)**

##### **Initiative Activities/Progress:**

- Over 11,000 coupons were reported as being redeemed for NPEI in 2014, which is a sharp increase in program activity. Increased participation in retailer events helped attribute to this increase.

##### **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/Progress:**

- NPEI experienced the largest volume by far in this program, with an over 400% increase in participation from last year. Employees were more actively engaged in communicating with the retailers and being present during the in-store events.

#### **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/Progress:**

- NPEI did not participate directly in this program.

**Additional Comments:**

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

**3.2.1.7      *New Construction Program (Schedule B-2)***

**Initiative Activities/Progress:**

- NPEI was not actively engaged with this program. A couple of applications were received directly from builders.

**Additional Comments:**

- This initiative provides incentives to home builders for incorporating energy efficiency into their buildings. To support this, LDCs need to provide education to consumers regarding the importance of choosing the energy efficient builder upgrade options without an immediate benefit to the consumer.
- In 2012 the application process was streamlined, however continues to be too cumbersome for builders. This, combined with limited return, has resulted in this initiative continuing to under-achieve.
- Administrative requirements, particularly with individual home modeling, must align with perceived stakeholder payback.
- The addition of LED light fixtures, application process improvement, and moving the incentive from the builder to the home-owner 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/Progress:**

- In 2014 NPEI was able to continue the momentum that was achieved in the program's first year, and a slight increase in participation was realized.

**Additional Comments:**

- 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, replace energy-wasting equipment or pursue new construction that exceeds existing codes and standards. Businesses can also pursue incentives for controlling and reducing their electricity demand at specific times.

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

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

**Discussion:**

Throughout 2014 the Commercial and Institutional (“C&I”) Working Group continued its efforts to enhance the existing C&I programs and rectify identified program and system deficiencies. This has proven to be a challenging undertaking, normally taking months to complete sometimes relatively minor changes due to the current CDM framework. Overbuilt governance, numerous initiative requirements, complex program structure and lengthy change management have restricted growth without providing the anticipated improved measurement and verification results. In addition, Evaluation, Measurement and Verification (EM&V) has not yet achieved transparency. LDCs are held accountable for these results yet are mostly completely removed from the process.

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

Despite these challenges the C&I Working Group, working in cooperation with the IESO, have managed to iron out 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.

In 2014, Niagara Peninsula Energy Inc. went further to come forth with a load-shifting program for non-road electric vehicles (EVs) in Ontario's commercial and industrial sectors. This pilot was funded by the OPA's Conservation Fund and included market research and consultation with market actors. This pilot assisted with an increase of demand savings in 2014 however, NPEI did not fully overcome the forecasted peak demand savings.

### **3.2.2.1      *Equipment Replacement Incentive Initiative (Schedule C-2)***

#### **Initiative Activities/Progress:**

- 2014 was a very successful year for the ERIL program, which continues to be the main driver of savings for NPEI. Each year the ERIL program has seen a steady increase in projects. Success in this program can be attributed to:
  - Developing and maintaining strong contractor/applicant rep relationships
  - Direct and ongoing communication to applicants over their application status
  - A one-on-one approach with customers including on site assessments, project planning, M&V support, opportunity identification and bill analysis.

#### **Additional Comments:**

- A large proportion of LDC savings are attributed to ERIL.
- Capability building programs from industrial programs have had very positive contributions to ERIL program.
- A number of customer-facing issues in iCon (the IESO's centralized application system) have been resolved; however, key LDC administrative back office processing issues continue to be a challenge. For example, currently LDCs are unable to record back office information to complete review and approval process using iCon.
- Applicants and applicant representatives continue to express dissatisfaction and difficulty with the online application system. This issue has been addressed by LDCs through application training workshops, Key Account Managers ("KAMs"), channel partner/contractor training and LDC staff acting as customer application representatives. Although this has been an effective method of

overcoming 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.

- 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
- Prescriptive and engineered worksheets provide a much needed simplified application process for customers. However, the eligible measures need to be updated and expanded in both technology and incentive amounts to address changing product costs and evolution of the marketplace.
- A focus on demand incentives has limited some energy project opportunities. In particular, night lighting projects have significant savings potential for customers but tend to have incentives of 10% or less of project cost.
- The requirement to have a customer invoice the LDC for their incentive is very burdensome for the customer and results in a negative customer experience and another barrier to participation.
- There is redundancy in the application process as customers may need to complete a worksheet and then enter most of that information over to the online application form. This can be cumbersome.
- Processing head office application became much easier for the lead LDC after schedule changes came into effect in August 2013. The changes implemented allowed the lead LDC to review and approve all facilities in a head office application on behalf of all satellite LDCs under certain circumstances.
- The application process for head office projects remains a significant barrier. Applicants need to manually enter one application per facility associated with the project which can be extremely onerous, often requiring a dedicated resource.
- Streamlining of the settlements systems resulted in significant improvement in the payment process in 2013.
- LDCs struggle to repair customer and channel partner relationships and gain momentum in the market place once again.
- IESO implemented a cut-off date of July 31, 2014 for approval of 2014 social housing adder (SHA) under ERII program. IESO had instructed that any SHA applications that will be submitted to IESO after July 31, 2014 will not be honored for SHA, however, they failed to mention that it is the timeline to submit the funding request to the IESO by the LDCs and not the submission date of the applications to IESO's ICON system by the Applicant (Customer). As a result there were some confusions and some of the applications that were submitted to IESO's iCON by July 31, 2014 but LDCs submitted the funding request to IESO at a later date (once LDCs have completed review of the applications) were not honored for SHA. Additionally, the formal letter confirming that the SHA annual allocation has been exceeded was received by conservation officers on July 15, 2014 leaving them only 15 days to inform the customers and this created a negative customer experience.

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

### **3.2.2.2 *Direct Install Initiative (“DIL”) (Schedule C-3)***

#### **Initiative Activities/Progress:**

- Similarly to past years, in 2014 NPEI experienced a further decrease in program participation. This program is now fully saturated and a new offering is needed for this customer class.

#### **Additional Comments:**

- LED lighting was introduced in 2013 as a new measure and has been well received by customers who may not have previously qualified for DIL eligible upgrades. This is an efficient product with a long estimate useful life.
- Cold start high output lighting was removed from the program. This particularly affected the farming customers who now have limited options within the program.
- Successful execution of the previous version of this initiative has resulted in reduced potential for the 2011-2014 initiative in some LDC’s territories.
- The inclusion of a standard incentive for additional measures increased project size and drove higher energy and demand savings results in some situations. However, LDCs are unable to offer these

standard incentives to prior participants. The ability to return to prior participants and offer a standard incentive on the remaining measures has potential to provide additional energy and demand savings.

- Many customers are not taking advantage of any additional measures, which may present an opportunity to for future savings with a new program offering.

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

#### **Initiative Activities/Progress:**

- Although no savings were recognized in 2014, NPEI has received and pre-approved its first application for this program. We are working with our largest customer to recommission several chillers and are expecting project completion in 2015.

#### **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.
- Participation is mainly channel partner driven, however the particulars of the initiative have presented too much of a significant barrier for many channel partners to participate.
- The customer expectation is that the program be expanded to include a broader range of measures for a more holistic approach to building recommissioning 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/Progress:**

- Several projects that were pre-approved in earlier years were completed and NPEI was able to recognize a significant amount of savings in 2014.

#### **Additional Comments**

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

### **3.2.2.5      *Energy Audit Initiative***

#### **Initiative Activities/Progress:**

- In 2014 NPEI continued promoting the Audit Initiative in order to help customers identify projects and overall energy saving opportunities.

#### **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.
- LDCs are receiving some savings towards their targets from an audit which is mainly attributable to operational savings.
- Audit reports from consultants vary considerably and in some cases, while they adhere to the initiative requirements, do not provide value for the participant. A standard template with specific energy saving calculation requirements should be considered.
- Customers look to the LDCs to recommend audit companies. A centralized prequalified list provided by the IESO may be beneficial.

- Participants are limited to one energy audit which restricts enabling and direction to the other initiatives. This has been revised in 2014 and LDCs are now able to consider additional customer participation when presented with a new scope of work.
- Consideration should be given to allowing a building owner to undertake an audit limited to their lighting system. This way they may receive valuable information from a neutral third party regarding the appropriate lighting solution for their facility instead of what a local supplier would like to sell.
- The requirement to have a customer invoice the LDC for their incentive is very burdensome for the customer and results in a negative customer experience and a potential barrier to participation

### **3.2.3 INDUSTRIAL PROGRAM**

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

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

**Objective:**

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

**Discussion:**

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

Due to the size, scope and long lead time of these initiatives and associated projects, the December 2012 Ministerial Directive provides some security for the continuation of the conservation programs and

associated compensation for the participant; however the subsequent savings would not be attributed to an LDC's current target for projects that go into service after 2014.

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

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

#### **Initiative Activities/Progress:**

- NPEI offered their first Small Capital Project Incentive of \$286,600 to Post Foods for an Air Compressor project. 400 and 350 HP air compressors were replaced with a 320 HP compressor. Air leaks were reduced and receivers installed. The expected savings is 1613 MWh/year. The in-service date was November 1, 2014 and the project will be metered until December 31, 2015. Initial 3 month metered results indicate savings are 50% better than expected.

#### **Additional Comments:**

- Numerous energy studies have been submitted and completed. This is a strong indication that there is potential for large projects with corresponding energy savings. Most of these studies have been initiated through Energy Manager and Key Account Manager ("KAM") resources.
- 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 a long project development cycle. As such, limited results are expected to be generated in 2014. The majority of the results are expected in 2015 with a much reduced benefit to cumulative energy savings targets.
- Delays with processing funding payments have caused delayed payments to participants beyond contract requirements. In some cases, LDCs have developed a separate side agreement between the LDC and participant acknowledging that the participant cannot be paid until the funds are received.
- Given the size of the projects involved, the contract required for PSUI is a lengthy and complicated document. A key to making PSUI successful is the new agreement for 'small' projects with simplified and less onerous conditions for the customer.
- To partially address this, changes were made to the ERII program which allowed smaller projects to be directed to the commercial stream. Most industrial projects to-date has been submitted as ERII projects due to less onerous contract and M&V requirements. Therefore, PSUI engineering studies

and LDC's industrial resources (e.g., Energy managers, KAMs) contribute significant savings to other programs such as ERII.

- A business case was submitted by the Industrial Working Group in July 2012 which changed the limit for a small project from 700 MWh to 1 million dollars in incentives. This would allow more projects to be eligible for the new small capital project agreement and increase participant uptake, while still protecting the ratepayer. This small capital project agreement was finalized through change management in September 2013.
- With the considerable customer interest in on-site load displacement (co-generation) projects, the initiative should be reviewed to ensure that these projects may be accepted as part of the PSUI Initiative. The IESO was reviewing waste heat projects only and all other co-generation projects were on hold prior to June 2013, when a decision was made to allow natural gas load displacement generation projects to proceed under PSUI. 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.
- The requirement for customer invoice to the LDC and provide proof of payment to consultants for their incentive is very burdensome for the customer and results in a negative customer experience and another barrier to participation.

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

#### **Initiative Activities/Progress:**

- NPEI has a pre-approved M&T project that has been underway since 2012.

#### **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/Progress:**

- In September of 2014 the first EEM for NPEI began work at the Niagara Parks Commission (NPC). NPC operates several large and small facilities throughout Niagara Falls. The EEM has been successful in identifying several opportunities for projects over these facilities.

**Additional Comments:**

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

**3.2.3.4 Key Account Manager (Schedule D-4)**

**Initiative Activities/Progress:**

- In 2014 NPEI continued to work with a KAM. Our KAM was able to identify and help get approvals for implementation on several large projects in our service territory.

**Additional Comments**

- Customers appreciate dealing with a single contact to interface with an LDC, a resource that has both the technical and business background who can communicate easily with the customer and the LDC.
- Finding this type of skill set has been difficult. In addition, the short-term contract and associated energy targets discourage some skilled applicants resulting in longer lead times to acquire the right resource.

- This resource has been found by some LDCs to be of limited value due to the part-time nature of the position and limited funding. In addition, the position role has been too narrow in scope to provide assistance to the wider variety of projects with which LDCs may be struggling.

### **3.2.3.5 Demand Response 3 ("DR3") (D-6)**

#### **Initiative Activities/Progress:**

- NPEI does not actively participate in this program.

#### **Additional Comments:**

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

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

#### **Initiative Activities/Progress:**

- NPEI continues to advertise and offer this program to eligible customer's in our service area. We have found steady success working with our third party delivery agent to administer this program to those most in need of the assistance being offered.

#### **Additional Comments:**

- The process for enrolling in social housing was complicated and time consuming. This was addressed in late 2012 and showed benefits since 2013.

- The financial scope, complexity, and customer privacy requirements of this initiative are challenging for LDCs and most have contracted this program out. This initiative may benefit from an IESO contracted centralized delivery agent.

### **3.2.5 PRE-2011 PROGRAMS**

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

# 4 2014 NPEI CDM Results

## 4.1 Participation and Savings

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
<b>Consumer Program</b>															
Appliance Retirement	Appliances	512	339	158	159	30	20	11	11	214,685	135,814	67,743	69,447	71	1,470,407
Appliance Exchange	Appliances	44	56	40	37	4	8	8	8	4,714	14,737	14,778	13,669	25	103,466
HVAC Incentives	Equipment	882	733	767	993	282	151	150	190	504,642	253,365	253,570	348,841	773	3,634,644
Conservation Instant Coupon Booklet	Items	7,729	307	3,460	11,030	15	2	5	22	272,325	13,904	76,648	298,637	45	1,582,946
Bi-Annual Retailer Event	Items	9,469	10,550	9,395	47,980	17	15	12	80	292,245	266,332	170,846	1,222,212	123	3,531,878
Retailer Co-op	Items	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Residential Demand Response	Devices	47	0	352	478	26	0	175	175	0	0	208	0	175	208
Residential Demand Response (IHD)	Devices	0	0	357	433	0	0	0	0	0	0	0	0	0	0
Residential New Construction	Homes	0	0	2	2	0	0	0	47	0	0	0	597,321	47	597,321
<b>Consumer Program Total</b>						<b>376</b>	<b>196</b>	<b>360</b>	<b>533</b>	<b>1,288,610</b>	<b>684,152</b>	<b>583,793</b>	<b>2,550,128</b>	<b>1,260</b>	<b>10,920,869</b>
<b>Business Program</b>															
Retrofit	Projects	36	88	121	164	168	767	520	633	927,120	3,486,336	2,142,104	3,666,562	2,063	21,988,146
Direct Install Lighting	Projects	347	217	150	110	333	177	176	123	903,623	712,848	620,149	450,821	670	6,965,446
Building Commissioning	Buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Construction	Buildings	0	1	0	4	0	0	0	33	0	0	0	147,659	33	147,659
Energy Audit	Audits	3	9	1	7	0	41	9	94	0	201,410	48,451	456,915	144	1,158,047
Small Commercial Demand Response	Devices	4	0	5	5	3	0	3	3	0	0	5	0	3	5
Small Commercial Demand Response (IHD)	Devices	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Demand Response 3	Facilities	3	3	2	2	106	106	95	92	4,146	1,548	1,500	0	92	7,194
<b>Business Program Total</b>						<b>610</b>	<b>1,092</b>	<b>803</b>	<b>978</b>	<b>1,834,889</b>	<b>4,402,143</b>	<b>2,812,209</b>	<b>4,721,957</b>	<b>3,005</b>	<b>30,266,497</b>
<b>Industrial Program</b>															
Process & System Upgrades	Projects	0	0	0	1	0	0	0	160	0	0	0	1,424,930	160	1,424,930
Monitoring & Targeting	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy Manager	Projects	0	0	1	2	0	0	0	0	0	0	0	17,076	0	17,076
Retrofit	Projects	1	0	0	0	2	0	0	0	13,815	0	0	0	2	55,261
Demand Response 3	Facilities	1	1	5	6	63	65	472	444	3,710	1,578	10,747	0	444	16,035
<b>Industrial Program Total</b>						<b>65</b>	<b>65</b>	<b>472</b>	<b>604</b>	<b>17,526</b>	<b>1,578</b>	<b>10,747</b>	<b>1,442,006</b>	<b>606</b>	<b>1,513,303</b>
<b>Home Assistance Program</b>															
Home Assistance Program	Homes	10	89	344	167	0	5	15	12	9,137	54,743	181,895	113,778	33	677,573
<b>Home Assistance Program Total</b>						<b>0</b>	<b>5</b>	<b>15</b>	<b>12</b>	<b>9,137</b>	<b>54,743</b>	<b>181,895</b>	<b>113,778</b>	<b>33</b>	<b>677,573</b>
<b>Aboriginal Program</b>															
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
<b>Aboriginal Program Total</b>						<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Pre-2011 Programs completed in 2011</b>															
Electricity Retrofit Incentive Program	Projects	23	0	0	0	264	0	0	0	1,480,972	0	0	0	264	5,923,887
High Performance New Construction	Projects	3	2	0	0	77	136	0	0	395,844	643,518	0	0	213	3,513,933
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
<b>Pre-2011 Programs completed in 2011 Total</b>						<b>341</b>	<b>136</b>	<b>0</b>	<b>0</b>	<b>1,876,816</b>	<b>643,518</b>	<b>0</b>	<b>0</b>	<b>477</b>	<b>9,437,820</b>
<b>Other</b>															
Program Enabled Savings	Projects	10	20	3	0	0	0	4	0	0	0	93,443	0	4	186,886
Time-of-Use Savings	Homes	0	0	0	n/a	0	0	0	638	0	0	0	0	638	0
LDC Pilots	Projects	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Other Total</b>						<b>0</b>	<b>0</b>	<b>4</b>	<b>638</b>	<b>0</b>	<b>0</b>	<b>93,443</b>	<b>0</b>	<b>642</b>	<b>186,886</b>
<b>Adjustments to 2011 Verified Results</b>							<b>-7</b>	<b>192</b>	<b>137</b>		<b>-170,184</b>	<b>1,313,384</b>	<b>999,273</b>	<b>313</b>	<b>8,534,367</b>
<b>Adjustments to 2012 Verified Results</b>								<b>153</b>	<b>141</b>			<b>2,086,995</b>	<b>516,328</b>	<b>295</b>	<b>7,810,249</b>
<b>Adjustments to 2013 Verified Results</b>									<b>67</b>				<b>299,597</b>	<b>67</b>	<b>599,491</b>
<b>Energy Efficiency Total</b>						<b>1,193</b>	<b>1,323</b>	<b>910</b>	<b>2,052</b>	<b>5,019,121</b>	<b>5,783,008</b>	<b>3,669,626</b>	<b>8,827,868</b>	<b>5,309</b>	<b>52,979,505</b>
<b>Demand Response Total (Scenario 1)</b>						<b>198</b>	<b>172</b>	<b>744</b>	<b>714</b>	<b>7,856</b>	<b>3,126</b>	<b>12,461</b>	<b>0</b>	<b>714</b>	<b>23,443</b>
<b>Adjustments to Previous Years' Verified Results Total</b>						<b>0</b>	<b>-7</b>	<b>346</b>	<b>345</b>	<b>0</b>	<b>-170,184</b>	<b>3,400,379</b>	<b>1,815,198</b>	<b>675</b>	<b>16,944,106</b>
<b>OPA-Contracted LDC Portfolio Total (inc. Adjustments)</b>						<b>1,392</b>	<b>1,488</b>	<b>2,000</b>	<b>3,111</b>	<b>5,026,977</b>	<b>5,615,950</b>	<b>7,082,466</b>	<b>10,643,066</b>	<b>6,698</b>	<b>69,947,053</b>
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:			
												<b>15,490</b>	<b>58,040,000</b>		
												<b>43.2%</b>	<b>120.5%</b>		

**Table 4: Summarized Program Results**

#	Initiative	Activity Unit	Uptake/ Participation Units			
			2011	2012	2013	2014
<b>Consumer Programs</b>						
1	Appliance Retirement	Appliances	512	339	158	159
2	Appliance Exchange	Appliances	44	56	40	37
3	HVAC Incentives	Equipment	882	733	767	993
4	Conservation Instant Coupon Booklet		7,729	307	3,460	11,030
5	Bi-Annual Retailer Event	Coupons	9,469	10,550	9,395	47,980
6	Retailer Co-op	Items	0	0	0	0
7	Residential Demand Response (switch / Programmable Thermostat)	Devices	47	0	392	478
8	Residential Demand Response (IHD)	Devices	0	0	357	433
9	New Construction Program	Houses	0	0	2	2
<b>Business Programs</b>						
10	Efficiency: Equipment Replacement – Retrofit	Projects	36	88	121	164
11	Direct Installed Lighting	Projects	347	217	150	110
12	Existing Building Commissioning Incentive	Buildings	0	0	0	0
13	New Construction and Major Renovation Incentive	Buildings	0	1	0	4
14	Energy Audit	Audits	3	9	1	7
15	Commercial Demand Response (part of the Residential program schedule)	Devices	4	0	5	5
16	Commercial Demand Response (IHD)	Devices	0	0	1	1
17	Demand Response 3 (part of the Industrial program schedule)	Facilities	3	3	2	2

<b>Industrial Programs</b>						
18	Process & System Upgrades	Projects	0	0	0	1
19	Monitoring & Targeting	Projects	0	0	0	0
20	Energy Manager	Managers	0	0	1	2
21	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Projects	1	0	0	0
22	Demand Response 3	Facilities	1	1	5	6
<b>Home Assistance Program</b>						
23	Home Assistance Program	Homes	10	89	344	167
<b>Pre-2011 Programs</b>						
24	Electricity Retrofit Incentive Program	Projects	23	0	0	0
25	High Performance New Construction	Projects	3	2	0	0
26	Toronto Comprehensive	Projects	0	0	0	0
27	Multifamily Energy Efficiency Rebates	Projects	0	0	0	0
28	Data Centre Incentive Program	Projects	0	0	0	0
29	EnWin Green Suites	Projects	0	0	0	0

**Table 5: Verified Results**

#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings		Contribution to Targets	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Annual Demand Savings in 2014 (kW)	Net Peak Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
<b>Consumer Programs</b>											
1	Appliance Retirement	1.00	1.00	24	147,486	0.42	0.44	11	69,447	71	1,470,407
2	Appliance Exchange	1.00	1.00	15	25,971	0.53	0.53	8	13,669	25	103,466
3	HVAC Incentives	1.00	1.00	398	733,643	0.51	0.51	190	348,841	773	3,634,644
4	Conservation Instant Coupon Booklet	1.00	1.00	13	172,972	1.93	2.02	22	298,637	45	1,582,946
5	Bi-Annual Retailer Event	1.00	1.00	46	698,649	1.74	1.75	80	1,222,212	123	3,531,878
6	Retailer Co-op	-	-	0	0	-	-	0	0	0	0
7	Residential Demand Response	-	-	175	0	-	-	175	0	175	208
8	Residential Demand Response (IHD)	-	-	0	0	-	-	0	0	0	0
9	Residential New Construction	1.20	1.23	75	948,128	0.63	0.63	47	597,321	47	597,321
<b>Business Programs</b>											
10	Efficiency: Equipment Replacement	0.85	0.94	894	5,044,112	0.70	0.71	633	3,666,562	2,063	21,988,146
11	Direct Install Lighting	0.78	0.83	130	477,630	0.94	0.94	123	450,821	670	6,965,446
12	Existing Building Commissioning Incentive	-	-	0	0	-	-	0	0	0	0
13	New Construction and Major Renovation Incentive	0.85	0.74	61	273,443	0.54	0.54	33	147,659	33	147,659

#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings		Contribution to Targets	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Net Annual Peak Demand Savings in 2014 (kW)	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
14	Energy Audit	0.96	1.00	139	680,946	0.68	0.67	94	456,915	144	1,158,047
15	Small Commercial Demand Response	-	-	3	0	-	-	3	0	3	5
16	Small Commercial Demand Response (IHD)	-	-	0	0	-	-	0	0	0	0
17	Demand Response 3	0.76	1.00	92	0	-	-	92	0	92	7,194
<b>Industrial Programs</b>											
18	Process & System Upgrades	1.10	1.10	203	1,781,162	0.79	0.80	160	1,424,930	160	1,424,930
19	Monitoring & Targeting	-	-	0	0	-	-	0	0	0	0
20	Energy Manager	0.91	0.96	0	18,973	0.90	0.90	0	17,076	0	17,076
21	Efficiency: Equipment Replacement Incentive	-	-	0	0	-	-	0	0	2	55,261
22	Demand Response 3	0.84		444	0	1.00	-	444	0	444	16,035
<b>Home Assistance Program</b>											
23	Home Assistance Program	0.42	0.84	12	113,778	1.00	1.00	12	113,778	33	677,573
<b>Pre-2011 Programs Completed in 2011</b>											
24	Electricity Retrofit Incentive Program	-	-	0	0	-	-	0	0	264	5,923,887
25	High Performance New Construction	1.00	1.00	0	0	.50	.50	0	0	213	3,513,933
<b>Other</b>											
29	Adjustments to previous year's verified results	-	-	423	2,037,451	-	-	345	1,815,198	675	16,944,106

#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings		Contribution to Targets	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Annual Demand Savings in 2014 (kW)	Net Peak Cumulative Energy Savings (kWh)
30	Program Enabled Savings	-	-	0	0	-	-	0	0	4	186,886
31	Time-of-Use Savings	-	-	638	0	-	-	638	0	638	0

**Table 6: Summarized 2014 Program Results**

Program	Gross Savings		Net Savings		Contribution to Targets	
	Incremental Peak Demand Savings (MW)	Incremental Energy Savings (GWh)	Incremental Peak Demand Savings (MW)	Incremental Energy Savings (GWh)	Program-to-Date: Net Annual Peak Demand Savings (MW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (GWh)
Consumer Program Total	745	2,726,849	533	2,550,128	1,260	10,920,869
Business Program Total	1,319	6,476,131	978	4,721,957	3,005	30,266,497
Industrial Program Total	647	1,800,135	604	1,442,006	606	1,513,303
Home Assistance Program Total	12	113,778	12	113,778	33	677,573
Pre-2011 Programs completed in 2011 Total	0	0	0	0	477	9,437,820
Other Adjustments	1,061	2,037,451	983	1,815,198	1,317	17,130,992
<b>Total IESO Contracted Province-Wide CDM Programs</b>	<b>3,784</b>	<b>13,154,345</b>	<b>3,111</b>	<b>10,643,066</b>	<b>6,698</b>	<b>69,947,053</b>

## 4.2 Evaluation, Measurement and Verification (“EM&V”) Findings

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

**Table 7: Evaluation Findings**

#	Initiative	IESO Province-Wide Key Evaluation Findings
<b>Consumer Programs</b>		
1	Appliance Retirement	<ul style="list-style-type: none"> <li>• Participation increased slightly to 22,563 (7.7%) in 2014 compared with 20,952 in 2013.</li> <li>• Since 2011 overall Initiative participation has decreased nearly 60%.</li> <li>• The greatest decrease was seen in the number of refrigerators collected year-over-year</li> <li>• 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.</li> <li>• Net to gross ratio (NTG) increased slightly to 47% compared to 43% as reported for 2013 and 2012 program years.</li> </ul>
2	Appliance Exchange	<ul style="list-style-type: none"> <li>• Participation in 2014 increased by 6.5% to 5,685 appliances from 5,337 compared to 2013</li> <li>• 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 &amp; Demand savings.</li> <li>• Net to Gross ratio (NTG) remained unchanged from 2013 at 52.6%</li> </ul>
3	HVAC Incentives	<ul style="list-style-type: none"> <li>• In 2014 net savings increased by 20% from 2013 and overall participation increased by 17% to 113,002 compared to 2013</li> <li>• The ECM measure has remained the dominant source of savings since 2011</li> <li>• 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.</li> <li>• Per unit energy and demand savings assumptions for central air conditioners decreased by 56% due to reduced run hours</li> <li>• Net to Gross ratio (NTG) remained unchanged from 2013 at 48%</li> </ul>

#	Initiative	IESO Province-Wide Key Evaluation Findings
4	Conservation Instant Coupon Booklet	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>
5	Bi-Annual Retailer Event	<ul style="list-style-type: none"> <li>Over 2.5 million coupons were redeemed in 2014 compared with 2013 redemptions</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>
7	Residential Demand Response	<ul style="list-style-type: none"> <li>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.</li> <li>Ex-ante impacts on a per device basis were lower than 2013 average.</li> <li>There were no energy savings in 2014 because there were no system-wide events were called.</li> <li>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</li> <li>IHD's yielded no statistically significant energy savings.</li> </ul>

#	Initiative	IESO Province-Wide Key Evaluation Findings
8	Residential New Construction	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• New deemed savings for performance track homes were developed and implemented, resulting more consistent realization rates for 2014.</li> <li>• 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</li> </ul>
<b>Business Programs</b>		
9	Efficiency: Equipment Replacement	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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: <ul style="list-style-type: none"> <li>○ 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.</li> <li>○ Inconsistencies in equipment nameplate data (typically efficiency or capacity) between project documentation and equipment installed on-site.</li> <li>○ Weather dependent control systems leading to shifts in how often the equipment operated.</li> </ul> </li> </ul>

#	Initiative	IESO Province-Wide Key Evaluation Findings
10	Direct Lighting Install	<ul style="list-style-type: none"> <li>• 23,784 projects were completed in 2014 (34% increase from 2013)</li> <li>• 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.</li> <li>• 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.</li> <li>• Overall energy and demand realization rates decreased by 1.8 and 3.1 %, respectively, from 2013. <ul style="list-style-type: none"> <li>○ Sampled rural projects have lower energy realization rather than urban projects (63.8% compared to 83.5%) across the 2011 – 2014 sample</li> <li>○ Sampled rural projects have even lower demand realization rather than urban projects (49.7% compared to 74.1%) across the 2011 – 2014 sample</li> </ul> </li> <li>• The annual proportion of net energy savings from rural projects has increased from 30% in 2011 to 41% in 2014</li> </ul>
11	Existing Building Commissioning Incentive	<ul style="list-style-type: none"> <li>• 5 projects completed the Hand-off stage in 2014.</li> <li>• Energy realization rate was estimated at 116% and demand realization rate at 202%.</li> <li>• About 31 participants are still in the scoping stage or implementation stage.</li> </ul>
12	New Construction and Major Renovation Incentive	<ul style="list-style-type: none"> <li>• Savings have increased every year of the initiative with an increased participation of 50% from 2013</li> <li>• In 2014, most savings came from the custom track providing 71% of demand savings.</li> <li>• Participation from HVAC measures occurred for the first time in 2014 (providing 14% of summer peak kW savings and 5% of kWh savings).</li> <li>• 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).</li> <li>• Province-wide realization rates declined slightly for 2014, as a result of the wider variety of measures being implemented.</li> <li>• Key drivers for participation are: initial project cost, followed by electricity costs and expected energy savings are the key drivers to participation.</li> </ul>

#	Initiative	IESO Province-Wide Key Evaluation Findings
13	Audit Funding	<ul style="list-style-type: none"> <li>• The number of audits carried out in 2014 decreased by 20% when compared to 2013.</li> <li>• 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.</li> <li>• 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.</li> </ul>
<b>Industrial Programs</b>		
16	Process & System Upgrades	<ul style="list-style-type: none"> <li>• 10 PSUI Capital Incentive projects implemented in 2014, compared to 5 in 2013. <ul style="list-style-type: none"> <li>○ 4 projects are Behind the Meter Generation (BMG) projects.</li> <li>○ The remaining projects were energy efficiency improvements in pumping, cooling, compressed air systems and industrial processes.</li> </ul> </li> <li>• Each project received its own Net to Gross (NTG) value. NTG ratios ranged from 62% to 100% for the 10 projects <ul style="list-style-type: none"> <li>• Realization rates remained high in 2014, ranging from 90 to over 100%.</li> </ul> </li> </ul>
20	Demand Response 3	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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. <ul style="list-style-type: none"> <li>• There were no events called in 2014 and the contracted capacity was similar to 2013.</li> </ul> </li> </ul>
<b>Home Assistance Program</b>		

#	Initiative	IESO Province-Wide Key Evaluation Findings
21	Home Assistance Program	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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. <ul style="list-style-type: none"> <li>• 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.</li> </ul> </li> </ul>

## 4.3 Spending

**Table 8: 2014 Spending**

Initiative	PAB	PBF	PI	CBF	TOTAL
<b>Consumer Program</b>					
Appliance Retirement	\$39,664.61	-	-	-	\$39,664.61
Appliance Exchange	-	-	-	-	-
HVAC Incentives	\$43,598.57			-	\$43,598.57
Conservation Instant Coupon Booklet	\$44,109.28	-	-	-	\$44,109.28
Bi-Annual Retailer Event	\$52,403.90	-	-	-	\$52,403.90
Retailer Co-op	-	-	-	-	-
Residential Demand Response	\$82,070.46	\$32,935.00	-	-	\$115,005.46
New Construction Program	\$39,664.57	-	\$129,411.10	-	\$169,075.67
<b>Business Program</b>					
Efficiency: Equipment Replacement	\$233,567.82	-	\$729,928.62	-	\$963,496.44
Direct Installed Lighting	\$108,944.78	\$28,080.00	\$150,389.00	-	\$287,413.78
Existing Building Commissioning Incentive	\$0	-	\$5000	-	\$5000
New Construction and Major Renovation Initiative	\$128,339.68	-	\$29,144	-	\$157,483.68
Energy Audit	\$104,846.68	-	\$51,935.60	-	\$156,782.28
<b>Industrial Program</b>					
Process & System Upgrades					
a) preliminary engineering study	\$23,567.30	-	-	-	\$23,567.30
b) detailed engineering study	\$23,567.23	-	\$57,480	-	\$81,047.23
c) program incentive	\$23,567.23	-	-	-	\$23,567.23
Monitoring & Targeting	\$23,567.23	-	-	-	\$23,567.23
Energy Manager	\$23,567.23	-	-	-	\$23,567.23
Key Account Manager	\$23,567.23	-	-	-	\$23,567.23
Demand Response 3	\$23,567.23	-	-	-	\$23,567.23
<b>Home Assistance Program</b>					
Home Assistance Program	\$13,281.56	\$73,100.00	\$136,168.40	-	\$222,549.96
<b>TOTAL SPENDING</b>	<b>\$1,055,462.59</b>	<b>\$134,115.00</b>	<b>\$1,289,456.72</b>	<b>-</b>	<b>\$2,479,034.31</b>

**Table 9: Cumulative Spending (2011-2014)**

Initiative	PAB	PBF	PI	CBF	TOTAL
<b>Consumer Program</b>					
Appliance Retirement	\$93,733.19	-	-	-	\$93,733.19
Appliance Exchange	\$11,940.00	-	-	-	\$11,940.00
HVAC Incentives	\$98,293.70	-	-	-	\$98,293.70
Annual Coupons	\$94,912.51	-	-	-	\$94,912.51
Bi-Annual Retailer Event	\$73,807.18	-	-	-	\$73,807.18
Retailer Co-op	-	-	-	-	\$0
Residential Demand Response	\$178,314.84	\$141,005.00	-	-	\$319,319.84
New Construction Program	\$80,191.09	-	\$129,411.10	-	\$209,602.19
<b>Business Program</b>					
Equipment Replacement	\$506,671.98	-	\$1,600,214.22	-	\$2,106,866.20
Direct Installed Lighting	\$225,908.52	\$222,833.25	\$961,805.75	-	\$1,410,547.52
Existing Building Commissioning Incentive	-	-	\$5000.00	-	\$5000.00
New Construction and Major Renovation Initiative	\$228,963.47	-	\$31,232.00	-	\$260,195.47
Energy Audit	\$215,351.09	-	\$77,170.56	-	\$292,521.65
Small Commercial Demand Response	-	-	-	-	\$0
Demand Response	-	-	-	-	\$0
<b>Industrial Program</b>					
Process & System Upgrades					
a) preliminary engineering study	\$63,868.10	-	-	-	\$63,868.10
b) detailed engineering study	\$52,165.99	-	\$93,480	-	\$145,645.99
c) program incentive	\$51,779.86	-	-	-	\$51,779.86
Monitoring & Targeting	\$51,209.50	-	-	-	\$51,209.50
Energy Manager	\$45,100.56	-	-	-	\$45,100.56
Key Account Manager ("KAM")	\$41,369.09	-	-	-	\$41,369.09
Equipment Replacement Incentive	-	-	-	-	\$0
Demand Response 3	\$40,729.51	-	-	-	\$40,729.51
<b>Home Assistance Program</b>					
Home Assistance Program	\$74,527.15	\$169,566.00	\$227,944.80	-	\$472,037.95
<b>Pre 2011 Programs</b>					
Electricity Retrofit Incentive Program	-	-	\$265,214.10	-	\$265,214.10
<b>Total CDM Program Spending</b>	<b>\$2,228,837.33</b>	<b>\$533,404.25</b>	<b>\$3,391,472.53</b>	<b>-</b>	<b>\$6,153,714.11</b>

## 5 Combined CDM Reporting Elements

### 5.1 Progress Towards CDM Targets

Table 10: Net Peak Demand Savings at the End User Level (MW)

Implementation Period	Annual (MW)			
	2011	2012	2013	2014
2011 – Verified by IESO	1.4	1.2	1.2	1.1
2012 – Verified by IESO	0.0	1.5	1.3	1.3
2013 – Verified by IESO	0.2	0.3	0.3	3.1
2014	0.1	0.3	0.3	3.1
<b>Verified Net Annual Peak Demand Savings in 2014:</b>				6.7
<b>Niagara Peninsula Energy Inc. 2014 Annual CDM Capacity Target:</b>				15.5
<b>Verified Portion of Peak Demand Savings Target Achieved (%):</b>				43.2%

Table 11: Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual (GWh)				Cumulative (GWh)
	2011	2012	2013	2014	2011-2014
2011 – Verified by IESO	5.0	5.0	4.9	4.6	19.6
2012 – Verified by IESO	-0.2	5.6	5.6	5.5	16.5
2013 – Verified by IESO	1.3	3.4	7.1	7.1	18.9
2014	1.0	1.5	1.82	10.6	15.0
<b>Verified Net Cumulative Energy Savings 2011-2014:</b>					<b>69.9</b>
<b>Niagara Peninsula Energy Inc. 2011-2014 Cumulative CDM Energy Target:</b>					<b>58.0</b>
<b>Verified Portion of Cumulative Energy Target Achieved (%):</b>					<b>120.5%</b>

### 5.2 Variance from Strategy

In 2014, there were some enhancements with some programs; the OPA did not introduce any new programs or initiatives. NPEI did apply to The Conservation Fund's LDC Program Innovation stream fast-tracks LDC-led program design and the launch of an Electrical Vehicle Pilot prior to full-scale deployment. By driving program innovation through the Conservation Fund, NPEI had the opportunity to both realize additional savings through the piloting and implementation of initiatives not currently addressed by the OPA portfolio; however, not enough to achieve our demand savings target.

NPEI's local marketing coverage was expanded in 2014. This included one to one customer engagement and a more segmented approach with hotels, agricultural facilities and municipalities within NPEI's service territory.

## **Conclusion**

Over the course of 2014, NPEI has achieved an incremental 3.1MW in peak demand savings and 10.6GWh in energy savings.

The overall results achieved in 2011-2014 are 6.7MW in peak demand savings and 69.9GWh in energy savings, which represents 43.2% and 120.5% of NPEI's 2014 target, respectively. These results are representative of a considerable effort expended by NPEI. NPEI found success gaining partnerships with some key clients in various sectors to develop and implement a Pilot to study a load-shifting concept for non-road electric vehicles (EVs) in Ontario's Commercial and Industrial sectors. Also, NPEI cooperated 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 future CDM programs.

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

## Appendix A: Initiative Descriptions

### Residential Program

#### APPLIANCE RETIREMENT INITIATIVE (Exhibit D)

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Year round

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

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

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

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

**Additional detail is available:**

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

**In Market Date:** February 2011

#### APPLIANCE EXCHANGE INITIATIVE (Exhibit E)

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Spring and Fall

**Objective:** The objective of this initiative is to remove and permanently decommission older, inefficient window air conditioners and portable dehumidifiers that are in Ontario.

**Description:** This initiative involves appliance exchange events. Exchange events are held at local retail locations and customers are encouraged to bring in their old room air conditioners (AC) and dehumidifiers in exchange for coupons/discounts towards the purchase of new energy efficient equipment. Window ACs were discontinued from the program in 2013.

**Targeted End Uses:** Window air conditioners and portable dehumidifiers

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

Additional detail is available:

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

**In Market Date:** February 2011

HVAC INCENTIVES INITIATIVE (Exhibit B)

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Year round

**Objective:** The objective of this initiative is to encourage the replacement of existing heating systems with high efficiency furnaces equipped with electronically commutated motors (ECM), and to replace existing central air conditioners with ENERGY STAR qualified systems and products.

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

**Targeted End Uses:** Central air conditioners and furnaces

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

Additional detail is available:

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

**In Market Date:** February 2011

CONSERVATION INSTANT COUPON INITIATIVE (Exhibit A)

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Year round

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

**Description:** This initiative provides customers with year round coupons. The coupons offer instant rebates towards the purchase of a variety of low cost, easy to install energy efficient measures and can be redeemed at

participating retailers. Booklets were directly mailed to customers and were also available at point-of-purchase. Downloadable coupons were also available at [www.saveoneenergy.ca](http://www.saveoneenergy.ca).

**Targeted End Uses:** ENERGY STAR® qualified Standard Compact Fluorescent Lights (“CFLs”), ENERGY STAR® qualified Light Fixtures lighting control products, weather-stripping, hot water pipe wrap, electric water heater blanket, heavy duty plug-in Timers, Advanced power bars, clothesline, baseboard programmable thermostats.

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

Additional detail is available:

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

**In Market Date:** February 2011

#### BI-ANNUAL RETAILER EVENT INITIATIVE (Exhibit C)

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Bi-annual events

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

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

**Targeted End Uses:** As per the Conservation Instant Coupon Initiative

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

Additional detail is available:

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

**In Market Date:** April 2011

#### RETAILER CO-OP

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Year Round

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

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

**Targeted End Uses:** As per the Conservation Instant Coupon Initiative

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

**In Market Date:** Not applicable

#### NEW CONSTRUCTION PROGRAM (Schedule B-2)

**Target Customer Type(s):** Residential Customers

**Initiative Frequency:** Year round

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

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

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

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

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

Additional detail is available:

- Schedule B-1, Exhibit C. Available on IESO's extranet;

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

**In Market Date:** February 2011

#### RESIDENTIAL DEMAND RESPONSE PROGRAM (Schedule B-3)

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

**Initiative Frequency:** Year round

**Objective:** The objectives of this initiative are to enhance the reliability of the IESO-controlled grid by accessing and aggregating specified residential and small commercial end uses for the purpose of load reduction, increasing consumer awareness of the importance of reducing summer demand and providing consumers their current electricity consumption and associated costs.

**Description:** In *peaksaver PLUS*<sup>®</sup> participants are eligible to receive a free programmable thermostat or switch, including installation. Participants also receive access to price and real-time consumption information on an In Home Display (IHD).

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

**Delivery:** LDC's recruit customers and procure technology

Additional detail is available:

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

**In Market Date:** March 2013

## C&I Program

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

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

**Initiative Frequency:** Year round

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

**Description:** The Equipment Replacement Incentive Initiative (ERII) offers financial incentives to customers for the upgrade of existing equipment to energy efficient equipment. Upgrade projects can be classified into either: 1) prescriptive projects where prescribed measures replace associated required base case equipment; 2) engineered

projects where energy and demand savings and incentives are calculated for associated measures; or 3) custom projects for other energy efficiency upgrades.

**Targeted End Uses:** lighting, space cooling, ventilation and other measures

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule C-2. Available on IESO's extranet;
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Retrofit-for-Commercial.aspx>.

**In Market Date:** February 2011

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

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

**Initiative Frequency:** Year round

**Objective:** The objective of this Initiative is to offer a free installation of eligible lighting and water heating measures of up to \$1,500 to eligible owners and tenants of small commercial, institutional and agricultural facilities and multi-family buildings, for the purpose of achieving electricity and peak demand savings.

**Description:** The Direct Installed Lighting Initiative targets customers in the General Service <50kW account category. This Initiative offers turnkey lighting and electric hot water heater measures with a value up to \$1,500 at no cost to qualifying small businesses. In addition, standard prescriptive incentives are available for eligible equipment beyond the initial \$1,500 limit.

**Target End Uses:** Lighting and electric water heating measures

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

Additional detail is available:

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

**In Market Date:** February 2011

EXISTING BUILDING COMMISSIONING INCENTIVE INITIATIVE (Schedule C-6)

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

**Initiative Frequency:** Year round

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

**Description:** This Initiative offers Participants incentives for the following:

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

**Targeted End Uses:** Chilled water systems for space cooling

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule C-6. Available on IESO's extranet;
- saveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Existing-Building-Commissioning.aspx>.

**In Market Date:** February 2011

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

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

**Initiative Frequency:** Year round

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

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

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

**Delivery:** LDC delivers to customers and design decision makers.

Additional detail is available:

- Schedule C-4. Available on IESO's extranet;

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

**In Market Date:** February 2011

ENERGY AUDIT INITIATIVE (Schedule C-1)

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

**Initiative Frequency:** Year round

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

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

**Targeted End Uses:** Various

**Delivery:** LDC delivered.

Additional detail is available:

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

**In Market Date:** February 2011

## Industrial Program

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

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

**Initiative Frequency:** Year round

**Objectives:** The objectives of this initiative are to:

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

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

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

**Targeted End Uses:** Process and systems

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

Additional detail is available:

- Schedule D-1. Available on IESO's extranet;
- saveONenergy website <https://saveonenergy.ca/Business.aspx>.

**In Market Date:** June 2011

#### MONITORING & TARGETING INITIATIVE (Schedule D-2)

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

**Initiative Frequency:** Year round

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

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

**Targeted End Uses:** Process and systems

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

Additional detail is available:

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

**In Market Date:** June 2011

## ENERGY MANAGER INITIATIVE (Schedule D-3)

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

**Initiative Frequency:** Year round

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

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

**Targeted End Uses:** Process and systems

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

Additional detail is available:

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

**In Market Date:** June 2011

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

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

**Initiative Frequency:** Year round

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

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

**Targeted End Uses:** Process and systems

**Delivery:** LDC delivered

Additional detail is available:

- Schedule D-4. Available on IESO's extranet.

**In Market Date:** June 2011

DEMAND RESPONSE 3 (Schedule D-6)

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

**Initiative Frequency:** Year round

**Objective:** This initiative provides for Demand Response ("DR") payments to contracted participants to compensate them for reducing their electricity consumption by a pre-defined amount during a DR event.

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

**Targeted End Uses:** Commercial and Industrial Operations

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

Additional detail is available:

- Schedule D-6. Available on IESO's extranet;
- saveONenergy website <https://saveonenergy.ca/Business.aspx>

**In Market Date:** June 2011

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

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

**Target Customer Type(s):** Income Qualified Residential Customers

**Initiative Frequency:** Year Round

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

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

**Targeted End Uses:** End use measures based on results of audit (i.e., CFL bulbs)

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule E. Available on IESO's extranet.

**In Market Date:** June 2011

## Appendix B: Pre-2011 Programs

### ELECTRICITY RETROFIT INCENTIVE PROGRAM

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

**Initiative Frequency:** Year Round

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

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

**Targeted End Uses:** Electricity savings measures

**Delivery:** LDC Delivered

### HIGH PERFORMANCE NEW CONSTRUCTION

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

**Initiative Frequency:** Year round

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

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

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

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

**Target Customer Type(s):** Commercial and Institutional Customers

## MULTIFAMILY ENERGY EFFICIENCY REBATES

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

**Initiative Frequency:** Year round

**Objective:** Improve energy efficiency of Multi-unit building

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

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

**Targeted End Uses:** Electricity saving measures

**Delivery:** IESO contracted with Greensaver