



Conservation and Demand Management

2011 Annual Report

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Executive Summary

Oshawa PUC Networks Inc. (“OPUCN”) began to offer Conservation and Demand Management (CDM) programs in March 2011 in accordance with the CDM targets for electricity distributors issued by the Ontario Energy Board (“OEB”) as part of the *Green Energy and Green Economy Act*.

As of year-end 2011, OPUCN had achieved 11% and 19% of their net annual peak demand savings target and net cumulative energy savings target respectively¹. The largest program contributor to incremental² peak demand savings in the CDM program for 2011 was with the Consumer Program, amounting to 49% (671 kW) of total incremental peak demand savings. The Industrial Program also contributed significant peak demand savings in 2011, accounting for 45% (615 kW) of total incremental peak demand savings in 2011. The largest contributor to incremental energy savings in 2011 was the business program, accounting for 61% (1.6 GWh) of total incremental energy savings in 2011.

OPUCN has made significant and diligent efforts since the inception of the CDM program in 2011 to reach its program targets. Creation and implementation of strategic marketing campaigns and partnership with a specialized third party provider to implement program initiatives are examples of the efforts OPUCN has undertaken to deliver the program target and ensure that the CDM program for the territory is a success.

Moving forward, OPUCN expects the Energy Retrofit Incentive Initiative (ERII) to be a significant contributor to help OPUCN move towards its peak demand and incremental energy savings targets in addition to other program initiatives. OPUCN has developed a strategic sales and marketing plan to target consumer demographics that will result in the most effective program savings (larger consumers). Results of these initiatives are starting to become apparent in that larger ERII applications are beginning to be submitted more frequently, eventually resulting in OPUCN moving closer to its CDM program targets. In addition, OPUCN will target smaller consumers to realize further potential program savings. The Small Business Lighting program continues to show progress and OPUCN will continue to work towards realizing further savings through this initiative. OPUCN continues to work towards realizing program savings through the industrial program and report program savings as they develop through the CDM delivery period.

In conclusion, OPUCN is actively working towards meeting the CDM program targets and looks forward to working together with the OPA to make this program a success.

¹ 2011 Final Report Data Oshawa PUC Networks Inc. (assuming Demand Response remains in OPUCN service territory until 2014)

² Incremental: the new resource savings attributable to activity procured in a particular reporting period based on when the savings are considered to 'start' (Source: 2011 OPA Final Annual Report Data OPUC Inc.),

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 CDM targets to be met by electricity distributors. Accordingly, on November 12, 2010 the OEB amended the distribution license of OPUCN to require OPUCN, as a condition of its licence to achieve 12.5 MW of 2014 net annual peak demand savings target and 52.2 GWh of 2011-2014 net incremental energy savings target.

Cumulative Energy Savings Target

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 licences. To comply with the Code requirements, OPUCN submitted its CDM Strategy on October 28, 2010³ which provided a high level of description of how OPUCN intended to achieve its CDM targets.

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

³ OEB issued an Acknowledgement Letter on June 28, 2011

1.0 Board-Approved CDM Programs

Introduction

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

At this time, Time-of-Use (“TOU”) Pricing is the only board-approved CDM program that is being offered in OPUCN’s service area. All other initiatives offered by OPUCN are OPA contracted province-wide CDM programs.

1.1 TOU Pricing

Background

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

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

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 incentivize the shifting of energy usage. Therefore, peak demand reductions are expected, and energy conservation benefits may 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. Table 1 presents a summary of the RPP TOU pricing.

Table 1: RPP TOU Pricing Structure

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

Delivery: OEB set rates; OPUCN installation and maintenance of the meter; OPUCN converts customers to TOU billing.

Initiative Activities/Progress:

OPUCN began transitioning its RPP customers to TOU billing July 1, 2011. At December 31st, 2011, 99% of all RPP customers were on TOU billing.

1.0.1 TOU Evaluation

As of September 30th, 2012 the OPA had not yet released the preliminary results of TOU savings for distributors. As such, OPUCN is not able to provide an verified saving with respect to the TOU program.

OPUCN's Application with the OEB

Currently OPUCN does not have any application before the OEB for Board Approved CDM Programs.

2.0 OPA-Contracted Province-Wide CDM Programs

2.1 Introduction

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

Table 2: CDM Programs and Initiatives⁴

Initiative	Schedule	Date schedule posted	Customer Class
Residential Program			
Appliance Retirement	Schedule B-1, Exhibit D	Jan 26 2011	All residential rate classes
Appliance Exchange	Schedule B-1, Exhibit E	Jan 26 2011	All residential rate classes
HVAC Incentives	Schedule B-1, Exhibit B	Jan 26 2011	All residential rate classes
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	Jan 26 2011	All residential rate classes
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	Jan 26 2011	All residential rate classes
Retailer Co-op		Jan 26 2011	All residential rate classes
Residential Demand Response	Schedule B-3	Aug 22 2011	All general service classes
New Construction Program	Schedule B-2	Jan 26 2011	All residential rate classes
Commercial & Institutional Program			
Efficiency: Equipment Replacement	Schedule C-2	Jan 26 2011	All general service classes
Direct Install Lighting	Schedule C-3	Jan 26 2011	General Serce < 50 kW
Existing Building Commissioning Incentive	Schedule C-6	Feb2011	All general service classes
New Construction and Major Renovation Initiative	Schedule C-4	Feb 2011	All general service classes
Energy Audit	Schedule C-1	Jan 26, 2011	All general service classes
Commercial Demand Response (part of the Residential program schedule)	Schedule B-3	Jan 26, 2011	All general service classes
Demand Response 3 (part of the Industrial program schedule)	Schedule D-6	May 31, 2011	General Service 50 kW & above

⁴ 2011 Final Report Data Oshawa PUC Networks Inc.

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

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

Table 3: Programs Not in Market in 2011⁵

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

The Master CDM Program Agreement includes a program change to management provision in Article 3. Collaboration between Local Distribution Companies (“LDCs”) commenced in 2011 as the change management process was implemented to enhance the saveONenergy program

⁵ 2011 Final Report Data Oshawa PUC Networks Inc.

suite. The change management process allows for modifications to the Master Service Agreement and initiative Schedules. The program enhancements give LDCs additional tools and greater flexibility to deliver programs in a way that meets the needs of customers and further drives participation in the initiatives.

2.2 Program Descriptions

2.2.2 RESIDENTIAL PROGRAM

a. *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 located in Ontario.

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

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

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

Additional detail is available:

Schedule B-1, Exhibit D:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf

SaveONenergy website: <https://saveonenergy.ca/Consumer/Programs/Appliance-Retirement.aspx>

Initiative Activities/Progress: 432 Appliances have been picked up.

In Market Date: This program was introduced to market on March 2012.

Lessons Learned:

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

While the OPA and the LDCs have reviewed this initiative to assess whether to include other products, appliances have a natural life cycle and the initiative cannot be expected to continually deliver the high level of results in perpetuity. These lower expectations have been taken into account when developing conservation portfolios.

This initiative now faces some competition from independent retailers and municipalities.

Results are very responsive to province wide advertising.

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.**Targeted End Uses:** Window AC and portable dehumidifiers**Delivery:** OPA contracts with participating retailers for collection of eligible units.

Additional detail is available:

Schedule B-1, Exhibit E:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf

SaveONenergy website <https://saveonenergy.ca/Consumer.aspx>

Initiative Activities/Progress: 41 appliances have been picked up under this program.**In Market Date:** This program was actively offered starting in March 2011.

Lessons Learned:

The spring event had the participation of 3 retailers with 300 – 400 locations across the province. However, the Fall 2011 event had no retailer participation, therefore savings budgeted by the LDCs did not materialize.

OPA Evaluation, Measurement, and Verification (“EMV”) results indicated that the value of savings for retired room AC has dropped.

The initiative may be achieving market saturation.

The type of unit turned in is very dependent upon what is promoted by the retailers.

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 AC 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 AC by approved Heating, Refrigeration, and Air Conditioning Institute (“HRAI”) qualified contractors.

Targeted End Uses: Central AC and furnaces

Delivery: OPA contracts centrally for delivery of the program and LDCs are encouraged to convince local contractors to participate in the Initiative.

Additional detail is available:

Schedule B-1, Exhibit B:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf and

SaveONenergy website: <https://saveonenergy.ca/Consumer.aspx>

Initiative Activities/Progress: There were 1,402 HVAC incentives.

In Market Date: This program was offered in March 2011.

Lessons Learned:

Channel engagement is a highly effective method of connecting with customers; however channel partners require timeliness of the Rebate process to maintain a positive relationship between consumers, contractors, the OPA, and the participating LDC.

There appears to be spillover from non-HRAI contractors who are ineligible for this initiative. There are cases where smaller independent contractors are offering their own incentives (by discounting their installations to match value of the OPA incentive) to make the sale. As this occurs outside of the initiative, these installations not being attributed to any LDC.

CONSERVATION INSTANT COUPON BOOKLET INITIATIVE (Exhibit A)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

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

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

Additional detail is available:

Schedule B-1, Exhibit A:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf

SaveONenergy website <https://saveonenergy.ca/Consumer.aspx>

Initiative Activities/Progress: Customers in the Oshawa area used 6,127 coupons.

In Market Date: In market date is March 2011.

Lessons Learned:

The downloadable coupons proved to be more successful than the mailed out booklets.

This Initiative may benefit from an enabler such as a Conservation Card / Loyalty Card to increase customer participation.

The timeframe for retailer submission of redeemed coupons vary from retailer to retailer. This delays the results reporting, which in turn limits the OPA and LDC abilities to react and respond to initiative performance or changes in consumer behaviour.

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: Same as the conservation instant coupon booklet initiative

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

Additional detail is available:

Schedule B-1, Exhibit C:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf

SaveONenergy website <https://saveonenergy.ca/Consumer.aspx>

Initiative Activities/Progress: There were 10,690 instant point of purchase discounts.

In Market Date: This Program in market date was March 2011.

Lessons Learned:

The Product list has changed very little over the past four years.

Program evolution, including new products (for example, LED lighting) and review of incentive pricing for the coupon initiatives, must be a regular activity to ensure continued consumer interest.

A review conducted by the Residential Working Group in Q4 2011 identified three areas of need for initiative evolution: 1) introduction of product focused marketing; 2) enhanced product selection and 3) improved training for retailers.

RETAILER CO-OP

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

Targeted End Uses: Energy efficiency measures that go above-and-beyond the measures in the traditional Bi-Annual Coupon Events.

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

The OPA provides each LDC with a list of retailers who have qualified for Co-Op Funding as well as details of the proposed special events.

Initiative Activities/Progress: OPUCN did not have any participants in this program.

In Market Date: The in market date for this program was March 2011.

Lessons Learned:

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.

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 AC, lighting control products, lighting fixtures, Energuide 83 whole home, energuide 85 whole homes

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

Additional detail is available:

Schedule B-2

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-2%20New%20Construction%20Program.pdf and

SaveONenergy website <https://saveonenergy.ca/Consumer.aspx>

Initiative Activities/Progress: In 2011 we did not have any participants in this program.

In Market Date: In market date for this program was March 2011.

Lessons Learned:

Because this program requires an online application system, this program was only practical for custom builders who were building one home at a time. For example, tract builders who might build 250 homes in a single phase would have to submit 250 applications to qualify for incentives. This administrative challenge has deterred all tract builders from participating in the program to date.

Administrative requirements must align with perceived stakeholder payback.

b. RESIDENTIAL DEMAND RESPONSE PROGRAM (Schedule B-3)

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

Initiative Frequency: Year round

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

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

Targeted End Uses: central AC, water heaters and pool pumps

Delivery: LDC's recruit customers and procure technology

Additional detail is available:

Schedule B-3

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/SCHED_2011_ResDR_B_3_110727%28MJB%29v15_redacted.pdf and

SaveONEnergy website <https://saveonenergy.ca/Consumer.aspx>

Initiative Activities/Progress: 343 Oshawa Customers participated in this program.

In Market Date: The in market date for this program was March 2011.

Lessons Learned:

The schedule for Peaksaver Plus was posted in August 2011, but this did not provide adequate time for product procurement for 2011, and part of 2012. The product procurement process uncovered that the IHD units that communicate with installed smart meter technology were still in development and not ready for market deployment. Consequently, LDCs could not be in market with the Peaksaver Plus program until 2012.

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.

Where a provincial solution is not available to all participants, attention to addressing specific LDC concerns is needed.

2.2.3 COMMERCIAL AND INSTITUTIONAL PROGRAM

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

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

Delivery: LDC delivered.

Additional detail is available:

Schedule C-2:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-2%20ERII%20Initiative.pdf

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

Initiative Activities/Progress: OPUCN selected a third party contractor to deliver this program; program delivery began in September 2011. 13 projects were delivered in 2011.

Marketing and sales initiatives have been ramped up, including: segmenting customers to target customer groups appropriately, promotional material preparation (as per OPA guidelines) and distribution.

In Market Date: The in-market date was March, 2011.

Lessons Learned:

ERII (previously Equipment Replacement Incentive Program – ERIP) has been offered by LDCs for many years. It is a high performing, cost-effective program, and there were many pre-2011 projects completing in 2011 (via ERIP).

A major challenge for the ERII program in 2011 was payment delays. The centralized electronic processes were not ready as required by the Master Agreement. The lack of having these automated processes, exacerbated by a greater than expected volume of pre-2011 projects completing in 2011, caused considerable payment delays. Based on the lessons learned in the 2011 process, the centralized process review used for 2012 project payment has been streamlined.

In March 2011, the revised iCON system was launched by the OPA. This is the major online application system implemented to aid the 2011-2014 ERII application process. With system applications of this size and functionality, it was expected that there would be various issues identified at the time of the release, and on-going, to prove that the system was “ready for market.” Unfortunately, the resolution of these issues, with the corresponding time lags and workarounds, was seen to be a barrier to some customer participation in the 2011 program year. In addition, there were also on-going issues and limitations with the back-end CRM system that affected LDCs ability to effectively review and approve applications.

DIRECT INSTALL LIGHTING INITIATIVE (“DIL”) (Schedule C-3)

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

Initiative Frequency: Year-round.

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

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

Target End Uses: Lighting.

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

Additional detail is available:

Schedule C-3: <http://www.powerauthority.on.ca/sites/default/files/page/Schedule%20C-3%20Direct%20Install%20Initiative%20-%20redacted.pdf>

SaveONenergy website: <https://saveonenergy.ca/Business.aspx>

Initiative Activities/Progress:

OPUCN selected a third party contractor to deliver this program; program delivery began in September 2011.

Marketing and sales initiatives have been ramped up, including: segmenting customers to target customer groups appropriately, promotional material preparation (as per OPA guidelines) and distribution.

In Market Date: The in market date was March 2011

Lessons Learned:

The Direct Installed Lighting Initiative is a continuation of the Power Saving Blitz Initiative offered by LDCs from 2008-2010. Successful execution of the previous rendition of this initiative has resulted in diminished potential for the 2011-2014 Initiative in some LDC territories.

The cost of materials has experienced price volatility, reducing the margins of the electrical contractors and has led to a reduction in vendor channel participation in some regions.

Due to backlogs in the payment system, participant incentive payment from the OPA to the LDC, and therefore to the customer, was commonly delayed.

To address these issues, the LDCs have been working with the OPA through Change Management to address:

- extending the target initiative population to include small agricultural customers;
- increasing the incentive envelope of \$1,000 to \$1,500 to ensure ongoing marketability of the program; and
- reviewing the eligible measure price list to support contractor participation.

EXISTING BUILDING COMMISSIONING INCENTIVE INITIATIVE (Schedule C-6)

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

Initiative Frequency: Year-round.

Objective: The objective of this Initiative is to offer incentives for optimizing (but not replacing) existing chilled water systems for space cooling in non-residential facilities for

the purpose of achieving implementation phase energy savings, implementation phase demand savings, or both.

Description: This Initiative offers Participants incentives for the following:

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

Targeted End Uses: Chilled water systems for space cooling.

Delivery: LDC delivered.

Additional detail is available:

Schedule C-6:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-6%20Commissioning%20Initiative.pdf

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

Initiative Activities/Progress: OPUCN selected a third party contractor to deliver this program and has subsequently commenced delivery. Program delivery began in September 2011.

Marketing and sales initiatives have been ramped up, including: segmenting customers to target customer groups appropriately, promotional material preparation (as per OPA guidelines) and distribution.

In Market Date: Program in market since March 2011

Lessons Learned:

There was no customer uptake for this Initiative. It is suspected that the scope of the Initiative being limited to space cooling contributed to the lack of participation. Accordingly, chilled water systems used for other purposes should be made eligible and considered through Change Management.

The customer expectation is that the program be expanded to include broader building improvements for a more holistic approach to building recommissioning.

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

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

Initiative Frequency: Year-round.

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

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

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

Delivery: LDC delivers to customers and design decision makers.

Additional detail is available:

Schedule

C-4

<http://www.powerauthority.on.ca/sites/default/files/page/ScheduleC-4NewConstructionInitiativeV2.pdf>

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

Initiative Activities/Progress:

OPUCN selected a third party contractor to deliver this program; program delivery began in September 2011.

Marketing and sales initiatives have been ramped up, including: segmenting customers to target customer groups appropriately; promotional material preparation (as per OPA guidelines); and distribution.

In Market Date: This program has been in market since March 2011

Lessons Learned: This is a continuation of the High Performance New Construction program previously delivered by Enbridge Gas under contract with the OPA (and subcontracted to Union Gas), which ran until December 2010.

For 2011, new industry participation was limited due to the delays in redesign of certain aspects of the Initiative such as:

- 2011 prescriptive incentives needed to be aligned with ERII incentives
- In the cases of delivering large projects (i.e. custom applications), 2011 participation was limited due to 1) building code changes; and 2) level of documentation required.

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:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-1%20Energy%20Audit%20Initiative.pdf and

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

Initiative Activities/Progress: OPUCN selected a third party contractor to deliver this program and has subsequently commenced delivery. Program delivery began in September 2011.

Marketing and sales initiatives have been ramped up, including: segmenting customers to target customer groups appropriately; promotional material preparation (as per OPA guidelines); and distribution.

In Market Date: This program has been in market since March 2011.

Lessons Learned:

Customer uptake in the beginning of 2011 was slow, and increased later in the year. Hence, little if any savings were realized in 2011, but projects are expected for 2012.

Customers expect a greater connection with other CDM initiatives as a result of completing the Energy Audit. The initiative should be reviewed under Change Management for the means to readily incent Participants with Audits in hand to implement other electricity savings initiatives.

2.2.4 INDUSTRIAL PROGRAM

a. 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: 1) preliminary engineering study; 2) detailed engineering study; and 3) project incentive initiative. The incentives are available to large distribution connected customers with

projects or portfolio projects that are expected to generate at least 350 MWh of annualized electricity savings or, in the case of Micro-Projects, 100 MWh of annualized electricity savings. The capital incentive for this initiative is the lowest of:

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

Targeted End Uses: Process and systems.

Delivery: LDC delivered with Key Account Management support, in some cases. OPUCN did not apply for a Key Account Manager or an Energy Manager under this Initiative.

Additional detail is available:

Schedule D-1:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-1%20Process%20and%20Systems%20Upgrades%20Initiative.pdf and

SaveONenergy website: <https://saveonenergy.ca/Business.aspx>

Initiative Activities/Progress:

OPUCN selected a third party contractor to deliver this program; program delivery began in September 2011.

In Market Date: The program has been in market since March 2011.

Lessons Learned:

The PSUI program targets large customers that are undertaking large capital projects. There is typically a long sales cycle to sell these projects followed by a long project development cycle. As such, results from PSUI did not appear in 2011. Limited results are expected to appear in 2012. The majority of the results are expected in 2013-2014, with a much reduced benefit to cumulative energy savings targets.

Steps are being taken in the 2012 Change Management process to simplify and streamline the Micro-Project application process and to allow smaller projects to be directed to the ERII stream.

Given the size of the projects involved, the contract required for PSUI is a lengthy and complicated document. Attempts are being made through Change Management in 2012 to simplify the document while still protecting the ratepayer.

With the considerable customer interest in on-site Load Displacement projects, the Initiative should be reviewed to ensure that these projects may be accepted as part of the PSUI .

c. MONITORING & TARGETING INITIATIVE (Schedule D-2)

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

Initiative Frequency: Year-round.

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

Description: This Initiative offers customers funding for the installation of a Monitoring and Targeting (“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: End-use industrial applications.

Delivery: Additional detail is available:

Schedule D-2:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-2%20Monitoring%20and%20Targeting%20Initiative.pdf and

SaveONenergy website: <https://saveonenergy.ca/Business.aspx>

Initiative Activities/Progress: OPUCN selected a third party contractor to deliver this program; program delivery began in September 2011.

In Market Date: This program has been in market since March 2011.

Lessons Learned:

The M&T initiative was originally targeted at larger customers with the capacity to review the M&T data. This review requires the customer facility to employ an Energy Manager, or a person with equivalent qualifications, which has been a barrier for some customers.

Through the Change Management process in 2012, revisions are being made to both the M&T schedule and ERII to allow smaller facilities to employ M&T systems.

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 LDC's 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:

Delivery: Additional detail is available:

Schedule D-3:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-3%20Energy%20Manager%20Initiative%202011-2014.pdf and

SaveONenergy website: <https://saveonenergy.ca/Business.aspx>

Initiative Activities/Progress: OPUCN selected a third party contractor to deliver this program and has subsequently commenced delivery. Program delivery began in September 2011. However no application was made by OPUCN for an Energy Manager.

In Market Date: This program has been in market since March 2011

Lessons Learned:

- The energy managers have proven to be a popular resource.
- At the beginning, it took longer than expected to set up the energy manager application process.
- Some LDCs are reporting difficulties in hiring capable Roving Energy Managers (“REM”).
- LDCs that are too small to qualify for their own REM, are teaming up with other utilities to hire an REM.

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. 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: Processes and Systems

Delivery: Additional detail is available:

ScheduleD-4:

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

Initiative Activities/Progress:

OPUCN selected a third party contractor to deliver this program; program delivery began in September 2011. However no application was made by OPUCN for a KAM.

In Market Date: This program has been in market since March 2011

Lessons Learned:

Customers appreciate dealing with a single contact to interface with an LDC, a resource that has both the technical and business background who can communicate easily with the customer and the LDC. Finding this type of skill set has been difficult resulting in longer lead times to acquire the right resource.

DEMAND RESPONSE 3 (“DR3”) (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”) payment for service to DR3 participants to compensate them for making available electricity demand response during a demand response event.

Description: DR3 is a demand response initiative for commercial and industrial customers 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 energy payments for the actual energy 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: Peak Demand Loads

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

Additional detail is available:

Schedule D-6:

http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-6%20Demand%20Response%203%202011-2014.pdf and

SaveONenergy website: <https://saveonenergy.ca/Business.aspx>

In Market Date: This program has been in market since March 2011

Lessons Learned:

Customer data is not provided by the OPA on an individual customer basis due to contractual requirements with the aggregators. This limits LDCs’ ability to effectively

market to prospective participants. LDCs are now approaching the aggregators individually and working to develop agreements in order to identify potential customers of this initiative.

LOW INCOME INITIATIVE (“HOME ASSISTANCE PROGRAM”) (Schedule E)

Target Customer Type(s): Income Qualified Residential Customers

Initiative Frequency: Year Round

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

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

Targeted End Uses: End uses based on results of audit

Delivery: LDC delivered.

Additional detail is available:

Schedule E

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

Initiative Activities/Progress: OPUCN is in the process of finalizing a contract with a third party contractor. This program was not offered in 2011.

Lessons Learned:

- Difficulty identifying eligible customers.
- This Initiative Schedule was finalized later (May 2011) than the rest of the OPA initiatives and in 2011 only 2 LDCs were in market.

- Centralized payment processes were not developed in 2011, but were in place mid-2012. This resulted in some LDCs delaying their launch to market, or for some pulling out of the market until the payment processes were completed.
- The financial scope, complexity, and customer privacy requirements of this Initiative resulted in a lengthy procurement process. Some LDCs must adhere to very transparent procurement processes which meant that delivery of the program did not start in 2011.

2.2.5 PRE-2011 PROGRAMS COMPLETED IN 2011

ELECTRICITY RETROFIT INCENTIVE PROGRAM (ERIP)

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: Refer to section 2.2.2.1

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

Delivery: Delivered by LDC.

In Market Date: This program was offered in 2010 in OPUCN's service area. Commencing 2011, the program is now offered through ERII (schedule C-2)

HIGH PERFORMANCE NEW CONSTRUCTION

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

Initiative Frequency: Year round

Description: Refer to section 2.2.2.5

Additional detail is available:

Initiative Activities/Progress: This program was offered by Enbridge as HPNC program prior to 2011.

In Market Date: This program was previously offered by Enbridge.

3.0 Participation

Table 4: Program Participation⁶

#	Initiative	Activity Unit	Uptake/ Participation Units
Consumer Program			
1	Appliance Retirement	Appliances	432
2	Appliance Exchange	Appliances	41
3	HVAC Incentives	Equipment	1,402
4	Conservation Instant Coupon Booklet	Coupons	6,127
5	Bi-Annual Retailer Event	Coupons	10,690
6	Retailer Co-op	Items	0
7	Residential Demand Response	Devices	343
10	New Construction Program	Houses	0
Business Program			
11	Efficiency: Equipment Replacement	Projects	13
12	Direct Installed Lighting	Projects	0
14	Existing Building Commissioning Incentive	Buildings	0
15	New Construction and Major Renovation Incentive	Buildings	0
16	Energy Audit	Audits	2
17	Commercial Demand Response (part of the Residential program schedule)	Devices	0
19	Demand Response 3 (part of the Industrial program schedule)	Facilities	3
Industrial Program			
20	Process & System Upgrades*	Projects	
	a) preliminary study		0
	b) engineering study		0

⁶ 2011 Final Report Data Oshawa PUC Networks Inc.

#	Initiative	Activity Unit	Uptake/ Participation Units
	c) project incentive		0
21	Monitoring & Targeting	Projects	0
22	Energy Manager	Managers	0
23	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Projects	0
25	Demand Response 3	Facilities	1
Home Assistance Program			
26	Home Assistance Program	Units	0
Pre 2011 Programs Completed in 2011			
27	Electricity Retrofit Incentive Program	Projects	8
28	High Performance New Construction	Projects	0
29	Toronto Comprehensive	Projects	0
30	Multifamily Energy Efficiency Rebates	Projects	0
31	Data Centre Incentive Program	Projects	0
32	EnWin Green Suites	Projects	0

4.0 Spending

Describe and detail the funds the distributor spent, both cumulatively and in the one year period applicable to the Annual Report, on each of the OPA-Contracted Province-Wide CDM Programs that the distributor offered in its service area.

Table 5: Spending

Program	Program Administration Budget (PAB)	¹ Participant Based Funding (PBF)	Participant Incentives (PI)	² Capability Building Funding (CBF)	TOTAL
Consumer Program	\$131,678.00	-	-	-	\$131,678.00
Business Program	\$135,855.00	-	\$6,075.00	-	\$135,855.00
Industrial Program	\$18,858.00	-	-	-	\$18,858.00
³ Home Assistance Program	-	-	-	-	-
Total	286,391.00		\$6,075.00		\$292,466.00

¹ There were no PBF payments made in 2011.

² We did not receive CBF in 2011.

³ Home Assistance Program was not rolled out in 2011

5.0 Evaluation

Table 6: Evaluation Findings⁷

#	Initiative	OPA Province-Wide Key Evaluation Findings
Consumer Program		
1	Appliance Retirement	<ul style="list-style-type: none"> * Overall participation continues to decline year over year <ul style="list-style-type: none"> * Participation declined 17% from 2010 (from over 67,000 units in 2010 to over 56,000 units in 2011) * 97% of net resource savings achieved through the home pick-up stream <ul style="list-style-type: none"> * Measure Breakdown: 66% refrigerators, 30% freezers, 4% Dehumidifiers and window air conditioners * 3% of net resource savings achieved through the Retailer pick-up stream <ul style="list-style-type: none"> * Measure Breakdown: 90% refrigerators, 10% freezers * Net-to-Gross ratio for the initiative was 50% <ul style="list-style-type: none"> * Measure-level free ridership ranges from 82% for the retailer pick-up stream to 49% for the home pick-up stream * Measure-level spillover ranges from 3.7% for the retailer pick-up stream to 1.7% for the home pick-up stream
2	Appliance Exchange	<ul style="list-style-type: none"> * Overall eligible units exchanged declined by 36% from 2010 (from over 5,700 units in 2010 to over 3,600 units in 2011) <ul style="list-style-type: none"> * Measure Breakdown: 75% window air conditioners, 25% dehumidifiers * Dehumidifiers and window air conditioners contributed almost equally to the net energy savings achieved <ul style="list-style-type: none"> * Dehumidifiers provide more than three times the energy savings per unit than window air conditioners * Window air conditioners contributed to 64% of the net peak demand savings achieved * Approximately 96% of consumers reported having replaced their exchanged units (as opposed to retiring the unit) * Net-to-Gross ratio for the initiative is consistent with previous evaluations (51.5%)
3	HVAC Incentives	<ul style="list-style-type: none"> * Total air conditioner and furnace installations increased by 14% (from over 95,800 units in 2010 to over 111,500 units in 2011) <ul style="list-style-type: none"> * Measure Breakdown: 64% furnaces, 10% tier 1 air conditioners (SEER 14.5) and 26% tier 2 air conditioners (SEER 15) * Measure breakdown did not change from 2010 to 2011 * The HVAC Incentives initiative continues to deliver the majority of both the energy (45%) and demand (83%) savings in the consumer program <ul style="list-style-type: none"> * Furnaces accounted for over 91% of energy savings achieved for this initiative * Net-to-Gross ratio for the initiative was 17% higher than 2010 (from 43% in 2010 to 60% in 2011)

⁷ 2011 Final Report Data Oshawa PUC Networks Inc.

#	Initiative	OPA Province-Wide Key Evaluation Findings
		<ul style="list-style-type: none"> * Increase due in part to the removal of programmable thermostats from the program, and an increase in the net-to-gross ratio for both Furnaces and Tier 2 air conditioners (SEER 15)
4	Conservation Instant Coupon Booklet	<ul style="list-style-type: none"> * Customers redeemed nearly 210,000 coupons, translating to nearly 560,000 products * Majority of coupons redeemed were downloadable (~40%) or LDC-branded (~35%) * Majority of coupons redeemed were for multi-packs of standard spiral CFLs (37%), followed by multi-packs of specialty CFLs (17%) * Per unit savings estimates and net-to-gross ratios for 2011 are based on a weighted average of 2009 and 2010 evaluation findings * Careful attention in the 2012 evaluation will be made for standard CFLs since it is believed that the market has largely been transformed
5	Bi-Annual Retailer Event	<ul style="list-style-type: none"> * Customers redeemed nearly 370,000 coupons, translating to over 870,000 products * Majority of coupons redeemed were for multi-packs of standard spiral CFLs (49%), followed by multi-packs of specialty CFLs (16%) * Per unit savings estimates and net-to-gross ratios for 2011 are based on a weighted average of 2009 and 2010 evaluation findings * Standard CFLs and heavy duty outdoor timers were reintroduced to the initiative in 2011 and contributed more than 64% of the initiative's 2011 net annual energy savings * While the volume of coupons redeemed for heavy duty outdoor timers was relatively small (less than 1%), the measure accounted for 10% of net annual savings due to high per unit savings * Careful attention in the 2012 evaluation will be made for standard CFLs since it is believed that the market has largely been transformed.
6	Retailer Co-op	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake. Verified Bi-Annual Retailer Event per unit assumptions and free-ridership rates were used to calculate net resource savings
7	Residential Demand Response	<ul style="list-style-type: none"> * Approximately 20,000 new devices were installed in 2011 * 99% of the new devices enrolled controlled residential central AC (CAC) * 2011 only saw 1 atypical event (in both weather and timing) that had limited participation across the province * The ex ante impact developed through the 2009/2010 evaluations was maintained for 2011; residential CAC: 0.56 kW/device, commercial CAC: 0.64 kW/device, and Electric Water Heaters: 0.30 kW/device
8	Residential New Construction	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to limited uptake * Business case assumptions were used to calculate savings
Business Program		
9	Efficiency Equipment	<ul style="list-style-type: none"> * Gross verified energy savings were boosted by lighting projects in the prescriptive and custom measure tracks

#	Initiative	OPA Province-Wide Key Evaluation Findings
	Replacement	<ul style="list-style-type: none"> * Lighting projects overall were determined to have a realization rate of 112%; 116% when including interactive energy changes * On average, the evaluation found high realization rates as a result of both longer operating hours and larger wattage reductions than initial assumptions * Low realization rates for engineered lighting projects due to overstated operating hour assumptions * Custom non-lighting projects suffered from process issues such as: the absence of required M&V plans, the use of inappropriate assumptions; and the lack of adherence to the M&V plan * The final realization rate for summer peak demand was 94% <ul style="list-style-type: none"> * 84% was a result of different methodologies used to calculate peak demand savings * 10% due to the benefits from reduced air conditioning load in lighting retrofits * Overall net-to-gross ratios in the low 70's represent an improvement over the 2009 and 2010 ERIP program where net-to-gross ratios were in the low 60's and low 50's, respectively. Strict eligibility requirements and improvements in the pre-approval process contributed to the improvement in net-to-gross ratios
10	Direct Install Lighting	<ul style="list-style-type: none"> * Though overall performance is above expectations, participation continues to decline year over year as the initiative reaches maturity * 70% of province-wide resource savings persist to 2014 <ul style="list-style-type: none"> * Over 35% of the projects for 2011 included at least one CFL measure * Resource savings from CFLs in the commercial sector only persist for the industry standard of 3 years * Since 2009 the overall realization rate for this program has improved <ul style="list-style-type: none"> * 2011 evaluation recorded the highest energy realization rate to date at 89.5% * The hours of use values were held constant from the 2010 evaluation and continue to be the main driver of energy realization rate * Lights installed in "as needed" areas (e.g., bathrooms, storage areas) were determined to have very low realization rates due to the difference in actual energy saved vs. reported savings
11	Existing Building Commissioning Incentive	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011, no completed projects in 2011
12	New Construction and Major Renovation Incentive	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake * Assumptions used are consistent with preliminary reporting based on the 2010 Evaluation findings and consultation with the C&I Work Group (100% realization rate and 50% net-to-gross ratio)

#	Initiative	OPA Province-Wide Key Evaluation Findings
13	Energy Audit	* The evaluation is ongoing. The sample size for 2011 was too small to draw reliable conclusions.
14	Commercial Demand Response (part of the Residential program schedule)	* See residential demand response (#7)
15	Demand Response 3 (part of the Industrial program schedule)	* See Demand Response 3 (#20)
Industrial Program		
16	Process & System Upgrades	* Initiative was not evaluated in 2011, no completed projects in 2011
17	Monitoring & Targeting	* Initiative was not evaluated in 2011, no completed projects in 2011
18	Energy Manager	* Initiative was not evaluated in 2011, no completed projects in 2011
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	* See Efficiency: Equipment Replacement (#9)
20	Demand Response 3	<ul style="list-style-type: none"> * Program performance for Tier 1 customers increased with DR3 participants providing 75% of contracted MW for both sectors * Industrial customers outperform commercial customers by provide 84% and 76% of contracted MW, respectively * Program continues to diversify but still remains heavily concentrated with less than 5% of the contributors accounting for the majority (~60%) of the load reductions * By increasing the number of contributors in each settlement account and implementation of the new baseline methodology the performance of the program is expected to increase
Home Assistance Program		
21	Home Assistance Program	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake * Business Case assumptions were used to calculate savings
Pre-2011 Programs completed in 2011		

#	Initiative	OPA Province-Wide Key Evaluation Findings
22	Electricity Retrofit Incentive Program	<ul style="list-style-type: none"> * Initiative was not evaluated Net-to-Gross ratios used are consistent with the 2010 evaluation findings * (multifamily buildings 99% realization rate and 62% net-to-gross ratio and C&I buildings 77% realization rate and 52% net-to-gross ratio)
23	High Performance New Construction	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings (realization rate of 100% and net-to-gross ratio of 50%)
24	Toronto Comprehensive	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings
25	Multifamily Energy Efficiency Rebates	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings
26	Data Centre Incentive Program	<ul style="list-style-type: none"> * Initiative was not evaluated
27	EnWin Green Suites	<ul style="list-style-type: none"> * Initiative was not evaluated

6.0 EVALUATION RESULTS

Table 7: Evaluation Results⁸

#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings		Contribution to Targets	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program											
1	Appliance Retirement	100%	100%	51	353,647	50%	51%	24	172,497	23	688,976
2	Appliance Exchange	100%	100%	9	11,435	52%	52%	4	5,893	2	21,557
3	HVAC Incentives	100%	100%	690	1,302,023	60%	60%	415	778,520	415	3,114,081
4	Conservation Instant Coupon Booklet	100%	100%	12	207,864	114%	111%	14	229,012	14	916,047
5	Bi-Annual Retailer Event	100%	100%	18	330,404	113%	110%	21	360,967	21	1,443,867
6	Retailer Co-op	-	-	0	0	-	-	0	0	0	0
7	Residential Demand Response	0%	0%	192	0	-	-	192	0	0	0
8	Residential New Construction	-	-	0	0	-	-	0	0	0	0
Business Program											
9	Efficiency: Equipment Replacement	93%	126%	237	1,217,872	74%	76%	175	929,430	175	3,717,721
10	Direct Install Lighting	-	-	0	0	-	-	0	0	0	0
11	Existing Building Commissioning Incentive	-	-	0	0	-	-	0	0	0	0
12	New Construction and Major Renovation Incentive	-	-	0	0	-	-	0	0	0	0
13	Energy Audit	-	-	0	0	-	-	0	0	0	0
14	Commercial Demand Response (part of the Residential program schedule)	0%	0%	0	0	-	-	0	0	0	0
15	Demand Response 3 (part of the Industrial program schedule)	76%	100%	582	17,235	n/a	n/a	440	17,235	0	17,235
Industrial Program											
16	Process & System Upgrades	-	-	0	0	-	-	0	0	0	0
17	Monitoring & Targeting	-	-	0	0	-	-	0	0	0	0
18	Energy Manager	-	-	0	0	-	-	0	0	0	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	-	-	0	0	-	-	0	0	0	0
20	Demand Response 3	84%	100%	97	4,799	n/a	n/a	82	4,799	0	4,799
Home Assistance Program											
21	Home Assistance Program	-	-	0	0	-	-	0	0	0	0
Pre-2011 Programs completed in 2011											
22	Electricity Retrofit Incentive Program	77%	77%	6	36,214	52%	52%	3	18,832	3	75,326
23	High Performance New Construction	100%	100%	1	5,567	50%	50%	1	2,783	1	11,133
24	Toronto Comprehensive	-	-	0	0	-	-	0	0	0	0
25	Multifamily Energy Efficiency Rebates	-	-	0	0	-	-	0	0	0	0
26	Data Centre Incentive Program	-	-	0	0	-	-	0	0	0	0
27	EnWin Green Suites	-	-	0	0	-	-	0	0	0	0

⁸ 2011 Final Report Data Oshawa PUC Networks Inc.

Table 8: Summarized Program Results

Program	Gross Savings		Net Savings		Contribution to Targets	
	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Residential Program Total	972	2,205,373	671	1,546,889	476	6,184,528
Commercial & Institutional Program Total	819	1,235,107	615	946,665	175	3,734,956
Industrial Program Total	97	4,799	82	4,799	0	4,799
Home Assistance Program Total	0	0	0	0	0	0
Pre-2011 Programs completed in 2011 Total	7	41,781	4	21,615	4	86,459
Total OPA Contracted Province-Wide CDM Programs	1,896	3,487,059	1,372	2,519,967	655	10,010,742

6.1 Additional Comments

The 2011 results generated by OPUCN are indicative of the program ramp up that was required by OPUCN to initiate program delivery. Most CDM initiatives were in “start-up” mode as OPUCN and the OPA finalized schedules, developed processes, and procured services and resources before they could market the Initiatives to their customers. While most of these initial aspects of the programs were ultimately delivered during the course of 2011, results suffered accordingly. However, looking forward to 2012, there is significant traction across the entire Initiative portfolio, such that the LDCs are now seeing the results of a maturing program.

7.1 Combined CDM Reporting Elements Progress Towards CDM Targets

Table 9: Net Peak Demand Savings at the End User Level (MW)⁹

Implementation Period	Annual			
	2011	2012	2013	2014
2011 - Verified	1.37	0.66	0.66	0.65
2012				
2013				
2014				0.00
Verified Net Annual Peak Demand Savings Persisting in 2014:				0.65
Oshawa PUC Networks Inc. 2014 Annual CDM Capacity Target:				12.52
Verified Portion of Peak Demand Savings Target Achieved in 2014(%):				5.23% ¹⁰
LDC Milestone submitted for 2011				-%
Variance				

Table 10: Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual				Cumulative
	2011	2012	2013	2014	2011-2014
2011 – Verified	2.52	2.50	2.50	2.49	10.01
2012					
2013					
2014					
Verified Net Cumulative Energy Savings 2011-2014:					10.01
Oshawa PUC Networks Inc. 2011-2014 Cumulative CDM Energy Target:					52.24
Verified Portion of Cumulative Energy Target Achieved (%):					19.16% ¹¹
LDC Milestone submitted for 2011					-%
Variance					

⁹ 2011 Final Report Data Oshawa PUC Networks Inc.

¹⁰ 11% , assuming that demand response resources remain in OPUCN territory until 2014

¹¹ 19.29% , assuming that demand response resources remain in OPUCN territory until 2014

8.0 CDM Strategy Modifications

In the CDM Strategy submitted to the OEB in October 2010, OPUCN had outlined a plan to meet 90% of the energy savings target and 75% of the demand reduction target by implementing province-wide Tier 1 programs. Furthermore, it was noted that OPUCN would augment the Tier 1 results with Tier 2 and/or Tier 3 initiatives, as needed, when further experience was gained with Tier 1 implementation and participation figures.

Based on OPUCN's past experience in implementing energy efficiency and the expectation that Tier 1 programs would be available in the market from the beginning of 2011 especially for the C&I and Industrial customers, OPUCN had adopted a strategy of "front-end loaded" targets.

<i>Extracts from OPUCN CDM Strategy, October 2010</i>								
	Industrial Program		Commercial /Institutional		Residential Program Details		Tier 1 Portfolio Roll Up	
Year	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)
2011	3.60	0.50	6.30	0.90	2.20	0.80	12.10	2.20
2012	5.00	1.00	8.10	1.30	3.30	1.10	16.40	3.40
2013	3.60	0.90	6.30	0.90	2.20	0.80	12.10	2.60
2014	2.20	0.60	3.60	0.50	1.40	0.50	7.20	1.60
Total	14.40	3.00	24.30	3.60	9.10	3.20	47.80	9.80

At the time of submitting the CDM Strategy to the OEB it was assumed that the programs would be in market by the beginning of 2011. However, as has been highlighted in various sections of this report, a number of factors led to a delayed start in making initiatives available to the market. OPUCN anticipated achieving a significant portion of its 2011 CDM demand reduction and energy savings through delivery of Tier 1 C&I and Industrial programs. Summarised below are the main issues that impacted delivery of C&I and Industrial programs leading to a less than projected demand reduction and energy saving in 2011:

1. Process & System Upgrades Initiative ("PSUI"): The PSUI program targets large customers who are doing large capital projects. As a result of long sales and project development cycles results of PUSI projects did not appear in 2011. Limited results are expected to appear in 2012. It is expected the majority of results will be in 2013-2014.
2. Efficiency: Equipment Replacement Incentive ("ERII"): A major challenge to ERII was payment delays in 2011. OPA electronic processes were not ready and the increase in completed projects in 2011 caused very long payment delays. In 2011 the revised iCon system was launched by the OPA. This system was to be used in the 2011-2014 ERII

application process. However, many issues were identified with the system. The system fixes and workarounds took a significant amount of time. These delays and lags were seen as a barrier to customer participation in 2011. As well, there were issues and constraints with the back-end CRM systems which affected LDCs ability to review and approve applications. OPUCN, in fact, developed its systems through a third party service provider to help monitor and track ERII applications. The centralized process review used for 2012 project payments has now been streamlined.

The experience gained in implementing Tier1 CDM programs in 2011 suggests that program uptake is likely to improve towards the latter part of the 4-year program, i.e. 2013 and 2014. With most of the fixes required to address program delivery issues being implemented, the C&I and Industrial programs are now ramping up for delivery. We will focus on increased marketing and customer education in 2012 and as a result we expect higher program take up in our service territory in 2013.

In order to make up for the shortfall in achieving demand reduction and energy savings in 2011 and based on the likely higher program uptake in 2013, OPUCN has revised its projected demand reduction and energy savings targets.

Revised Projections for Reduction in Peak Demand & Reduction in Electricity Consumption, 2012-2014								
	Industrial Program		Commercial /Institutional		Residential Program Details		Tier 1 Portfolio Roll Up	
Year	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)	Projected Reduction in Consumption (GWH)	Projected Reduction in Peak Demand (MW)
Contribution to LDC CDM Targets from 2011 verified results							10.01	0.65
2012	3.81	1.08	6.67	1.08	2.33	0.96	12.81	3.13
2013	5.29	1.20	8.57	1.56	3.49	1.32	17.36	4.09
2014	2.33	0.72	3.81	0.60	1.48	0.60	7.62	1.93
Tier 1	11.43	3.01	19.05	3.25	7.30	2.89	47.80	9.80
Tier2/3							4.44	2.72
Total							52.24	12.52

Implementation of Province-Wide or Tier 1 programs is estimated to achieve approximately 90% of the energy savings target and 75% of the demand reduction target. OPUCN will augment the Tier 1 results with Tier 2 and/or Tier 3 initiatives, as needed, once some further experience has been gained with Tier 1 implementation and participation figures. OPUCN will work with the OPA and other LDC's to explore the opportunity for common Tier 2 initiatives. In addition, OPUCN is exploring opportunities for designing and implementing Tier 3 projects which may be

of value to the ratepayers of Oshawa. In addition, further amendments might be made to the revised strategy once TOU information has been received.