
North Bay Hydro Distribution Limited

Conservation and Demand Management 2012 Annual Report

**Submitted to:
Ontario Energy Board**

Submitted on September 30, 2013

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Executive Summary

2012 CDM Results for North Bay Hydro Distribution Limited

North Bay Hydro Distribution Limited (NBHDL) is North Bay's Local Distribution Company (LDC), responsible for distributing reliable electricity to 24,500 customers. NBHDL has a long history of delivering conservation programs and facilitating behind the meter activities. NBHDL is working hard to be the 'Best in Class' and provide superior services to all customer groups. Conservation and Demand Management (CDM) continues to play a critical role in helping customers manage their utility costs. The current saveONenergy conservation framework has started to gain considerable momentum in NBHDL service territory. Success has been seen with commercial, institutional, and industrial sectors; however, more needs to be done to engage residential customers.

NBHDL is pleased to report solid progress in 2012 towards the achievement of its CDM targets. In 2012, NBHDL achieved 20.7% of its overall summer peak demand (29.8% under Scenario 2¹) and 65% of its energy savings target. Assuming similar participation in 2013 and 2014, NBHDL projects that it will meet 100% of its energy savings target but only 80% of its summer peak demand target. Meeting the demand target will remain a challenge because NBHDL is a winter peaking utility and the current form of conservation programs mainly focus on demand target.

The 5 MW summer demand target mandated by the Ontario Energy Board (OEB) on NBHDL represents a 9% reduction in average summer demand, but a reasonable 5.5% reduction in winter demand. This presents a significant challenge for winter peaking LDCs as they are delivering CDM programs essentially designed to improve the reliability and response of the province's electricity system during summer months. NBHDL believes that conservation programs need to have balance between customer benefits and system benefits. This balance can be achieved if greater incentives are provided to customers for reducing their overall consumption versus only summer peak demand. Reducing overall consumption would encourage all customer groups to embrace conservation as they will see its positive impact on their utility bills.

2011 CDM program delivery

NBHDL offered the full suite of CDM programs available from the OPA for its residential, commercial, and industrial customers. NBH's role in delivery of the initiatives included promotion, customer service, acting as the local "face" for the initiatives in the community, developing channel partner networks, reporting to the OPA, and providing technical support to customers to mature opportunities. In all, over 10,700 out of 24,500 NBH customers (43%) participated in at least one of the CDM programs offered, making it clear that North Bay supports conservation and all of its benefits.

¹ Scenario 2 refers to Demand Response 3 contracts signed by NBHDL persist into 2014

Meeting NBHDL CDM targets

Based on experience in 2011 and 2012, NBHDL expects that achieving 100% of CDM targets will remain a significant challenge. 2011 was a “start-up” year for OPA CDM program initiatives across the province; whereas 2012 presented NBHDL with an opportunity to begin delivering programs to all customer segments. Energy savings realized from participation in 2011 initiatives have greater impact on targets than savings realized from initiatives in 2012 and beyond. Making up for lost participation in 2011 required a significant push. A high participation rate was realized amongst business customers in 2012 which allowed NBHDL to make up for the missed opportunity in 2011.

Meeting the summer peak demand target will remain a significant challenge for NBHDL due to limited demand reduction opportunities in the North. NBHDL is actively seeking Demand Response opportunities and focusing on summer peak demand projects; however the opportunity to materialize these projects is limited. NBHDL believes the residential demand response (Peaksaver Plus) program may help NBHDL achieve a portion of its peak demand target; however more flexibility is required in program eligibility rules. Homeowners should have the ability to opt out of demand response events and should also have a two way integrated energy management tool. The funding available under the current program does not cover the cost of providing customers with a desirable solution, which makes it difficult for NBHDL to promote this on a wide scale.

In 2012, NBHDL was pleased to hear the Ontario Ministry of Energy extend the current CDM framework by one year. Customers participating in CDM activities will receive program incentives under the current framework as long as their projects are complete before the end of 2015. This provides sufficient time for customers to take on new projects in 2014. NBHDL would like to effectively promote conservation programs throughout 2015 and may require additional program administration funds. To date, the OPA has not provided any updates on funding, which leaves uncertainty in LDCs outreach efforts. NBHDL may have no choice but to ramp down its CDM delivery efforts in 2014 in order to manage its programs in 2015.

NBHDL would like to follow up on recommendations made to the OPA in 2011 and make a few new recommendations going forward.

Feedback on recommendations from 2011

- 1) **Continuing support for gas-fired co-gen projects:** NBHDL has been working with the local hospital since 2010 to obtain approval for a behind-the-meter cogeneration project. The customer is keen to proceed if capital funding is available from NBHDL through the OPA. Although Minister Duncan, in his letter to LDCs of May 31, 2004 that launched CDM initiatives clearly indicated that “distributed energy options behind a customer’s meter such as tri-generation, co-generation, ground source heat pumps, solar, wind, and biomass systems” should be supported by the Board, and despite Ministerial directives to the OPA to promote co-generation, NBHDL faced numerous obstacles in getting this program off-the ground. In 2012, the OPA initially allowed NBHDL to begin studying the feasibility of a cogeneration system under the Process & Systems Update Initiatives (PSUI) but later decided to halt funding for natural gas cogeneration projects. Bio-mas co-generation systems or other fuel mixes still qualified for

incentives under PSUI. NBHDL expressed concern to the OPA on its direction since an opportunity to realize 1500kW of savings would be missed. The project will also allow the hospital to increase its back up power capability from 40% to 80% and also meet its thermal requirements since current boiler systems are operating near capacity. Recently, the OPA began supporting incentives for natural gas cogeneration projects under PSUI. NBHDL is pleased to see the OPA take into account the concern of NBHDL and other LDCs by making corresponding program changes. This project alone will help NBH achieve 30% of its demand 44% of its energy targets.

- 2) **Shortening OPA response time:** In 2011, NBHDL expressed concern to the OPA for its inability to communicate with NBHDL in a timely manner. NBHDL required the OPA to correspond to important inquiries pertaining to the availability of incentives where program eligibility requirements were unclear. Due to time delays, NBHDL was not able to communicate with its customers about program incentives which often caused them to lose interest and abandon their projects, so viable conservation projects were missed. In 2012, the OPA implemented mechanisms that allowed for a timelier response to NBHDL. The OPA also introduced expedited change management which allowed for program changes to take place faster and also improved payment processing for incentive applications. All of these changes have helped NBHDL improve its conservation delivery efforts. NBHDL will continue to work with the OPA to improve customer experience, but the OPA should be commended for its progress in 2012.

Recommendations for 2013 & 2014

- 1) **Better approach to engage residential customers:** Residential customers make up approximately 91% of NBHDL customers which presents a significant opportunity to find savings in this segment. The current saveONenergy Residential Portfolio targets the majority of appliances inside a household through numerous initiatives; however a holistic approach needs to be identified to effectively involve this customer group. The *PeaksaverPLUS* program is one step closer to this approach as in-home smart technologies are rapidly emerging in Ontario's market. NBHDL needs to develop and offer programs that help residential customers manage their utility costs. This would include introducing more integrated and advanced energy management solutions with social benchmarking capabilities, and increased incentives for participating in the provincial electricity system. LDCs are in a position to lead this effort and innovate solutions targeted directly to regional needs of their customers. The current framework allows limited flexibility to test innovative smart home solutions. The OPA should work with NBHDL to increase flexibility and funding offered under its residential CDM programs.
- 2) **Develop mechanisms to allow GS>50kW customer class to participate in market pricing:** The largest single customer section of the electricity market known in utility vernacular as "General Service >50kw Demand" has no pricing signals to participate in the market, unlike their residential and large user peers. They receive relatively flat HOEP and fixed global adjustment costs; consequently there is no motivation for them to take control of their costs and consumption profile. Pricing signals should be developed for this customer group and current approaches with residential and large users should be reviewed and updated. It is critical to understand and appreciate that this is not a separate and distinct process or undertaking from

delivering conservation programs. There should be a well-developed and comprehensive set of initiatives targeted at providing customer benefit including pricing signals, real time electricity information on electricity consumption and programs that incent behavior modification. NBHDL will work with the OPA to introduce this new form of CDM programs.

Board-approved program applications

North Bay Hydro Distribution Limited did not apply for any Board-Approved CDM Programs during 2012; however, as noted in the CDM guidelines, released April 26, 2012, the Ontario Energy Board (OEB) has deemed Time-of-Use (TOU) pricing a Province-wide Board-Approved CDM Program. The Ontario Power Authority (OPA) is to provide measurement and verification on TOU. At the time of this report, the OPA has not released any verified results of TOU savings to North Bay Hydro Distribution Limited.

North Bay Hydro Distribution Limited’s CDM targets

In 2011, North Bay Hydro Distribution Limited 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.

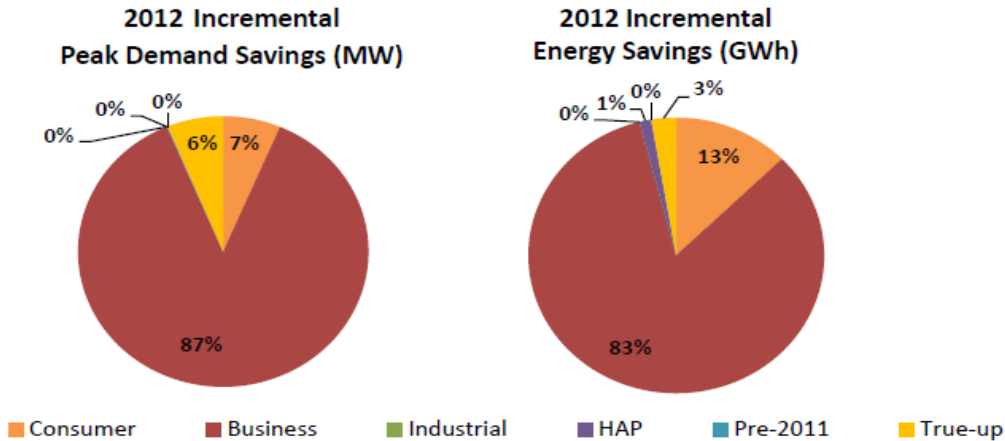
In 2012, North Bay Hydro Distribution Limited continued delivery of OPA-Contracted Province-Wide CDM Programs to all customer segments including residential, commercial, institutional, industrial, and low income. A higher rate of participation was realized from the commercial, institutional, and industrial customer bases versus residential customers.

To date North Bay Hydro Distribution Limited has achieved 0.6MW of net incremental peak demand savings and 7.7 GWh of net incremental energy savings in 2012. A summary of the achievements towards the CDM targets is shown below:

| OPA-Contracted Province-Wide CDM Programs FINAL 2012 Results | | | | |
|--|------------------|---|----------------------------------|----------------------------------|
| LDC: North Bay Hydro Distribution Limited | | | | |
| FINAL 2012 Progress to Targets | 2012 Incremental | Program-to-Date Progress to Target (Scenario 1) | Scenario 1: % of Target Achieved | Scenario 2: % of Target Achieved |
| Net Annual Peak Demand Savings (MW) | 1.0 | 1.0 | 20.7% | 29.8% |
| Net Energy Savings (GWh) | 2.5 | 17.0 | 65.0% | 65.0% |

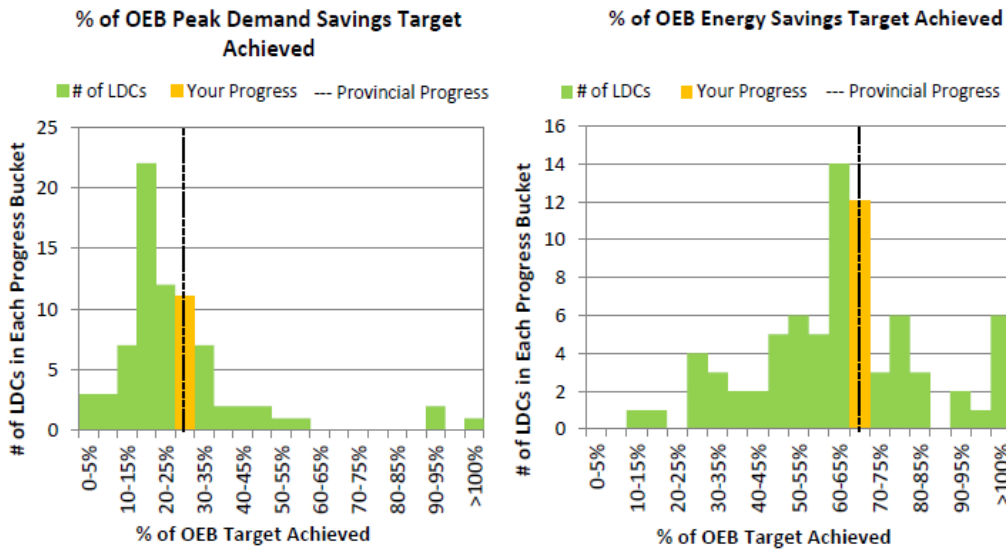
Scenario 1 = Assumes that demand resource resources have a persistence of 1 year
Scenario 2 = Assumes that demand response resources remain in your territory until 2014

Achievement by Sector



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

The following graphs assume that demand response resources remain in your territory until 2014 (aligns with Scenario 2)



NBHDL forecast that there will be a shortfall of approximately 1.0 MW versus NBHDL’s 2014 peak demand reduction target. The target development process was somewhat arbitrary and after 2 years of aggressive conservation efforts, NBHDL is having difficulty in achieving CDM targets. North Bay Hydro Distribution Limited expects to achieve the electricity energy savings 2014 target. Given the expected shortfall in demand, NBHDL continues to work actively on participant engagement. In addition North Bay Hydro Distribution Limited has partnered with other LDCs, and has been working with the Ontario Power Authority and the Electrical Distribution Association to improve program effectiveness; however it is NBHDL’s position that in it will not fully overcome the forecasted peak demand savings shortfall.

Background

On March 31, 2010, the Minister of Energy and Infrastructure of Ontario, under the guidance of sections 27.1 and 27.2 of the *Ontario Energy Board Act, 1998*, directed the Ontario Energy Board (OEB) to establish Conservation and Demand Management (CDM) targets to be met by electricity distributors. Accordingly, on November 12, 2010, the OEB amended the distribution license of North Bay Hydro Distribution Limited, as a condition of its license, to achieve 27 GWh of energy savings and 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, North Bay Hydro Distribution Limited submitted its CDM Strategy on November 1, 2010 which provided a high level of description of how North Bay Hydro Distribution Limited intended to achieve its CDM targets.

The Code also requires a distributor to file annual reports with the Board. This is the second Annual Report by North Bay Hydro Distribution Limited and has been prepared in accordance with the Code requirement and covers the period from January 1, 2012 to December 31, 2012.

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

On December 21, 2012, the Minister of Energy directed the Ontario Power Authority (OPA) to fund CDM programs which meet the definition and criteria for OPA-Contracted Province-Wide CDM Programs for an additional one-year period from January 1, 2015 to December 31, 2015.

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

1 Conservation Framework

LDC's across the province have been involved in the delivery of conservation programs since the 1980s. From 2005-2011, three regulatory frameworks have governed CDM activity and each have had different risks, responsibilities, and rewards for North Bay Hydro Distribution Limited. The transition between each framework has not been smooth which continues to jeopardize NBHDL's ability to deliver conservation results. NBHDL is currently working with the OPA to deliver the current 2011-2014 CDM framework. In this framework, program elements are driven by the OPA with the goal of increasing efficiency through centralization.

NBHDL has limited control over program elements including innovation which makes it challenging to deliver programs that meet customer's specific needs. NBHDL recognizes that the new conservation framework needs to be integrated, and individual components of it cannot be designed in isolation from other components. There are significant opportunities to enhance existing programs and rectify deficiencies as the Province moves towards a new 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. LDCs are held accountable for results yet are mostly completely removed from the process.

1.1 Current Framework

Ontario's current CDM framework is a key step towards creating a culture of conservation in the Province. The Government's 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, support the provincial integrated supply plan, as well as address local distribution and transmission supply constraints. The current framework was intended to enable customers to benefit from a suite of both Board-Approved and OPA Province-Wide programs and be a portfolio that would meet both broad and specific customer needs.

The state of Board-Approved programs and the current suite of Province-Wide OPA 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, taking considerable cost and effort, which has resulted in limited benefits to customers and CDM savings.

Moving forward, the future CDM framework should address the challenges of the current framework and build on its strengths. There is a misalignment of control and risk where LDCs have the accountability to achieve their respective CDM targets as a condition of distribution license, but the authority for design and funding are controlled substantially by the OPA.

The Ministerial Directive provides continuity of the conservation programs and associated compensation for the participants; however the subsequent savings would not be attributed to any LDC target and in effect would be 'lost' due to misalignment of the current CDM framework and LDC Targets. In addition,

the establishment of defined administrative funding for 2015 is required to avoid a “stop and start” process.

1.2 Future Framework

LDCs are supportive of government’s renewed commitment for conservation and demand management in Ontario. LDCs are committed to working with the government and other stakeholders to develop the next framework for CDM in the Province.

Long-term commitment for CDM funding and a confirmation of the role of the LDC are needed. This will allow LDCs to maintain current program infrastructure including LDC staff and third party contracts through 2015.

Providing clarity and continuity into the next framework is critical for all customers. To ensure a seamless and smooth transition that maintains and builds upon CDM momentum beyond 2014, a new CDM framework should be in place well before the expiry of the current one. Work involving key parties including LDCs, government, customer groups and OEB should start in 2013 to allow for a new framework to be in place by early 2014. The remainder of 2014 would be utilized for program development and design, economic analysis, procurement and launching of new CDM program initiatives.

2 Board-Approved CDM Programs

2.1 Introduction

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

At this time, the implementation of Time-of-Use (“TOU”) Pricing has been deemed as a Board-Approved Conservation and Demand Management (“CDM”) program that is being offered in North Bay Hydro Distribution Limited’s service territory.

2.2 TOU Pricing

2.2.1 BACKGROUND

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

In accordance with a Directive dated March 31, 2010 by the Minister of Energy and Infrastructure, the OEB is of the view that any evaluations of savings from TOU pricing should be conducted by the OPA for the province, and then allocated to distributors. North Bay Hydro Distribution Limited will report these results upon receipt from the OPA.

At the time of preparation of this report the OPA had retained the Brattle Group as the evaluation contractor and will be working with an expert panel convened to provide advice on methodology, data collection, models, etc. The initial evaluations were conducted with 5 LDCs – Hydro One, THESL, Ottawa Hydro, Thunder Bay and Newmarket. On September 11, 2013, the OPA announced during a public presentation that demand savings as a result of TOU are expected to be in the range of 1.3% to 5.6%.

As of September 30, 2013, the OPA has not released any verified results of TOU savings to North Bay Hydro Distribution Limited. Therefore, NBHDL is not able to provide any verified savings related to LDC’s TOU program at this time.

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:

| RPP TOU | Rates (cents/kWh) | | |
|------------------|-------------------|----------|----------|
| | On Peak | Mid Peak | Off Peak |
| Effective Date | | | |
| November 1, 2010 | 9.9 | 8.1 | 5.1 |
| May 1, 2011 | 10.7 | 8.9 | 5.9 |
| November 1, 2011 | 10.8 | 9.2 | 6.2 |
| May 1, 2012 | 11.7 | 10.0 | 6.5 |
| November 1, 2012 | 11.8 | 9.9 | 6.3 |
| May 1, 2013 | 12.4 | 10.4 | 6.7 |

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

Initiative Activities/Progress:

North Bay Hydro Distribution Limited began transitioning its RPP customers to TOU billing on September 1, 2011. At December 31st, 2012, 20,706 RPP customers were on TOU billing.

2.3 North Bay Hydro Distribution Limited's Application with the OEB

There were no LDC programs approved by the OEB in 2012.

North Bay Hydro Distribution Limited has not filed any applications to the Board for Board-approved programs. NBHDL recognizes that OPA Province-wide programs were never designed to meet 100% of LDCs' targets, and sees Board-approved programs as an important means for extending the savings realized from the province-wide programs. In NBHDL's CDM strategy filed November 1, 2010, it forecasted the use of Board-approved programs to hit 9% of its energy target and 30% of its demand target.

NBHDL initiated work on a residential Board-approved program in 2011 that addressed what it viewed as limitations in the province-wide programs. The program specifically addresses the needs of customers in Northern Ontario with high electricity demand for winter heating. However, in light of unfavourable rulings received by Toronto Hydro Electric System Limited and Hydro One/Hydro One Brampton for their custom Board applications, the Board taking a very broad and all-encompassing definition of 'duplicative', NBHDL abandoned the development of these programs.

In 2012, NBHDL is encouraged to see that PowerStream received approval to develop a Board approved Direct Install Refrigeration program that will target small businesses and convenience store owners to upgrade their inefficient refrigeration equipment. If the Direct Install Refrigeration program is proven to be successful, it may expand across the province. NBHDL may consider applying for custom Board approved programs targeted for the residential sector. However, a better option may be to develop a program under the OPA's Conservation Fund.

3. OPA-Contracted Province-Wide CDM Programs

North Bay Hydro Distribution Limited is currently offering the full-suite of OPA-Contracted Province-Wide CDM programs. NBHDL actively promotes conservation programs to all of its customer groups in order to reduce the global carbon footprint. The current suite of saveONenergy programs offered have gained considerable momentum in 2012; however more initiatives targeted to winter peaking customers will help drive additional projects that will result in sustainable energy savings. NBHDL envisions providing its customer groups with full range of energy management programs tailored to reduce overall consumption and cost.

3.1 Introduction

Effective march 2011, North Bay Hydro Distribution Limited entered into an agreement with the OPA to deliver CDM programs extending from January 1, 2011 to December 31, 2014, which are listed below. Program details are included in Appendix A. In addition, results include projects started pre 2011 which were completed in 2011:

| Initiative | Schedule | Date schedule posted | Customer Class |
|---|-------------------------|-----------------------------|------------------------------|
| Residential Program | | | |
| Appliance Retirement | Schedule B-1, Exhibit D | Jan 26, 2011 | All residential rate classes |
| Appliance Exchange | Schedule B-1, Exhibit E | Jan 26, 2011 | All residential rate classes |
| HVAC Incentives | Schedule B-1, Exhibit B | Jan 26, 2011 | All residential rate classes |
| Conservation Instant Coupon Booklet | Schedule B-1, Exhibit A | Jan 26, 2011 | All residential rate classes |
| Bi-Annual Retailer Event | Schedule B-1, Exhibit C | Jan 26, 2011 | All residential rate classes |
| Retailer Co-op | 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 |
| Commercial & Institutional Program | | | |
| Efficiency: Equipment Replacement | Schedule C-2 | Jan 26, 2011 | All general service classes |

| | | | |
|---|--------------|--------------|----------------------------------|
| Direct Install Lighting | Schedule C-3 | Jan 26, 2011 | General Service < 50 kW |
| Existing Building Commissioning Incentive | Schedule C-6 | Feb 2011 | All general service classes |
| New Construction and Major Renovation Initiative | Schedule C-4 | Feb 2011 | All general service classes |
| Energy Audit | Schedule C-1 | Jan 26, 2011 | All general service classes |
| Commercial Demand Response (part of the Residential program schedule) | Schedule B-3 | Jan 26, 2011 | All general service classes |
| Demand Response 3 (part of the Industrial program schedule) | Schedule D-6 | May 31, 2011 | General Service 50 kW & above |

| Industrial Program | | | |
|--|--------------|--------------|----------------------------------|
| Process & System Upgrades | Schedule D-1 | May 31, 2011 | General Service 50 kW & 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 |
| 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 |

In addition, results were realized towards LDC’s 2011-2014 target through the following pre-2011 programs:

| Pre-2011 Programs | | | |
|--|-----|-----|-----------------------------|
| Electricity Retrofit Incentive Program | n/a | n/a | All general service classes |
| High Performance New Construction | n/a | n/a | All general service classes |
| Multifamily Energy Efficiency Rebates | n/a | n/a | All general service classes |

As per the table below, several program initiatives are no longer available to customer or have not been launched in 2012.

| Initiative Not in Market in 2012 | Objective | Status |
|---|---|---|
| Residential Program | | |
| Midstream Electronics | The objective of this initiative is to encourage retailers to promote and sell high efficiency televisions, and for distributors to distribute high efficiency set top boxes. | Never launched and removed from Schedule in Q2, 2013. |
| Midstream Pool | The objective of this initiative is to | Never launched and removed |

| | | |
|---|---|--|
| Equipment | encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools. | from Schedule in Q2, 2013. |
| Aboriginal Conservation Program | First Nations programs are delivered by the OPA and results are attributed to LDCs for reporting. | Launched in 2013 by OPA. |
| Home Energy Audit Tool | This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs. | Never launched and removed from Schedule in Q2, 2013. |
| Commercial & Institutional Program | | |
| Direct Service Space Cooling | The objective of this initiative is to offer free servicing of air conditioning systems and refrigeration units for the purpose of achieving energy savings and demand reduction. | Not launched to market in 2011/2012. As per the OPA there no plans to launch this Initiative in 2013. |
| Demand Response 1 ("DR1") | This initiative allows distribution customers to voluntarily reduce electricity demand during certain periods of the year pursuant to the DR 1 contract. The initiative provides DR payment for service for the actual electricity reduction provided during a demand response event. | No customer uptake for this initiative. As a result this Initiative was removed from the Schedule in Q4, 2012. |
| Industrial Program | | |
| DR1 | As above | No customer uptake for this initiative. Removed in Q4, 2012. |

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

3.2 Program Descriptions

Full OPA-Contracted Province-Wide CDM Program descriptions are available on the OPA's website at <http://www.powerauthority.on.ca/lcd-province-wide-program-documents> 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.

3.2.1 RESIDENTIAL PROGRAMS

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

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

Discussion:

There is a significant opportunity in North Bay Hydro Distribution Limited's service territory to improve the Residential Program Portfolio. The current saveONenergy Residential Programs target majority of appliances inside a household through numerous initiatives, however a holistic approach needs to be identified to effectively involve this customer group. The *PeaksaverPlus* program is one step closer to this approach as in-home smart technologies are rapidly emerging in Ontario's market. This presents an opportunity for LDC's to begin testing and equipping its residential customers with energy management tools. The challenge with this initiative is lack of flexibility with OPA program rules and program funding.

NBHDL evaluated numerous energy monitoring technologies for *PeaksaverPlus* program in 2012 and selected devices offered by Energate. The industry is driving itself to a fully integrated approach, one that will consist more electricity awareness with better overall services to rate payers. Programs that directly engage the residential customer will prove to be sustainable and have substantial system benefits. There will always be risk associated with attaining participation from a small residential customer segment, mainly because utility bill is seen as another household expense item. More awareness and involvement by the LDC will be required to reduce this gap.

The inclusion of LED technology into the Biannual Retailers events in 2012 and the annual coupons in 2013, as well as some LDC custom coded coupons, has had a positive effect on consumer engagement. The Residential Program Portfolio is predominately a carryover of Initiatives from previous programs. It is mostly driven by retailers and contractors who many not have fully delivered what was anticipated. Three new initiatives were never launched and subsequently removed from 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. Provincial wide advertising has provided limited value due to inconsistency and non-specific messaging.

Work to revitalize and increase the effectiveness and breadth of the Initiatives through the Residential Program needs to be a high priority. There are opportunities within the Residential marketplace that

need to be identified, developed and offered to customers. A revised home audit and other Initiatives which could engage an average residential customer could be considered. Increased control by the LDCs such as 100% attributable coupons for LDCs and/or LDC hosted exchange events may present an opportunity for improved saving.

3.2.1.1 *Appliance Retirement Initiative (Exhibit D)*

Initiative Activities/Progress:

The Appliance Retirement Initiative (previously the Great Refrigerator Round-up) has been offered by NBHDL since 2007. In 2012, a total of 127 appliances were retired from the NBHDL service territory. This is nearly 50% less than what was completed in 2011. Despite marketing efforts, NBHDL believes that this program has reached market saturation.

NBHDL will continue to promote this important conservation program as done in 2012 through public events, information sessions, radio advertisement, posters, and meetings.

Additional Comments:

- With the increase in appliance age to 20 years in 2013, many LDCs increased marketing and outreach throughout 2012 in an effort to increase uptake and achieve savings.
- Due to the duration of the program, and the revised eligibility requirements to a minimum of 20 years old, this Initiative appears to have reached market saturation and has been under consideration for removal from the Portfolio.
- Rather than strictly remove this Initiative from the schedules, the OPA and LDCs could review what opportunities there are to include other measures such as stoves, dishwashers, washers and dryers. The framework of this Initiative may be a suitable foundation for a more holistic residential appliance retirement program. As such, the Residential portfolio could be straightened through program evolution rather than weakened through diminished program offerings.
- As results are very responsive to province wide advertising OPA provincial marketing should continue to play a key role.
- The OPA and LDCs can continue working to establish partnerships with Independent retailers and municipalities.

3.2.1.2 *Appliance Exchange Initiative (Exhibit E)*

Initiative Activities/Progress:

The Appliance Exchange Initiative is designed to remove and permanently decommission older, inefficient, window air conditioners (AC) and portable dehumidifiers. North Bay Hydro Distribution Limited actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

Additional Comments:

- This Initiative, eligible measures and incentive amounts are influenced by the retail partner with no direct 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. The Fall events have not had retailer participation, therefore savings budgeted by the LDCs have not materialized.
- Evaluation, Measurement, and Verification (EMV) results indicated that the value of savings for retired room AC has dropped resulting in the retail participant not accepting window a/c's during the Spring 2013 event.
- Notification 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 ARCA 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:

The HVAC incentives initiative is designed to encourage replacement of inefficient heating and cooling systems with energy efficient equipment through participating local contractors. North Bay Hydro Distribution Limited saw 30% less uptake in 2012 than the previous year. NBHDL will continue to promote this initiative to contractors through channel partner engagement events. NBHDL actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

Additional Comments:

- Incentive levels appear to be insufficient to prompt Participants to upgrade HVAC equipment prior to end of useful life. It is hoped that the introduction of an Air Miles incentive in 2013 may help with this.
- This Initiative is contractor driven with LDCs responsible for marketing efforts to customers. More engagement with the HVAC contractor channel should be undertaken to drive a higher proportion of furnace and CAC sales to eligible units.
- Channel partners require timeliness of the Rebate process to maintain a positive relationship between consumers, contractors, the OPA, and the participating LDC. Due to a contracting delay no applications were processed from approximately the end of October 2012 to February 2013.
- LDC HVAC reports have been delayed and are not as complete and accurate as are required by LDCs to make adjustments to their marketing strategies.
- In an effort to build capacity, mandatory training has been instituted for all participating HVAC contractors. This could present too much of a barrier for participation for some contractors as the application process already presents a restriction to contractor sales. It has been noted that there are approximately 4500-5000 HVAC contractors in the Province, however only 1500 are participating in program.
- There are cases where non-participating 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 should be attributed to the appropriate LDC.

3.2.1.4 Conservation Instant Coupon Initiative (Exhibit A)**Initiative Activities/Progress:**

The Conservation Instant Coupon Initiative is designed to encourage residential customers to purchase energy efficient products by offering of discount coupons. The Instant Coupon event takes place twice a year and coupons can be redeemed through participating retailers. North Bay Hydro Distribution Limited realized a slight drop in participation in 2012, mainly due to the program being unavailable until Q3 of 2012. NBHDL actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

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. This also resulted in the delayed launch of the Initiative in 2012.

- Coupon booklets were not printed and mailed out in 2012. As such, Coupons were not widely available to consumers without the ability to download and print them.
- Without Provincial coupon distribution, and delay in Initiative launch, consumers may not have been aware of the online coupons. This Initiative could benefit from provincial marketing as a substitute to distribution.
- LDCs should be able to custom code all coupons to provide 100% allocation and push specific coupons based on localized needs.
- 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.

3.2.1.5 *Bi-Annual Retailer Event Initiative (Exhibit C)*

Initiative Activities/Progress:

The Bi-Annual Retailer Event Initiative is designed to provide instant point-of-purchase discounts to individuals at participating retailers for a variety of energy efficient products. North Bay Hydro Distribution Limited actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

Additional Comments:

- This Initiative is strongly influenced by the retail participants and has no direct involvement from the LDCs.
- The Product list has changed very little 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 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 as retail staff tend not to be knowledgeable regarding the products or promotion.

- LDCs should be able to custom code all coupons to provide 100% allocation and push specific coupons based on localized needs.
- Communications regarding retailer participation continues to be delayed. Improved communications will aid in appropriate resource allocation and marketing of the Initiative.
- 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.

3.2.1.6 *Retailer Co-op*

Initiative Activities/Progress:

The Retail Co-op program is designed to hold promotional events in order to encourage customers to purchase energy-efficiency measures. North Bay Hydro Distribution Limited actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

Additional Comments:

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

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

Initiative Activities/Progress:

The New Construction Program is designed to provide incentives to home builders for incorporating energy efficiency measures to their buildings. North Bay Hydro Distribution Limited did not have any participation in this program in 2012 due to the challenge associated with encouraging builders to upgrade projects without an immediate benefit to the end consumer. Previously, the application process was onerous for LDCs; however it has been streamlined in 2012. NBHDL actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

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 the consumers regarding the importance of choosing the energy efficient builder upgrade options without an immediate benefit to the consumer.

- Following limited participation in 2011, the application process was revisited in 2012 to streamline administration in response to builder feedback. Participation levels are expected to grow but there will be a lag to when results materialize as homes pre-approved could take a year or more to be completed.
- Administrative requirements, in particular individual home modeling, must align with perceived stakeholder payback. As per the Electricity Distributors Association (“EDA”) Working Groups, changes are being processed through change management for 2012. However, the lengthy change management process has resulted in continued non-participation from builders.

3.2.1.8 Residential Demand Response Program (Schedule B-3)

Initiative Activities/Progress:

The Residential Demand Response program is designed to enhance the reliability of the IESO-controlled grid by accessing and aggregating specified residential and small commercial end users for the purpose of load reduction. The initiative helps raise consumer awareness about the importance of reducing peak summer demand and also provides customers with the ability to communicate directly with the electricity system. Customers receive free in-home monitoring devices (IHDs) for participating under the current program.

North Bay Hydro Distribution Limited explored several technological approaches to this program and ultimately decided to proceed with the most up to date two-way remote communication solution. This approach will enable customers to take part in demand response events upon aggregator request, but will also allow customers to cycle down air conditioners and shut off hot water tanks remotely through a consumer portal. The consumer portal will provide two way communication capabilities, real-time electricity data, and remote programming options for in-home monitoring devices.

NBHDL determined that the integrated solution benefits both the electricity system and the end customer; however the per-home budget allotted through the OPA program is insufficient to offer the full range of services desired. For this reason, NBHDL intends to use its Residential Program Administration Budget (PAB) to help offset the cost associated with the consumer portal for the initial deployment in 2013. NBHDL intends to conduct a comprehensive marketing campaign which will include radio ads, newspaper articles, promotion at customer events and on NBHDL’s website.

Additional Comments:

- The schedule for *PeaksaverPlus* 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 In Home Display 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 *PeaksaverPlus* program until 2012, or later which has resulted in delayed savings.

- Smart Meters installed by most LDCs do not have the capability to communicate directly to an In Home Display. When proposing technical Initiatives that rely on existing LDC hardware or technology there should be an extensive consultative process.
- 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.
- The variable funding associated with installing a load controllable thermostat is not sufficient unless it is combined with an In Home Display (IHD) which might not be possible all the time and when IHD is optional.
- This is the main Initiative within the Residential portfolio that drives savings for LDCs.
- Given the different LDCs smart meter environments, and needs, each LDC is positioning the Initiative slightly different. As such, greater program flexibility is required to address unique LDC needs.
- Provincial wide marketing needs to be sensitive to the variations of the Initiative and provide solid, consistent messaging.
- There currently is not an avenue for participants without the ability to provide demand response capabilities to obtain an IHD and gain energy saving benefits.

3.2.2 COMMERCIAL AND INSTITUTIONAL PROGRAM

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

Targeted Customer Type(s): Commercial, Institutional, Agricultural, Multi-family buildings, Industrial

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

Discussion:

Throughout 2011 and 2012, the Commercial and Institutional (C&I) Working Group has strived 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 OPA support personnel.

Despite these challenges the C&I Working Group, working in cooperation with the OPA, 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 means to accelerate certain program changes.

Looking ahead there is minimal opportunity to make valuable changes to the current program suite and have these changes reflected in LDC 2014 results. LDCs and the OPA 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.

North Bay Hydro Distribution Limited is pleased to hear about the newly introduced Conservation Fund currently offered by the OPA which supports custom pilot projects. NBHDL intends to utilize this OPA offering to conduct pilot projects in 2013 and beyond.

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

Initiative Activities/Progress:

The Equipment Replacement Incentive Initiative is designed to offer non-residential distribution customers incentives to help off-set the cost of purchasing energy efficient equipment. Some examples include lighting, space cooling, ventilation, motors, compressed air systems, building automation systems, process improvements, and other energy efficiency measures that help reduce electricity use.

North Bay Hydro Distribution Limited is pleased with 2012 results as savings resulting from this initiative were greater in 2012 than in 2011. This was mainly due to the fact that NBHDL managed majority of the customer applications in-house, an approach offered by the OPA in 2012. This method made it extremely easy for customers to take part in the saveONenergy programs. The OPA also improved its response time for processing incentive applications and answering questions where program rules and eligibility requirements were not clear.

NBHDL promoted this initiative through customer engagement events, channel partner information sessions, radio ads, brochures, North Bay Chamber of Commerce monthly meetings, City of North Bay's Environmental Committee Meetings, and numerous visits conducted at customer sites.

Additional Comments:

- It appears that the marketplace largely understands the programs now and a large proportion of LDC savings are attributed to ERII.
- The centralized process review used for 2012 project payment has been streamlined by the OPA and payments for projects were greatly improved – faster and more consistent compared to 2011.
- Capability building programs from Industrial programs have had very positive contributions to ERII program.
- This Initiative is limited by the state of the economy and the ability of commercial/institutional facility to complete capital upgrades.
- A number of customer facing issues in CRM (the OPA centralized application system) have been resolved; however key LDC administrative back office processing issues continue to be a challenge.
- Applicants and Applicant Representatives continue to express dissatisfaction and difficulty with the online application system. This issue has been addressed by LDCs through application training workshops, Key Account Managers, channel partner/contractor training and LDC staff acting as customer Application Representatives. Although this has been an effective method of overcoming these issues and encouraging submissions, it also reflects on the complexity and time consuming nature of the application process. As such, Applicant Representatives continue to influence the majority of applications submitted. Continued development of Channel Partners is essential to program success.
- Lighting is still the most popular measure. Other market sectors are not as engaged yet, specifically the mechanical world. 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.
- Expanding the capacity of the engineered applications can offer customers an opportunity to maximize savings and incentives. Recognizing this, Toronto Hydro and London Hydro worked together to develop and provide the OPA with compressed air engineered worksheets for inclusion in the Initiative in Q3, 2012. To date, these have not been accepted and provided to LDCs for use.
- An identified deficiency in the various renditions of the equipment replacement is the “hard stop” of the program as of a specific date. Without a streamlined transition into a new program, many customers become frustrated and refused to participate. LDCs struggle to repair customer and channel partner relationships and gain momentum in the market place once again.
- While the Ministerial Directive provides continuity of the conservation programs for the participant, unclear direction on LDC administrative funding could result in many LDCs ‘ramping down’ programs

in 2015. The establishment of defined administrative funding for 2015 is required to avoid a “stop and start” process.

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

Initiative Activities/Progress:

The Direct Install Initiative is designed to offer free turn-key installation of eligible lighting and water heating measures valued up to a \$1000 to eligible owners and tenants of commercial and industrial businesses with a demand less than 50 kW. North Bay Hydro Distribution Limited is pleased with the results achieved in 2012 and notes that market saturation of this program is apparent in its service territory. NBHDL has been delivering this program since 2008 when it known as the “Power Saving Blitz” program.

NBHDL actively promotes the Direct Install Initiative to less than 50kW customers. A dedicated third party resource is involved in seeking customers and conducting site assessments.

Additional Comments:

- Successful execution of the previous rendition of this Initiative has resulted in diminished 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.
- Electrical contractor’s margins have been reduced due to no labour rate increase, increase cost of materials, greater distances between retrofits, more door knocking required before a successful sale and no funding for lifts. This has led to a reduction in vendor channel participation in some regions.
- Ambiguity with regard to eligibility resulted in large lists of customers rejected following installation due to preserved ineligibility. Due to this, some LDCs were forced to carry considerable financial burden while this was worked through.
- The eligibility requirements have now been revamped and expanded however there has been limited communication and documentation of this to the marketplace.
- Currently LDCs are unable to offer these standard incentives to prior participants. The ability to return to prior participants and offer a standard incentive on the remaining measures has potential to provide additional energy and demand savings.

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

Initiative Activities/Progress:

The Existing Building Commissioning Incentive Initiative is designed to offer incentives for optimizing existing chilled water systems for space cooling in non-residential facilities for the purpose of reducing energy use. North Bay Hydro Distribution Limited investigated one potential project where chiller optimization would have resulted in energy savings, however efforts did not materialize into savings since the customer did not participate in the program. NBHDL will work with channel partners directly in 2013/2014 to promote this initiative further.

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 a too significant of a 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 re-commissioning 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:**

The New Construction and Major Renovation Initiative is designed to encourage builders of commercial, institutional, and industrial buildings to incorporate energy efficient equipment in the design of new construction or renovation projects in order to realize long-term electricity savings. North Bay Hydro Distribution Limited identified projects in its service territory where this program would apply, however found it difficult to engage key decision makers. NBHDL promotes all of its Business Programs; however this program was not specifically promoted.

Additional Comments

- There is typically a long sales cycle for these projects, and then a long project development cycle. As the program did not launch until mid-2011 and had limited participation, results did not appear in 2011. Minimum results are expected to appear in 2012. The majority of the results are expected in 2013-2014, with a reduced benefit to cumulative energy savings targets.

- With the Ministerial Directive facilities with a completion date near the end of 2014 currently have some security that they will be compensated for choosing efficient measures.
- Participants estimated completion dates tend to be inaccurate and are usually 6 months longer. This could result in diminished savings towards target when facilities are not substantially completed by December 31, 2014.
- The custom application process requires considerable customer support and skilled LDC staff. As there has been no defined administrative funding beyond 2014, many LDCs are unsure how these project applications will be finalized.
- The effort required to participate through the custom stream exceeds the value of the incentive for many customers.
- This Initiative has a very low Net-to-Gross ratio, which results in half the proposed target savings being 'lost'.

3.2.2.5 Energy Audit Initiative

Initiative Activities/Progress:

The Energy Audit Initiative is designed to offer incentives to owners and lessees of commercial, institutional, industrial, and agricultural facilities to undertake assessments in order to identify energy saving opportunities. North Bay Hydro Distribution Limited was pleased see program changes that allows individual systems to be studied. This recent change has motivated customers to begin considering the possibility of taking part in this program. NBHDL often conducts high level energy audits for its customers and reports on potential opportunities; therefore future participation in this program is likely to be system specific. NBHDL actively promotes all of its Business Programs; however the Energy Audit Initiative was not specifically advertised.

- Customer uptake was limited in 2011, however improved throughout 2012 especially with the new audit component for one system (i.e. compressed air).
- The energy audit Initiative is considered an 'enabling' Initiative and 'feeds into' other saveONenergy Initiatives. There are no savings attributed to LDC targets from an audit.
- 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 OPA may be beneficial.

- Participants are limited to one energy audit which restricts enabling and direction to the other Initiatives. This Initiative should be evaluated for additional customer participation when presented with a new scope of work.

3.2.3 INDUSTRIAL PROGRAM

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

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

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

Discussion:

The Industrial Program Portfolio has been able to provide 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. In late 2012, NBHDL began preliminary application work required to receive approval from the OPA to hire Roving Energy Manager(s).

Due to the size, scope and long lead time of these Initiatives and associated projects, the Ministerial Directive provides some security for the continuation of the conservation programs and associated compensation for the participant; however the subsequent savings would not be attributed to any LDC target.

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, a change to the threshold for small capital projects and a new small capital project agreement are expected to improve the number of projects and savings achieved within PSUI. Likewise, a decision to proceed with natural gas load displacement generation projects will also increase uptake although results may not be counted towards LDC targets due to in-service dates beyond 2014. Looking ahead there is minimal opportunity to make additional valuable changes to the current program suite and have these changes reflected in LDC 2014 results

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

Initiative Activities/Progress:

The Process & Systems Upgrade Initiative is designed to offer distribution customers incentives to study energy efficiency systems with a minimum potential savings of 700MWh. The program also offers generous capital incentives for completing energy efficiency projects. North Bay Hydro Distribution Limited initiated three major studies under this program in 2012. One study reviewed systems at an industrial plant whereas the remaining two reviewed feasibility of cogeneration power plants at a Waste Water Treatment Facility and the Regional Health Centre.

The program requires heavy involvement from the consultant steering the studies, the LDC, and the OPA Technical Review Board. NBHDL is pleased to report that program incentives covers typically 100% of the cost of preliminary and detailed engineering studies, which makes it an easy sell for the customer. NBHDL will aim to finalize all studies underway in this program and implement capital projects where feasible. North Bay Hydro actively promotes all industrial programs; however this program was not specifically promoted.

Additional Comments:

- Approximately 100 engineering study applications have been submitted. This is a strong indication that there is the potential for large projects with corresponding energy savings. Most of these studies have been initiated through the Energy Manager and 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 then a long project development cycle. As such, limited results are expected to be generated in 2012. The majority of the results are expected in 2013-2014, 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.
- The contract required for PSUI is a lengthy and complicated document. A key to making PSUI successful is a new agreement for 'small' projects which is a simplified with less onerous conditions for the customer.
- To partially address this, changes were made to the ERII Initiative which allowed smaller projects to be directed to the Commercial stream. . Most industrial projects to-date have been submitted as ERII projects due to less onerous contract and M&V requirements.
- A business case was submitted by the Industrial Working Group in July 2012 which would change the upper limit for a small project from 700 MWh to 1 million dollars in incentives. This would allow more projects to be eligible for the new small capital project agreement and increase participant uptake, while still protecting the ratepayer.

- While there is considerable customer interest in on-site Load Displacement (Co-Generation) projects, in 2012 the OPA was accepting waste heat/waste fuel projects only. Natural gas generation projects were on hold awaiting a decision on whether PSUI will fund these types of projects. In June 2013, a decision was made to allow natural gas load displacement generation projects to proceed under PSUI. It is expected that a number of projects will proceed although results may not be counted towards LDC targets due to in-service dates beyond 2014.

3.2.3.2 *Monitoring & Targeting Initiative (Schedule D-2)*

Initiative Activities/Progress:

The Monitoring and Targeting Initiative is designed to offer customers funding to purchase and install electricity monitoring systems and in-return customers will be required to meet defined kW targets. North Bay Hydro Distribution Limited did not offer this program to its customers specifically. This was due to the fact that NBHDL had received approval from the OEB to equip large industrial and commercial users with real-time electricity monitoring systems through its last Cost of Service application. NBHDL began deploying real-time monitoring solutions to large customers in 2011 and 2012. The pilot initiative has proven to be extremely successful and results have been measureable and quantifiable. NBHDL aims to complete its pilot program in 2013. NBHDL actively promotes all Industrial programs; however this program was not specifically promoted.

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, a limited number of applications have been received to date.
- The savings target required for this Initiative can present a significant challenge for smaller customers.
- Through the change management process in 2013, changes are being made to ERII to allow smaller facilities to employ M&T systems.

3.2.3.3 *Energy Manager Initiative (Schedule D-3)*

The Energy Manager Initiative is designed to provide customers and North Bay Hydro Distribution Limited the opportunity to access funding for the engagement of energy managers in order to deliver a minimum annual savings target. NBHDL began reviewing the possibility of taking part in this program in late 2012, and filed an application with the OPA early 2013. Two Roving Energy Manager applications were approved by the OPA and NBHDL engaged resources in early 2013. NBHDL is pleased with the program to date and

will look to forward to actively promoting this offer to its large industrial and commercial customer groups.

Initiative Activities/Progress:

Additional Comments:

- The Energy Managers have proven to be a popular and useful resource for larger customers. There are approximately 70 Embedded Energy Managers (EEMs) and 25 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 an 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 Roving and Embedded Energy Managers (REM/EEM), in some instances taking up to 7 months to have a resource in place.
- New energy managers require training, time to familiarize with facilities and staff and require time to establish “credibility”. Energy Managers started filling their pipeline with projects but few projects were implemented in 2012.
- Delays with processing EEM payments causing LDCs to delay payments to Participants beyond contract requirements.
- There have been a number of studies identified by Energy Managers and they have been able to build capacity and deliver energy saving projects within their respective large commercial/industrial facilities.
- Requirement that 30% of target must come from Non-incented projects is identified as an issue for most REMs, although final targets not due to 2013. Working group has proposed to remove this requirement for REM’s only as they are not resident full time at a customer facility to find the non-incented savings.
- A decision on extending funding for EM’s is required in 2013 for this important Initiative, which should continue beyond 2014, failing which these expert resources will be lost in favour of full-time employment elsewhere.

3.2.3.4 Key Account Manager (Schedule D-4)

Initiative Activities/Progress:

The Key Account Manager Initiative is designed to enable North Bay Hydro Distribution Limited to access funding for the employment of a KAM in order to support NBHDL in fulfilling its obligations related to the PSUI program. The KAM will assist customers in overcoming traditional barriers related to energy management and help them achieve savings. NBHDL currently has resources on board who are able to perform the duties of a KAM; therefore no applications were submitted to the OPA. North Bay Hydro Distribution Limited actively promotes all Industrial programs; however this program was not specifically promoted.

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 LDCs may be struggling with.
- A decision on extending funding for KAM's is required in 2013 for this important Initiative, which should continue beyond 2014, failing which these expert resources will be lost in favour of full-time employment elsewhere.

3.2.3.5 Demand Response 3 (D-6)

Initiative Activities/Progress:

The Demand Response 3 program is designed to extend the capabilities of the IESO controlled grid. Participants are required to curtail load during program hours and in-return receive payments. Each participant must have the capacity to curtail a minimum of 50kW in order to participate in the program. North Bay Hydro Distribution Limited previously materialized a 600kW demand response opportunity at the City of North Bay's water facilities. NBHDL's experience with this program has indicated that participants need to be told about the program offerings in detail and advertising on a mass scale does not materialize into projects. NBHDL has resources on-board who conduct data mining activities to identify potential customers and then engage those customers with program offerings. Although no new

projects were completed in 2012, a 700kW demand response project was materialized in early 2013. NBHDL will continue to promote this program to its mid to large customer base.

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 verify savings.
- No program improvements were made in 2012 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 (5 year) than if limited to 1 or 2 year contracts.
- Metering and settlement requirements are expensive and complicated and can reduce customer compensation amounts, and present a barrier to smaller customers.
- Compensation amounts for new contracts and renewals have been reduced from the initial launch of this program (premium zones and 200 hour option have been discontinued) and subsequently there has been a corresponding decrease in renewal revenue.

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

Initiative Activities/Progress:

The Low Income Initiative is designed to offer free energy audits and installation of program measures to qualifying low income households. The program targets eligible homes and residential customers who may either be on social assistance or meet specified household income requirements. North Bay Hydro Distribution Limited initiated work on the Low Income Program in 2012 by hiring an agency to conduct energy audits and install program measures. NBHDL also promoted the program to local housing associations and agencies who offer services to low income residents of North Bay (LIPI, OW, ODSP, etc.).

The program was delivered successfully to 211 units in two multi-residential buildings. NBHDL conducted energy audits and installed CFL bulbs, Smart Power Bars, and Programmable Thermostats. NBHDL was seeking clarity from the OPA in September 2012 whether multi-residential buildings with four stories or more qualified under this program as it was not clear from Schedule E-1 and from documents released by the OPA. NBHDL did not receive a timely response and decided to proceed with the program. NBHDL ultimately received approval from the OPA and recovered program funds in 2013. NBHDL will continue to encourage qualifying customers to take part in this program as it is a great way for them to find cost savings and make homes more comfortable and efficient. NBHDL actively promotes this program through news paper articles, radio ads, and bill inserts.

Additional Comments:

- Awareness of the program amongst social agencies took time to develop. Benefits started to become evident in late 2012.
- Centralized payment processes were not developed in 2011. The payment process was established in 2012.
- The process for enrolling in social housing was complicated and time consuming. This was addressed in late 2012 and is showing benefits in 2013.
- The financial scope, complexity, and customer privacy requirements of this Initiative are challenging for LDCs and most have contracted this program out. This Initiative may benefit from an OPA contracted centralized delivery agent.

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 2012 LDC CDM Results

4.1 Participation and Savings

Table 1: Program Savings by Year

Table 1: North Bay Hydro Distribution Limited Initiative and Program Level Savings by Year (Scenario 1)

| Initiative | Unit | Incremental Activity (new program activity occurring within the specified reporting period) | | | | Net Incremental Peak Demand Savings (KW) (new peak demand savings from activity within the specified reporting period) | | | | Net Incremental Energy Savings (KWh) (new energy savings from activity within the specified reporting period) | | | | Program-to-Date Verified Progress to Target (excludes DR) | |
|--|------------|--|-------|------|------|---|--------------|------|------|--|------------------|--|------------|--|---|
| | | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2014 Net Annual Peak Demand Savings (KW) | 2011-2014 Net Cumulative Energy Savings (KWh) |
| | | | | | | | | | | | | | | 2014 | 2014 |
| Consumer Program | | | | | | | | | | | | | | | |
| Appliance Retirement | Appliances | 252 | 127 | | | 16 | 7 | | | 106,705 | 50,114 | | | 22 | 576,454 |
| Appliance Exchange | Appliances | 21 | 3 | | | 3 | 0 | | | 4,047 | 782 | | | 2 | 17,968 |
| HVAC Incentives | Equipment | 192 | 173 | | | 67 | 47 | | | 133,752 | 90,414 | | | 114 | 806,248 |
| Conservation Instant Coupon Booklet | Items | 3,446 | 165 | | | 8 | 1 | | | 132,210 | 7,456 | | | 9 | 551,210 |
| Bi-Annual Retailer Event | Items | 4,641 | 5,658 | | | 9 | 8 | | | 156,717 | 142,821 | | | 17 | 1,055,329 |
| Retailer Co-op | Items | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Residential Demand Response (switch/pslat) | Devices | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Residential Demand Response (IHD) | Devices | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Residential New Construction | Homes | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Consumer Program Total | | | | | | 101 | 64 | | | 533,430 | 291,587 | | | 164 | 3,007,209 |
| Industrial Program | | | | | | | | | | | | | | | |
| Retrofit | Projects | 10 | 41 | | | 118 | 285 | | | 559,325 | 1,373,684 | | | 395 | 6,313,073 |
| Direct Install Lighting | Projects | 203 | 157 | | | 207 | 117 | | | 541,233 | 460,482 | | | 283 | 3,421,479 |
| Building Commissioning | Buildings | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| New Construction | Buildings | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Energy Audit | Audits | 1 | 3 | | | 0 | 16 | | | 0 | 75,529 | | | 16 | 226,586 |
| Small Commercial Demand Response | Devices | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Small Commercial Demand Response (IHD) | Devices | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Demand Response 3 | Facilities | 1 | 1 | | | 455 | 456 | | | 17,768 | 6,634 | | | 0 | 14,402 |
| Business Program Total | | | | | | 780 | 874 | | | 1,118,325 | 1,916,330 | | | 694 | 9,985,541 |
| Industrial Program | | | | | | | | | | | | | | | |
| Process & System Upgrades | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Monitoring & Targeting | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Energy Manager | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Retrofit | Projects | 1 | | | | 11 | | | | 70,290 | | | | 11 | 281,159 |
| Demand Response 3 | Facilities | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Industrial Program Total | | | | | | 11 | 0 | | | 70,290 | 0 | | | 11 | 281,159 |
| Home Assistance Program | | | | | | | | | | | | | | | |
| Home Assistance Program | Homes | 0 | 211 | | | 0 | 1 | | | 0 | 29,252 | | | 1 | 87,756 |
| Home Assistance Program Total | | | | | | 0 | 1 | | | 0 | 29,252 | | | 1 | 87,756 |
| Pre-2011 Programs completed in 2011 | | | | | | | | | | | | | | | |
| Electricity Retrofit Incentive Program | Projects | 18 | 0 | | | 102 | 0 | | | 491,904 | 0 | | | 102 | 1,967,615 |
| High Performance New Construction | Projects | 1 | 0 | | | 27 | 1 | | | 139,326 | 584 | | | 28 | 559,055 |
| Toronto Comprehensive | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Multifamily Energy Efficiency Rebates | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| LDC Custom Programs | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Pre-2011 Programs completed in 2011 Total | | | | | | 129 | 1 | | | 631,229 | 584 | | | 129 | 2,526,669 |
| Other | | | | | | | | | | | | | | | |
| Program Enabled Savings | Projects | 0 | 0 | | | 0 | 0 | | | 0 | 0 | | | 0 | 0 |
| Time-of-Use Savings | Homes | | | | | | | | | | | | | | |
| Other Total | | | | | | | | | | 0 | 0 | | | 0 | 0 |
| Adjustments to Previous Year's Verified Results | | | | | | | | | | | | | | | |
| Energy Efficiency Total | | | | | | 566 | 483 | | | 2,335,507 | 2,231,118 | | | 999 | 15,863,932 |
| Demand Response Total [Scenario 1] | | | | | | 455 | 456 | | | 17,768 | 6,634 | | | 0 | 14,402 |
| OPA-Contracted LDC Portfolio Total (inc. Adjustments) | | | | | | 1,021 | 1,002 | | | 2,853,275 | 2,519,412 | | | 1,047 | 16,961,690 |
| Activity & savings for Demand Response resources for each year and quarter represent the savings from all active facilities or devices contracted since January 1, 2011. | | | | | | | | | | | | Due to the limited timeframe of data, which didn't include the summer months, 2012 IHD results have been deemed inconclusive. The IHD line item on the 2012 annual report will be left blank. Once a full year of data is available (2013 evaluation), and the savings are quantified, 2012 results will be updated to reflect the quantified savings. | | | |
| | | | | | | | | | | | | Full OEB Target: | | | |
| | | | | | | | | | | | | 5,050 | 26,100,000 | | |
| | | | | | | | | | | | | % of Full OEB Target Achieved to Date (Scenario 1): | | | |
| | | | | | | | | | | | | 20.7% | 65.0% | | |

Table 2: Summarized Program Results Provided in OPA 2012 Final CDM Report

| 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 | 0.05 | 0.48 | 0.00 | 0.29 | 0.16 | 3.01 |
| Business Program Total | 0.95 | 2.75 | 0.87 | 1.92 | 0.69 | 9.99 |
| Industrial Program Total | 0 | 0 | 0 | 0 | 0.01 | 0.28 |
| Home Assistance Program Total | 0 | 0.03 | 0.00 | 0.00 | 0.00 | 0.09 |
| Pre-2011 Programs completed in 2011 Total | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 2.53 |
| Adjustment to Previous Years Results | - | - | 0.06 | 0.2 | 0.05 | 1.07 |
| Total OPA Contracted Province-Wide CDM Programs | 1.00 | 3.2 | 1.00 | 2.52 | 1.05 | 16.96 |

Note: All numbers are rounded to two decimal places

4.2 Evaluation

Table 3: North Bay Hydro Distribution Realization Rate & NTG

Table 3: North Bay Hydro Distribution Limited Realization Rate & NTG

| Initiative | Peak Demand Savings | | | | | | | | Energy Savings | | | | | | | |
|--|---------------------|------|------|------|--------------------|------|------|------|------------------|------|------|------|--------------------|------|------|------|
| | Realization Rate | | | | Net-to-Gross Ratio | | | | Realization Rate | | | | Net-to-Gross Ratio | | | |
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| Consumer Program | | | | | | | | | | | | | | | | |
| Appliance Retirement | | 1.00 | | | | 0.46 | | | | 1.00 | | | | 0.47 | | |
| Appliance Exchange | | 1.00 | | | | 0.52 | | | | 1.00 | | | | 0.52 | | |
| HVAC Incentives | | 1.00 | | | | 0.49 | | | | 1.00 | | | | 0.48 | | |
| Conservation Instant Coupon Booklet | | 1.00 | | | | 1.00 | | | | 1.00 | | | | 1.05 | | |
| Bi-Annual Retailer Event | | 1.00 | | | | 0.91 | | | | 1.00 | | | | 0.92 | | |
| Retailer Co-op | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Residential Demand Response (switch/pstat)* | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Residential Demand Response (IHD) | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Residential New Construction | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Business Program | | | | | | | | | | | | | | | | |
| Retrofit | | 0.95 | | | | 0.76 | | | | 1.10 | | | | 0.77 | | |
| Direct Install Lighting | | 0.68 | | | | 0.94 | | | | 0.85 | | | | 0.94 | | |
| Building Commissioning | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| New Construction | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Energy Audit | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Small Commercial Demand Response (switch/pstat)* | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Small Commercial Demand Response (IHD) | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Demand Response 3* | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Industrial Program | | | | | | | | | | | | | | | | |
| Process & System Upgrades | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Monitoring & Targeting | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Energy Manager | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Retrofit | | | | | | | | | | | | | | | | |
| Demand Response 3* | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Home Assistance Program | | | | | | | | | | | | | | | | |
| Home Assistance Program | | 1.20 | | | | 1.00 | | | | 1.37 | | | | 1.00 | | |
| Pre-2011 Programs completed in 2011 | | | | | | | | | | | | | | | | |
| Electricity Retrofit Incentive Program | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| High Performance New Construction | | 1.00 | | | | 0.50 | | | | 1.00 | | | | 0.50 | | |
| Toronto Comprehensive | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Multifamily Energy Efficiency Rebates | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| LDC Custom Programs | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Other | | | | | | | | | | | | | | | | |
| Program Enabled Savings | | n/a | | | | n/a | | | | n/a | | | | n/a | | |
| Time-of-Use Savings | | n/a | | | | n/a | | | | n/a | | | | n/a | | |

4.2.1 Evaluation Findings

The following table provides a summary of 2012 EM&V findings for all of the evaluated saveONenergy initiatives provided by the OPA on August 30, 2013.

Table 4: Evaluation Findings

| Initiatives | Evaluation Findings |
|--------------------------|---|
| Consumer Programs | |
| Bi-Annual Coupons | <ul style="list-style-type: none"> • 15% lower net savings due to a change in the net-to-gross factors (increased free-ridership, less participant behavior spillover, and less non-participant like spillover). • Majority of participation, energy, & demand savings are from standard CFLs. • 15% of net savings due to ~73,000 coupons for new LED measures. |
| Annual Coupons | <ul style="list-style-type: none"> • The number of coupons associated with the redemption of 2012 Annual Coupons was 90% lower than 2011 Instant Coupon Booklet. Key factors for the decrease include: • Shorter duration of available coupons (September 2012 – December 2012) • In 2012, only online coupons were available • 2011 had both online coupons AND coupon mailing booklets. |
| HVAC | <ul style="list-style-type: none"> • Small decrease (10%) in per unit savings assumptions for furnace with ECM due to change |

| | |
|----------------------|---|
| | <p>in 2012 customer mix and furnace fan usage.</p> <ul style="list-style-type: none"> • Small increase (10%) in free-ridership related to the furnace with ECM measure. • Participation remains relatively steady once 2011 true-up values are included. |
| Appliance Retirement | <ul style="list-style-type: none"> • Decrease in 2012 participation by 39% compared to 2011. • In-site metering provided updated per unit assumptions: • Small decrease (3.5%) in savings for refrigerators; and sizeable increase (17.5%) in savings for freezers |
| Appliance Exchange | <p>Increase of 30% for exchanged dehumidifiers over 2011, leading to an increase of 4% in overall participation.</p> <ul style="list-style-type: none"> • Higher per unit savings for dehumidifiers drove the overall increase in 2012 savings. |
| <i>PeaksaverPLUS</i> | <ul style="list-style-type: none"> • Province-wide per-unit ex-ante estimates for a 1-in-10 August peak day were determined to be 0.50 kW for residential CACs and 0.64 kW for small commercial CACs. • Evaluation to date has indicated savings from in-home displays (IHDs) are not statistically significant (in and around zero). • However, since 2012 evaluation did not include full year analysis (specifically the summer months), these results have been deemed inconclusive. • The IHD offer had a positive influence on enrollment and re-enrollment with between 20 to 35% of new enrollees said they wouldn't have enrolled without the IHD offer. |

| | |
|---------------------------------------|--|
| Residential New Construction | <ul style="list-style-type: none"> All projects are opting for the prescriptive or performance path - there have been no custom project applications to date. |
| Business Programs | |
| Energy Retrofit Incentive Initiative | <ul style="list-style-type: none"> Reported savings for prescriptive lighting projects continue to be overstated: Verified wattage reductions were 15% higher than assumed; and verified operating hours were 11% higher than assumed. A lower realization rate in the engineered measure track can be partially explained by overstated lighting operation hour assumptions reported on the application. Net-to-gross ratios for the initiatives were above 75% in 2012, which is consistent with 2011. |
| Small Business Lighting | <ul style="list-style-type: none"> Reported hours of usage continue to be inaccurate - only 12% of site visits had verified annual hours of use within +/-10% of the assumed value. The saturation of eligible customers and preferred business types are resulting in participation from building types that may not fully operate during the summer peak period. This trend contributes to lower realization rates for demand savings in 2012. Due to changing regulations in lighting measures, the assumed baseline technology will eventually be phased out. This regulation impacts the persistence of savings over the lifetime of lighting measures. |
| Existing Building Commissioning (EBC) | <ul style="list-style-type: none"> There were no applications in 2012. |

| | |
|--------------------------------------|---|
| | <ul style="list-style-type: none"> Market feedback suggests that EBC’s focus on chilled-water space-cooling systems may be too narrow, and participation could be expanded by incenting a wider range of measures. |
| New Construction | <ul style="list-style-type: none"> Custom projects account for 66% of program savings, with the remainder coming from the prescriptive track. |
| Audit Funding Program | <ul style="list-style-type: none"> Through Audit Funding, 280 projects were completed in 2012 based on recommendations from the auditors, resulting in 1.4 MW and 7 GWh of Program Enabled Savings. Office buildings represented the largest portion of applicants for 2012. |
| Industrial Programs | |
| Process & Systems Upgrade Initiative | <ul style="list-style-type: none"> Energy managers are seen as important drivers of Program Enabled savings projects. 88% of survey respondents indicated that the assistance provided by energy managers was “somewhat” or “very” important to implementing projects. Energy Managers indicated that additional support (additional training and guides) may further help influence the adoption of energy efficiency measures by the participants. Documentation for Program Enabled Savings projects varied substantially by LDC. More guidance on documentation requirements would be beneficial to all parties. |
| Demand Response 3 | <ul style="list-style-type: none"> 2012 saw improvements in the performance of DR-3 participants resulting higher ex-ante realization rates, particularly for the industrial participants. |
| Home Assistance Program | |
| Low Income Initiative | <ul style="list-style-type: none"> Participation in the initiative ramped up in 2012, with over 5,000 homes participating in the initiative. Majority of energy savings (62%) comes from lighting measures, while 21% of energy savings resulting from refrigerator and freezer replacements. |

4.3 Spending

Table 5: 2012 Spending

| Initiative | Program Administration Budget (PAB) | Participant Based Funding (PBF) | Participant Incentives (PI) | Capability Building Funding (CBF) | TOTAL |
|-------------------------------------|-------------------------------------|---------------------------------|-----------------------------|-----------------------------------|-----------|
| Consumer Program | | | | | |
| Appliance Retirement | \$5,416 | | | | \$5,416 |
| Appliance Exchange | \$3,693 | | | | \$3,693 |
| HVAC Incentives | \$2,628 | | | | \$2,628 |
| Conservation Instant Coupon Booklet | \$5,255 | | | | \$5,255 |
| Bi-Annual Retailer Event | \$1,562 | | | | \$1,562 |
| Retailer Co-op | \$1,562 | | | | \$1,562 |
| Residential Demand Response | \$2,628 | | | | \$2,628 |
| New Construction Program | \$4,758 | | | | \$4,758 |
| Business Program | | | | | |
| Efficiency: Equipment Replacement | \$142,239 | | \$124,821 | | \$267,060 |

| | | | | | |
|--|----------|--|-----------|--|-----------|
| Direct Installed Lighting | \$20,139 | | \$122,349 | | \$142,488 |
| Existing Building Commissioning | \$2,202 | | | | \$2,202 |
| New Construction and Major Renovation Initiative | \$4,333 | | | | \$4,333 |
| Energy Audit | \$7,002 | | \$11,930 | | \$18,932 |
| Small Commercial Demand Response (part of the Residential program schedule) | | | | | |
| Demand Response 3 (part of the Industrial program schedule) | | | | | |
| Industrial Program | | | | | |
| Process & System Upgrades | \$15,955 | | | | - |
| a) preliminary engineering study | \$5,139 | | | | \$5,139 |
| b) detailed engineering study | \$8,491 | | | | \$8,491 |
| c) program incentive | \$2,331 | | | | \$2,331 |
| Monitoring & Targeting | - | | | | - |
| Energy Manager | \$4,697 | | | | \$4,697 |
| Key Account Manager ("KAM") | | | | | |
| Efficiency: Equipment Replacement Incentive (part of the C&I program schedule) | | | | | |

| | | | | | |
|---|------------------|------------|------------------|------------|------------------|
| Demand Response 3 | \$5,191 | | | | \$5,191 |
| Home Assistance Program | | | | | |
| Home Assistance Program | 9,954 | | | | 9,954 |
| Pre 2011 Programs | | | | | |
| Electricity Retrofit Incentive Program | | | \$110,703 | | \$110,703 |
| High Performance New Construction | | | | | |
| Multifamily Energy Efficiency Rebates | | | | | |
| Initiatives Not In Market | | | | | |
| Midstream Electronics | | | | | |
| Midstream Pool Equipment | | | | | |
| Demand Service Space Cooling | | | | | |
| Demand Response 1 (Commercial) | | | | | |
| Demand Response 1 (Industrial) | | | | | |
| Home Energy Audit Tool | | | | | |
| TOTAL Province-wide CDM PROGRAMS | \$239,223 | \$0 | \$369,804 | \$0 | \$609,024 |

Table 6: Cumulative Spending (2011-2014)

| Initiative | Program Administration Budget (PAB) | Participant Based Funding (PBF) | Participant Incentives (PI) | Capability Building Funding (CBF) | TOTAL |
|---|--|--|------------------------------------|--|--------------|
| Consumer Program | | | | | |
| Appliance Retirement | \$52,255 | | | | \$52,255 |
| Appliance Exchange | \$3,693 | | | | \$3,693 |
| HVAC Incentives | \$6,268 | | | | \$6,268 |
| Conservation Instant Coupon Booklet | \$51,565 | | | | \$51,565 |
| Bi-Annual Retailer Event | \$1,583 | | | | \$1,583 |
| Retailer Co-op | \$1,562 | | | | \$1,562 |
| Residential Demand Response | \$2,628 | | | | \$2,628 |
| New Construction Program | \$5,108 | | | | \$5,108 |
| Business Program | | | | | |
| Efficiency: Equipment Replacement | \$231,688 | | \$185,863 | | \$417,551 |
| Direct Installed Lighting | \$66,126 | | \$299,174 | | \$365,300 |
| Existing Building Commissioning Incentive | \$2,202 | | | | \$2,202 |

| | | | | | |
|--|----------|--|----------|--|----------|
| New Construction and Major Renovation Initiative | \$4,333 | | | | \$4,333 |
| Energy Audit | \$22,259 | | \$13,665 | | \$35,924 |
| Small Commercial Demand Response (part of the Residential program schedule) | | | | | |
| Demand Response 3 (part of the Industrial program schedule) | | | | | |
| Industrial Program | | | | | |
| Process & System Upgrades | \$15,955 | | | | - |
| a) preliminary engineering study | \$5,139 | | | | \$5,139 |
| b) detailed engineering study | \$8,494 | | | | \$8,494 |
| c) program incentive | \$2,331 | | | | \$2,331 |
| Monitoring & Targeting | | | | | |
| Energy Manager | \$4,697 | | | | \$4,697 |
| Key Account Manager ("KAM") | | | | | |
| Efficiency: Equipment Replacement Incentive (part of the C&I program schedule) | | | | | |
| Demand Response 3 | \$5,191 | | | | \$5,191 |
| Home Assistance | | | | | |

| Program | | | | | |
|---|------------------|------------|------------------|------------|--------------------|
| Home Assistance Program | \$9,954 | | | | \$9,954 |
| Pre 2011 Programs | | | | | |
| Electricity Retrofit Incentive Program | | | \$398,879 | | \$398,879 |
| High Performance New Construction | | | | | |
| Multifamily Energy Efficiency Rebates | | | | | |
| Initiatives Not In Market | | | | | |
| Midstream Electronics | | | | | |
| Midstream Pool Equipment | | | | | |
| Demand Service Space Cooling | | | | | |
| Demand Response 1 (Commercial) | | | | | |
| Demand Response 1 (Industrial) | | | | | |
| Home Energy Audit Tool | | | | | |
| TOTAL Province-wide CDM PROGRAMS | \$487,076 | \$0 | \$897,581 | \$0 | \$1,384,657 |

4.4 Additional Comments

Looking forward to 2013 and beyond, North Bay Hydro Distribution Limited expects to continue its efforts towards meeting its CDM mandate.

On the Residential side, NBHDL will deliver the *PeaksaverPLUS* program in 2013 and scale the delivery of the Home Assistance Program. NBHDL will also promote all consumer programs and review the possibility of developing custom residential programs through the OPA Conservation Fund.

On the Industrial side, incentives for load displacement cogeneration projects will assist NBHDL and the Regional Hospital to begin developing a 1.5MW power plant with a thermal recovery system. This project alone can help NBHDL achieve 44% of its overall energy savings target and 30% of its summer peak demand target. Due to the scale of this project, NBHDL does not expect it to be in-service until 2015. Delays in availability of provincial funds for natural gas-fired cogeneration projects under PSUI have hindered NBHDL's ability to meet its end of 2014 CDM mandate.

5 Combined CDM Reporting Element

5.1 Progress towards CDM targets

North Bay Hydro Distribution Limited is on track to meet 100% of its cumulative energy savings target but anticipates a shortfall in meeting its overall summer peak demand savings target. As a result of progress in 2012, NBHDL is trailing 37% behind its projected demand savings target but is less than 2% behind in meeting its cumulative energy savings milestone. Below is a summary of these results:

Table 7: Net Peak Demand Savings at the End User Level (MW)

| Implementation Period | Annual (MW) | | | |
|--|-------------|------|------|--------------|
| | 2011 | 2012 | 2013 | 2014 |
| 2011 – Verified by OPA | 1.0 | 0.6 | 0.6 | 0.5 |
| 2012 – Verified by OPA | | 1.0 | 0.5 | 0.5 |
| 2013 | | | | |
| 2014 | | | | |
| Verified Net Annual Peak Demand Savings in 2014: | | | | 1.0 |
| North Bay Hydro Distribution Limited 2014 Annual CDM Capacity Target: | | | | 5.1 |
| Verified Portion of Peak Demand Savings Target Achieved (%): | | | | 20.7% |
| NBHDL Strategy – Demand Savings Milestone submitted for 2012 (MW) | | | | 2.7 |
| NBHDL Strategy - % Variance for Demand Savings | | | | -37% |

Table 8: Net Energy Savings at the End-User Level (GWh)

| Implementation Period | Annual (GWh) | | | | Cumulative (GWh) |
|---|--------------|------|------|------|------------------|
| | 2011 | 2012 | 2013 | 2014 | 2011-2014 |
| 2011 – Verified by OPA | 2.4 | 2.3 | 2.3 | 2.2 | 9.2 |
| 2012 – Verified by OPA | | 2.5 | 2.5 | 2.4 | 7.7 |
| 2013 | | | | | |
| 2014 | | | | | |
| Verified Net Cumulative Energy Savings 2011-2014: | | | | | 17.0 |
| North Bay Hydro Distribution Limited 2011-2014 Cumulative CDM Energy Target: | | | | | 26.1 |
| Verified Portion of Cumulative Energy Target Achieved (%): | | | | | 65.0% |
| NBHDL Strategy – Cumulative Energy Savings Milestone submitted for 2012 | | | | | 17.4 |
| NBHDL Strategy - % Variance for Energy Savings | | | | | -2% |

5.2 Outlook to 2014 and Strategy Modifications

The variance between forecasted CDM Strategy numbers and the savings realized by NBHDL's 2011 and 2012 CDM programs are due to the following:

2011 was a "start-up" year for OPA CDM Program initiatives across the province. Programs were not up and running in North Bay until the second half of March – and thus participation was less than expected by both the province and NBHDL. The OPA has reported that it expects the OPA CDM programs to hit an average of 91% of the provincial energy target and 78% of the provincial demand target. Even with delays in the delivery of programs in 2011, NBHDL has made solid progress in 2012 and is on pace to achieve its energy savings target with its OPA programs. NBHDL will continue delivering OPA CDM programs as described in its CDM Strategy. NBHDL has made the following changes in 2012 in the process of reviewing its delivery strategies and will continue to modify its CDM strategy in 2013 and beyond:

- 1) All Retrofit program applications are processed in-house.
- 2) Channel partner networks are involved before customers are engaged.
- 3) Finder's fee for the Direct Install Program has been increased.
- 4) Continue to recognize local businesses for completing showcase energy conservation projects.
- 5) Scale the Home Assistance program to focus on insulation projects.
- 6) Deliver the Residential Demand Response program.
- 7) Utilize energy monitoring tools to identify energy efficiency projects.

In addition, the OPA has made the following changes to the current suite of saveONenergy programs that may help NBHDL deliver the CDM portfolio more effectively:

- 1) Removed the 350MWh savings cap and replaced it with a maximum incentive of \$500,000 in the retrofit program.
- 2) Changes have been made to the Audit Funding program. Participants can obtain funding for studying specific systems versus the entire facility's energy usage.
- 3) Streamlined the application and reporting requirements for the Home Assistance Program.
- 4) Providing provincial incentives for load displacement co-generation projects under Process & Systems Upgrade Initiative.

6.0 Conclusion

Over the course of 2012, North Bay Hydro Distribution Limited has achieved 1.0 MW in peak demand savings and 17 GWh in energy savings, which represents 20.7% and 65% of NBHDL's 2014 target, respectively. These results are representative of a considerable effort expended by North Bay Hydro Distribution Limited, in cooperation with other LDCs, customers, channel partners and stakeholders to overcome many operational and structural issues that limited program effectiveness across all market sectors. This achievement is a success and the relationships built within the 2011-2014 CDM program term will aid results in a subsequent CDM term.

However, despite continuing improvements to existing programs North Bay Hydro Distribution Limited faces challenges in the remaining years of the current CDM framework. With the current slate of available OPA Programs, and the current forecast of implementation and projected savings, North Bay Hydro Distribution Limited expects to meet its energy consumption target but will struggle to meet its demand savings target. North Bay Hydro Distribution Limited expects a shortfall of its target in demand savings by the end of 2014.

Looking ahead there is limited opportunity to make valuable changes to the current program portfolios and have these changes reflected in LDC 2014 results. However, LDCs and the OPA can build on the strengths and key successes of the 2011-2014 programs to launch new programs which will meet the needs of the industry and consumers.

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

Additional detail is available:

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

In Market Date: March 23, 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.

Targeted End Uses: Window air conditioners and portable dehumidifiers

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

Additional detail is available:

- Schedule B-1, Exhibit C
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>

In Market Date: March 23, 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: OPA contracts centrally for delivery of the program. LDCs provide local marketing and encourage local contractors to participate in the Initiative.

Additional detail is available:

- Schedule B-1, Exhibit B
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>

In Market Date: March 23, 2011

CONSERVATION INSTANT COUPON INITIATIVE (Exhibit A)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

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

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

Additional detail is available:

- Schedule B-1, Exhibit A
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>

In Market Date: March 23, 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 OPA enters into arrangements with participating retailers to promote the discounted products, and to post and honour related coupons. LDCs also refer retailers to the OPA and market this initiative locally.

Additional detail is available:

- Schedule B-1, Exhibit C
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>

In Market Date: March 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 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.

In Market Date: March 23, 2011

NEW CONSTRUCTION PROGRAM (Schedule B-2)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

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

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

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

Additional detail is available:

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

In Market Date: March 23, 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 peaksaverPLUS™* 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
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>

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

In Market Date: March 23, 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 \$1,000 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 \$1,000 at no cost to qualifying small businesses. In addition, standard prescriptive incentives are available for eligible equipment beyond the initial \$1,000 limit.

Target End Uses: Lighting and electric water heating measures

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

Additional detail is available:

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

In Market Date: March 23, 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
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-6%20Commissioning%20Initiative.pdf and
- SaveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/Existing-Building-Commissioning.aspx>

In Market Date: March 23, 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
<http://www.powerauthority.on.ca/sites/default/files/page/ScheduleC-4NewConstructionInitiativeV2.pdf> and
- SaveONenergy website <https://saveonenergy.ca/Business/Program-Overviews/New-Construction.aspx>

In Market Date: March 23, 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
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>

In Market Date: March 23, 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 costs
- c) A one year pay back

Targeted End Uses: Process and systems

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

Additional detail is available:

- Schedule D-1
http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-1%20Process%20and%20Systems%20Upgrades%20Initiative.pdf and
- SaveONenergy website <https://saveonenergy.ca/Business.aspx>

In Market Date: March 23, 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 systems in order to deliver a minimum savings target at the end of 24 months and sustained for the term of the M&T Agreement.

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

Targeted End Uses: Process and systems

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

Additional detail is available:

- Schedule D-2
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>

In Market Date: March 23, 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
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>

In Market Date: March 23, 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:

- 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

In Market Date: March 23, 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 OPA. The OPA administers contracts with all DRPs and Direct Participants (who provide in excess of 5 MW of demand

response capacity). OPA provides administration including settlement, measurement and verification, and dispatch. LDCs are responsible for local customer outreach and marketing efforts.

Additional detail is available:

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

In Market Date: January 2011

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

Target Customer Type(s): Income Qualified Residential Customers

Initiative Frequency: Year Round

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

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

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

Delivery: LDC delivered.

Additional detail is available:

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

Initiative Activities/Progress:

BPI took the lead on a group RFP for Home Assistance Program provider in 2011. Due to the delay in schedule release, and the time required for the RFP process, BPI was not in market in 2011, however launched in early 2012.

In Market Date: 2012

LOW INCOME INITIATIVE (HOME ASSISTANCE PROGRAM)

Target Customer Type(s): Income Qualified Residential Customers

Initiative Frequency: Year round

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

Description: This was a turnkey initiative for income-qualified customers. It offered residents the Opportunity to take advantage of free installation of energy efficient measures that improved the comfort of their home, increased efficiency, and helped them save money. All eligible customers received a Basic and Extended Measures Audit, while customers with electric heat also received a Weatherization Audit. The Initiative was designed to enable coordination of efforts with gas utilities.

Targeted End Uses: End uses based on results of audit

Delivery: LDC Delivered

Appendix B: Pre-2011 Programs

ELECTRICITY RETROFIT INCENTIVE PROGRAM

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

Initiative Frequency: Year Round

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

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

Targeted End Uses: Electricity savings measures

Delivery: LDC Delivered

HIGH PERFORMANCE NEW CONSTRUCTION

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

Initiative Frequency: Year round

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

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

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

Delivery: LDC Delivered

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

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

Targeted End Uses: Electricity saving measures

Delivery: OPA contracted with Greensaver