# North Bay Hydro Distribution Limited

## Conservation and Demand Management

## 2013 Annual Report

**Submitted to:**

**Ontario Energy Board**

**Submitted on September 30, 2014**

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# Executive Summary

## 2013 CDM Results for North Bay Hydro Distribution Limited

North Bay Hydro Distribution Limited (NBHDL) is an organization that serves and distributes reliable electricity to 24,500 customers in the North Bay area. NBHDL has a long history of delivering energy conservation programs and facilitating behind the meter activities. The organization is dedicated to providing value add services to its community and serves as a leader in helping customers implement technologies that reduce consumption and cost. NBHDL currently delivers a suite of conservation programs under the saveONenergy brand offered by the Ontario Power Authority (OPA). The programs are tailored to serve all customer classes and have had a consistent participation rate in comparison to previous reporting periods. NBHDL is pleased with its progress but believes it needs to continue to work with the OPA and other industry stakeholders to help its customers overcome barriers preventing them from investing in energy conservation measures.

NBHDL's results are progressive in 2013, with 90% achievement of its cumulative energy target and 30% achievement of its overall summer peak demand target and 50% under Scenario 2[1]. Assuming similar participation in 2014, NBHDL projects that it will achieve over 100% of its energy target but will fall within 70-80% of meeting its overall summer peak demand target. Meeting the overall demand target remains a challenge because NBHDL is a winter peaking utility and current form of conservation programs primarily focus and incent summer peak demand savings. The summer demand target represents a 9% reduction in NBHDL's average summer demand, but an attainable 5.5% reduction in winter demand. Achieving the existing demand target is a challenge for NBHDL, however looking ahead the organization is pleased with the recent direction adopted by the provincial government where future conservation programs will focus only on reducing energy consumption and not summer demand. NBHDL welcomes this approach as it will allow future programs to be more aligned with customer objectives of reducing electricity bills.

NBHDL will prioritize closing the gap in its demand target in order to achieve provincial objectives. NBHDL has put together an aggressive residential and business demand response strategy that will focus on eligible demand response customers and encourage them to sign up for programs. The challenge with implementing residential demand response programs is that technologies continue to evolve and providing the most suitable solution to the homeowner requires careful evaluation. NBHDL has worked with its metering vendor to upgrade the remote communication system in order to provide homeowners with a fully integrated solution that not only allows system aggregators with the capability of dispatching demand response events but also provides homeowners with two-way control capabilities to remotely shut off devices within their home when not being used.

NBHDL will continue to work with the Ontario Power Authority and deliver conservation programs for the remainder of the current 2011-2014 conservation framework. Although program participation has been steady in 2013, there are signs of market saturation in some of the programs currently offered. NBHDL plans to work with the OPA and provide feedback on trends noted within the service territory in order to address such themes. NBHDL is committed to the environment and will work with all of its customer classes to realize savings that have sustainable benefits.

[1] Scenario 2 refers to the assumption that demand response projects will persist through December 31, 2014

## 2013 CDM program delivery

NBHDL offered a full suite of saveONenergy CDM programs to its residential, commercial, institutional, and industrial customers. NBHDL's role in delivery initiatives included marketing of programs, customer engagement, and serving as a technical resource. Customers received professional services free of charge, energy management advice, and incentive application support which allowed easy access and higher participation of programs. NBHDL also partnered with its entire channel partner network which includes suppliers, contractors, and third party solution providers in order to best serve customers and mature energy conservation projects. In all, over 9300 out of 24,500 NBHDL (38%) participated in at least one of the CDM programs offered, making it clear that North Bay supports conservation and all of its benefits.

## Meeting NBHDL CDM targets

Based on experience developed in 2011/2012, NBHDL expects that achieving 100% of the overall CDM target will remain a challenge. 2012 and 2013 provided an opportunity for NBHDL to pick up the pace on its conservation efforts as participation increased significantly and program enhancements allowed easy access by customers. Increased incentives for the Small Business Lighting program and better information on the residential Home Assistance Program allowed qualifying customers to obtain benefits from these programs. Participation in the Home Assistance program doubled in NBHDL's service territory and increased by a factor of five (5) provincially. However, delay in program changes and decisions have also resulted in missed opportunity for savings. These delays have had serious implications for NBHDL, especially since they have hindered the organizations ability to meet its summer demand target.

Until mid-2013, NBHDL was unable to confirm if capital incentives were available for a gas-fired cogeneration project in its service territory. The OPA's inability to provide clear direction on this matter since 2011 resulted in significant time being wasted resulting in a missed opportunity. Savings from this project alone could have helped NBHDL achieve 30% of its overall demand target.

NBHDL has the following recommendations for the OPA to improve the current delivery of CDM initiatives.

**Recommendations for 2014 and beyond**

1. **Increase incentive funding for conservation activities**: Current incentive levels cover a very small portion of the overall project cost when looking at all energy systems within a facility. There are specific programs and projects that receive a high valued incentive but majority of project incentives range between 5-15% which does not create a compelling business case for the customer. The low incentives offered for LED lighting and heating/cooling projects result in low participation from small businesses and public sector facilities.

2. **Introduce transparency into spending of centralized initiatives:** The OPA has been working on centralized initiatives since 2011 and there is value in having transparency over spending of province wide outreach programs. LDC's should also have an opportunity to participate and provide feedback on localized marketing efforts in order to provide better value to the customer.

3. **More permanent communication structure with the OPA:** The LDC sector needs to have a more better and permanent communication structure with the OPA which focuses on two separate issues. The first being that process should be developed which involves LDCs and all appropriate stakeholders to deal with strategic issues. The second focus needs to around addressing technical and operational problems in a timely manner. The LDC's inability to receive clear direction on rules and eligibility in the past has led to

customer frustration and missed opportunities. NBHDL is willing to step up and work with the OPA to develop a more permanent communication structure.

## Board-approved program applications

North Bay Hydro Distribution Limited did not apply for any Board-Approved CDM Programs during 2013; 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.

In 2013, North Bay Hydro Distribution Limited has achieved 1.5MW of net incremental peak demand savings and 23.5 GWh of net incremental energy savings. A summary of the achievements towards the CDM targets is shown below:

**Table 1: Results**

**OPA-Contracted Province-Wide CDM Programs Final Verified 2013 Results**

**LDC:** North Bay Hydro Distribution Limited

| FINAL 2013 Progress to Targets | 2013 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) | 1.5 | 1.5 | 29.6% | 50.1% |
| Net Energy Savings (GWh) | 3.0 | 23.4 | 89.8% | 89.8% |

Scenario 1 = Assumes that demand response resources have a persistence of 1 year

Scenario 2 = Assumes that demand response resources remain in the LDC service territory until 2014

**Table 2: Results by Sector**

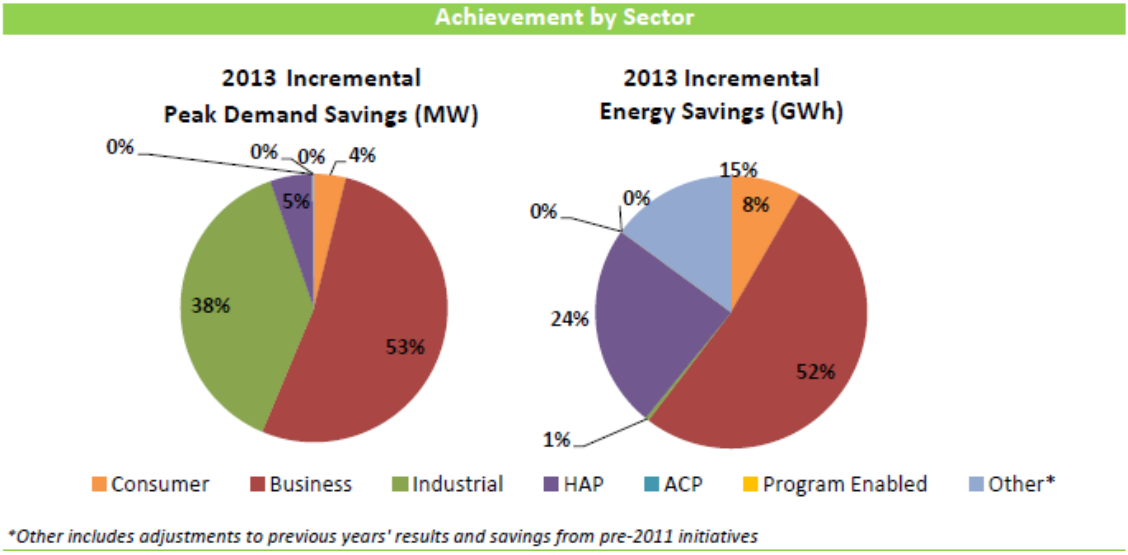


**Table 3: NBHDL Results Compared to other LDCs**

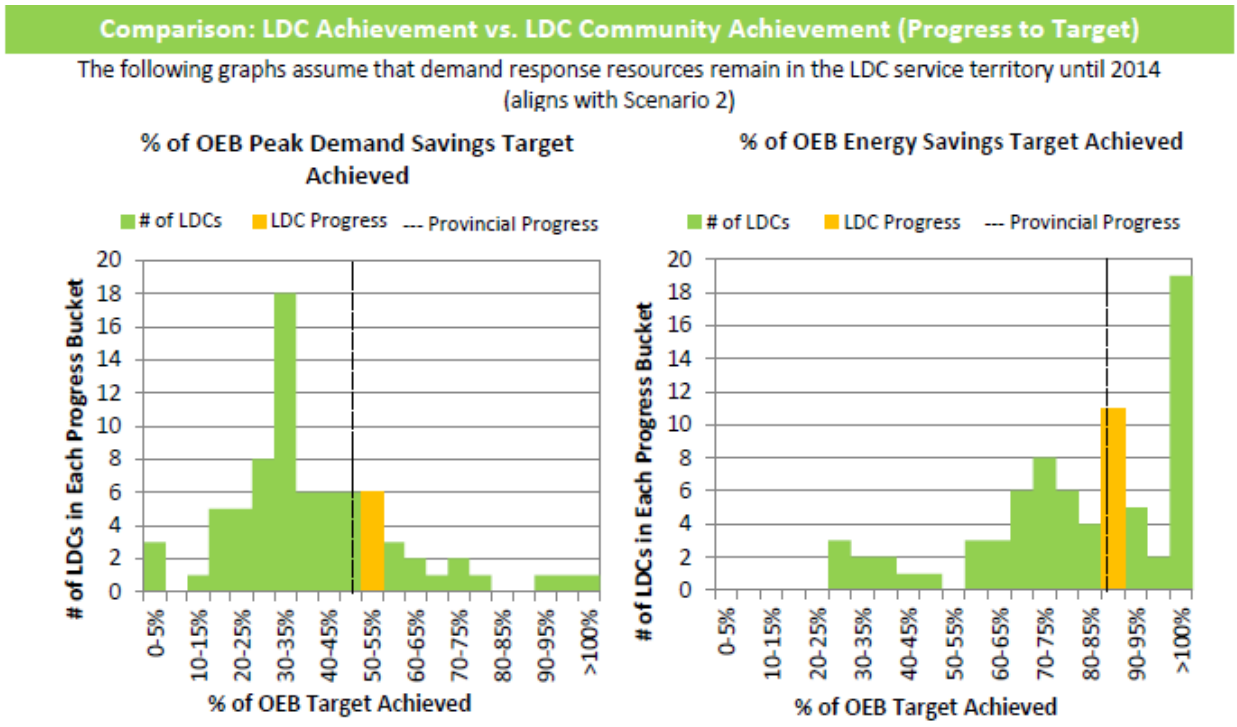


Table 3 demonstrates NBHDL's results towards its mandate and compares its progress with other provincial LDCs. As noted, NBHDL is well on track to meet its energy conservation mandate and is performing better on average than other provincial LDCs. NBHDL forecast that there will be a shortfall of approximately 1.2 MW versus NBHDL's 2014 peak demand reduction target. The target development process was somewhat arbitrary and after 3 years of aggressive conservation efforts, NBHDL is having difficulty in achieving CDM targets. NBHDL expects to over

achieve the electricity energy savings 2014 target. Given the expected shortfall in demand, NBHDL continues to work actively on participant engagement. Progress has been hampered by delays in obtaining decisions on program eligibility and limiting programs that are specifically targeted to reduce demand.

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. Personalized customer interaction along with a higher public presence in the community has allowed NBHDL to address common questions about the industry which has helped build better relations. NBHDL will continue to make programs available to all of its customers and share knowledge of energy efficiency technologies and best practices seen across the province in order to help customer save cost and more importantly to help protect the environment.

# 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 to require North Bay Hydro Distribution Limited, as a condition of its license, to achieve 26.1 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 third 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, 2013 to December 31, 2013.

North Bay Hydro Distribution Limited submitted its 2011 Annual Report on September 30, 2012 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.

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

LDCs collectively achieved approximately 8% of the energy savings (GWh) target, which is slightly below the 10% incremental annual savings needed each year to achieve the energy savings target. Overall the cumulative results represent approximately 65% of the net energy target of 6,000 GWh.

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

# 1 Board-Approved CDM Program

## 1.1 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 license, 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.

## 1.2 TOU Pricing

### 1.2.1 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.

The OPA had retained The Brattle Group as the evaluation contractor and has been working with an expert panel convened to provide ongoing advice on methodology, data collection, models, savings allocation, etc. The initial evaluations were conducted in 2013 with five LDCs – Hydro One, THESL, Ottawa Hydro, Thunder Bay and Newmarket. Preliminary results from these five LDCs were issued to the five LDCs involved in the study in August 2013 and are now publically available on the OPA website. Preliminary results demonstrated load shifting behaviors from the residential customer class.

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

As of September 30, 2014, the OPA has not released any verified results of TOU savings to North Bay Hydro Distribution Limited. Therefore North Bay Hydro Distribution Limited is not able to provide any verified savings related to LDC's TOU program at this time.

### 1.2.2 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) | |
|---|---|---|---|
| Effective Date | On Peak | Mid Peak | Off Peak |
| November 1, 2010 | 9.9 | 8.1 | 5.1 |
| May 1, 2011 | 10.7 | 8.9 | 5.9 |
| November 1, 2011 | 10.8 | 9.2 | 6.2 |
| May 1, 2012 | 11.7 | 10.0 | 6.5 |
| November 1, 2012 | 11.8 | 9.9 | 6.3 |
| May 1, 2013 | 12.4 | 10.4 | 6.7 |
| November 1, 2013 | 12.9 | 10.9 | 7.2 |
| May 1, 2014 | 13.5 | 11.2 | 7.5 |

**Delivery:** The OEB set the rates; LDCs install and maintain the smart meters and 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, 2013, 20,824 RPP customers were on TOU billing.

## 1.3 North Bay Hydro Distribution Limited's Application with the OEB

North Bay Hydro Distribution Limited did not submit a CDM program application to the OEB in 2013.

In 2012, NBHDL was encouraged to see PowerStream receive Board Approval for a Direct Install Refrigeration program that is designed to target small businesses and convenience store owners. The program offers a free energy audit and the installation of an energy efficient motor on old refrigerators. NBHDL has been following the success of this program and may decide to offer the program in its service territory. NBHDL does not plan on

applying for any custom Board Approved programs and instead may develop a program under OPA's conservation fund initiative.

## 1.4 North Bay Hydro Distribution Limited's Application with the OPA's Conservation Fund

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

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

North Bay Hydro Distribution Limited did not submit a CDM program application to the OPA's Conservation Fund in 2013.

# 2 OPA-Contracted Province-Wide CDM Programs

North Bay Hydro Distribution Limited is currently offering all OPA-Contracted Province-Wide CDM programs. NBHDL actively promotes conservation programs to all of its customers in order to help them manage their energy profile and reduce costs. The current suite of saveONenergy programs offered have had a consistent participation rate in 2012 and 2013; however more programs and incentives for winter peaking customers will help drive additional projects that will result in sustainable savings. NBHDL will continue to work with all its customers by offering technical support, professional advice and administration services at no cost, and more importantly easy access to province wide programs.

## 2.1 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 | North Bay Hydro Distribution Limited CDM Program in Market Date |
|---|---|---|---|
| **Residential Programs** | | | |
| 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 residential rate classes* |
| New Construction Program | Schedule B-2 | *Jan 26, 2011* | *All residential rate classes* |
| Home Assistance Program | Schedule E-1 | *May 9, 2011* | *All residential rate classes* |
| **Commercial & Institutional Programs** | | | |
| Efficiency: Equipment Replacement | Schedule C-2 | *Jan 26, 2011* | *All general service classes* |
| Direct Install Lighting<br>• *General Service <50 kW* | Schedule C-3 | *Jan 26, 2011* | *General service < 50kW* |
| 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<br>• *General Service <50 kW* | Schedule B-3 | *Jan 26, 2011* | *All general service classes* |
| **Industrial Programs -** General Service 50 kW & above | | | |
| Process & System Upgrades | Schedule D-1 | *May 31, 2011* | *All general service classes* |
| Monitoring & Targeting | Schedule D-2 | *May 31, 2011* | *All general service classes* |
| Energy Manager | Schedule D-3 | *May 31, 2011* | *All general service classes* |
| Key Account Manager ("KAM") | Schedule D-4 | *May 31,2011* | *All general service classes* |
| Efficiency Equipment Replacement Incentive<br>• (part of the C&I program schedule) | Schedule C-2 | *May 31, 2011* | *All general service classes* |
| Demand Response 3 | Schedule D-6 | *May 31, 2011* | *General Service 50kW and above* |

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

- Electricity Retrofit Incentive Program

As per the table below, several program initiatives are no longer available to customer or have not been launched in 2013.

| Not in Market | Objective | Status |
|---|---|---|
| **Residential Program** | | |
| Midstream Electronics | Encourages retailers to promote and sell high efficency televisions, and for distributors to distribute high efficiency set top boxes. | Did not launch and removed from Schedule in Q2, 2013. |
| Midstream Pool Equipment | Encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools. | Did not launch and removed from Schedule in Q2, 2013. |
| Home Energy Audit Tool | This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs. | Did not launch and removed from Schedule in Q2, 2013. |
| **Commercial & Institutional Program** | | |
| Direct Service Space Cooling | Offers free servicing of air conditioning systems and refrigeration units for the purpose of achieving energy savings and demand reduction. | Did not launch 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.

## 2.2 Program Descriptions

Full OPA-Contracted Province-Wide CDM Program descriptions are available on the OPA's website at http://www.powerauthority.on.ca/ldc-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.

### 2.2.1 RESIDENTIAL PROGRAM

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

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

**Discussion:**

North Bay Hydro Distribution Limited promoted all available consumer and residential programs offered under the saveONenergy initiative in 2013. The Bi-Annual Coupon and the peaksaverPLUS in particular resulted in immense amount of customer interest throughout 2013. NBHDL did not launch its peaksaver program in 2013 due to technical issues with the metering vendor; however majority of the ground work had been completed in order to offer this program in 2014. The technical issues were primarily due to constant delays with upgrading the network's software package and ensuring all possible business interruption risks was mitigated. The solution offered by NBHDL will provide homeowners with the ability to have two-way communication with their load control devices through a consumer portal and a phone application. This will enable the customer to control their devices remotely and manage their electricity usage.

The addition of LED measures to the Bi-Annual Retailer Event and in the Annual Coupon initiative in July 2013 has had a positive impact on customer participation. There was the added benefit of three LDC custom coded coupon options for LDCs to utilize in 2013. The Residential Demand Response program continues to be the largest contributor to demand savings in the Residential Program and has been generally well received by consumers. Unfortunately, there were no savings associated with the Energy Display attributed to LDCs in the OPA's 2012 verified results. LDCs are anxiously waiting to see what results will be attributed in the 2013 verified results.

The Residential Program Portfolio is predominately a carryover of Initiatives from previous programs. It is mostly driven by retailers and contractors who may not have fully delivered what was anticipated. Three new initiatives (Midstream Electronics, Midstream Pool Equipment and Home Energy Audit Tool) were not launched and subsequently removed from the schedule in 2013 with no new additions. Delays in communication with regards to Initiative offerings and results reporting have hampered LDCs abilities to engage customers and promote participation.

Province-wide advertising was re-introduced in Q3 2013. This provided limited value due to the late market entry, especially for *peaksaver*PLUS.

Work to revitalize and increase the effectiveness and breadth of the Initiatives through the Residential Program continue to be a high priority. Opportunities within the Residential marketplace need to be identified, developed and offered to customers. The Version 5 Schedule changes implemented in Q1/Q2 2014 have increased the number of LDC coded coupons available and added new installations to the Heating and Cooling Incentive.

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

**Initiative Activities/Progress:**

The Appliance Retirement Initiative has been offered by NBHDL since 2007. The program continues to see a decline in participation resulting from market saturation. In 2013, 105 appliances were retired from NBHDL's service territory; a decline of 17% from 2012. The declining trend is consistent province wide.

NBHDL will continue to promote this conservation initiative along with all consumer programs through public events information sessions, and outreach marketing campaigns.

**Additional Comments:**

- Due to the duration of the program, and the revised eligibility requirements to a minimum of 20 years old, this Initiative appears to have reached market saturation and has been under consideration for removal from the Portfolio.

- 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 participation is very responsive to province wide advertising, OPA province-wide advertising should continue to play a key role if the initiative continues.

- Better relationships with retailers may play a role in increasing participation in this Initiative. Retailers can provide opportunities to capture replacement appliances and have them decommissioned after a sale has been committed.

- In an effort to capture additional savings in the perceived last year of the Initiative, the eligibility requirement for refrigerators was revised from 20 years old to 15 years old in Q2 2014.

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

**Initiative Activities/Progress:**

The Appliance Exchange Initiative is designed to remove and decommission older, inefficient, window air conditioners and portable dehumidifiers. NBHDL actively promotes all consumer programs; however this initiative was not specifically promoted in its service territory.

**Additional Comments:**

- The design of the Initiatives, including eligible measures and incentives amounts are developed through the Residential Working Group. Retail Partner(s) are contracted by the OPA to deliver the initiatives province-wide. Individual LDCs have the opportunity to stage in-store events to drive the distribution of LDC coded Coupons and promotion of other programs in the portfolio

- 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.

- In 2012 there was a decrease in the number of window air conditioners being received through the program. A review of eligible measures in the Appliance Exchange program was conducted, and as these units are not cost effective on their own it was determined that they be removed from the program in order to improve the overall cost effectiveness of the Initiative

- Notification to LDCs regarding retailer participation and eligible measures continues to be delayed. Improved communications will aid in appropriate resource allocation and marketing of the Initiative.

- This Initiative may benefit from the disengagement of the retailer and allowing LDCs to conduct these events, possibly as part of a larger community engagement effort, with the backing of ARCA for appliance removal.

- The initiative appears to require more promotion from retailers and LDCs.

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

**Initiative Activities/Progress:**

The HVAC incentives initiative is designed to encourage replacement of inefficient heating and cooling systems within residential settings through participating local contractors. In 2013, NBHDL saw 154 projects completed with an overall reduction of 15% from 2012. NBHDL will continue to promote this initiative to contractors and customers. NBHDL will also continue to work with the OPA to ensure incentive levels are at a point that warrant investment in energy efficiency furnaces and HVAC equipment.

**Additional Comments:**

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

- This Initiative is contractor driven with LDCs responsible for marketing efforts to customers. More engagement with the HVAC contractor channel should be undertaken to drive a higher proportion of furnace and CAC sales to eligible units.

- In an effort to build capability, mandatory training has been instituted for all participating HVAC contractors. This could present too much of a barrier for participation for some contractors as the application process already presents a restriction to contractor sales. It has been noted that there are approximately 4500-5000 HVAC contractors in the Province, however in 2013, only a total of 1,587 contractors completed the mandatory HVAC training and can participate in the program.

- There are cases where non-participating contractors are offering their own incentives (by discounting their installations to match value of the OPA incentive). As this occurs outside of the Initiative, savings are not credited to LDCs. OPA should consider this in future program impact evaluation studies.

- Changes to the Schedule in 2014 to allow for incentives for new installations, rather than strictly replacement units, may provide greater Initiative results.

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

**Initiative Activities/Progress:**

The Conservation Instant Coupon Initiative is designed to encourage residential customers to purchase energy efficiency products by offering of discount coupons. The Instant Coupon event takes place throughout the year and coupons can be redeemed through participating retailers. North Bay Hydro Distribution Limited saw a substantial increase in participation, with 1850 coupons distributed in 2013 versus 165 in 2012.

**Additional Comments:**

- The timeframe for retailer submission of redeemed coupons varies depending on the 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.

- Coupon booklets were not printed and mailed out in 2013 so were not widely available to consumers without the ability to download and print online coupons. In addition, consumers may not have been aware of the online coupons. The Initiative may benefit from province-wide marketing as a substitute to a mail out campaign.

- 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.

- In 2013, LDCs were provided with 3 custom coded coupons. All coupons have been provided with LDC custom coding in 2014 which allows LDCs to promote coupons based on local preferences.

- Consumer experience varies amongst retailers offering Coupon discounts which can limit redemptions. For example, a particular high volume 'participating retailer' does not accept coupons and have their own procedure. In addition, some retailers have static lists of eligible products and will not discount eligible products unless the product on the list.

- The saveONenergy programs would benefit from specific end cap displays, aisle product stands and product-specific areas. Having product's throughout a retail environment weakens the impact.

#### *2.2.1.5 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. The program saw a consistent participation rate in 2013 versus 2012. Savings resulting from the initiative reduced per unit and this trend was persistent throughout the province.

**Additional Comments:**

- This Initiative is strongly influenced by the retail participants and has no direct involvement from the LDCs.

- LDCs have the opportunity to stage in-store events to drive the distribution of LDC coded Coupons and promotion of other programs in the portfolio however this requires cooperation from the local retailer and LDC staff bandwidth.

- Limited engagement of local retailers can restrict the savings potential for this Initiative.

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

- 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 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.

- This Initiative may benefit from a more exclusive relationship with a retailer appropriate to the program. There should be a value proposition for both the retailer and LDC.

- Independently the Retailer Co-op and Bi-Annual Retailer Event Initiative may not present a value for the investment of LDC resources to support these events and should be backed by a strong Residential portfolio.

### *2.2.1.6 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. NBHDL 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.

### *2.2.1.7 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. NBHDL did not have any participation in this program in 2013 due to limited new construction projects in its service territory and the difficulty 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.

- In 2012 the application process was streamlined, however continues to be too cumbersome for builders. This combined with limited return has resulted in this Initiative to continue to under-achieve.

- Administrative requirements, in particular individual home modeling, must align with perceived stakeholder payback

- Performance applications are expected to increase in 2014 due to some industry players interest in the Initiative. However, it is anticipated that the performance track will be the primary track used in applications, which provides low savings for the incentive provided. Savings and associated incentives may need to be revised to an appropriate level.

- The addition of LED light fixtures, application process improvement and moving the incentive from the builder to the home-owner may increase participation.

- This Initiative may benefit from collaboration with the Natural Gas utilities.

### *2.2.1.8 Residential Demand Response Program (Schedule B-3)*

**Initiative Activities/Progress:**

The Residential Demand Response Program is designed to reduce provincial peak demand during hot summer days when the electrical grid is facing constraints. This initiative allows aggregators to dispatch a demand response event which automatically shuts of electric hot water heaters, central air conditioners, and pool pumps in a participating residential home. In return, customers receive a free in-home monitoring device that helps them manage their electricity profile.

NBHDL has been working closely with all necessary stakeholders in order to select the most suitable solution for its customers. In order to successfully achieve full system wide integration, NBHDL has had a challenging task of ensuring in-home monitoring devices are fully communicating with revenue meters which are successfully transmitting data back to head-end systems through NBHDL's metering infrastructure. NBHDL and its third parties were fully prepared to deploy the program in early 2013; however constant delays resulting from the metering vendor pushed the timing beyond 2013.

NBHDL is determined to launch this program and aims to offer the best solution for its customers. NBHDL will continue to market this program and promote it to its customers throughout the remainder of 2014.

**Additional Comments:**

- In Home Energy Display units that communicate with installed smart meter technology continue to mostly be in the development phase and are not ready for market deployment. There continues to be a lack of Energy Display selection in the marketplace.

- Smart Meters installed by most LDCs do not have the capability to communicate directly to an In Home Display and any mass replacement of newly installed meters with communicating abilities would not be fiscally responsible. 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.

- Given the different LDC environments, and needs, each LDC is positioning the Initiative slightly differently. While a Thermostat has high marketability, it also carries a higher maintenance liability due to no-heat and no-AC calls. A switch with an independent IHD is seen as a lower liability option but also has a much lower marketability.

- This is the main Initiative within the Residential portfolio that was to drive savings for LDC, however the 2012 evaluation indicated savings realized from the IHD were not statistically significant. LDCs were advised that the evaluation of the IHDs would continue with 2013 data.

- Verified demand savings in 2012 from the load control devices were less than originally anticipated. This prompted an increase to the load cycling strategy in 2013 in order to increase savings closer to the original business case.

### 2.2.2 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 to 2013 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. 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. 2013 saw the benefits of expedited change management process.

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.

#### *2.2.2.1 Efficiency: Equipment Replacement Incentive (ERII) (Schedule C-2)*

**Initiative Activities/Progress:**

The Equipment Replacement Incentive Initiative (ERII) is designed to offer non-residential customers with incentives to help off-set the cost of purchasing energy efficient equipment. Projects under this program vary anywhere from upgrading lighting systems, HVAC systems, compressed air optimization, controls, insulation, and process improvements. The program has been successful in NBHDL's service territory and further participation can be realized if greater incentives were provided.

In 2013, NBHDL is pleased with its efforts as majority of the projects completed were non-lighting. These projects demonstrate that customers are starting to get a better understanding of available programs and are willing to tackle more complex projects. NBHDL is pleased to see that the OPA has continued improving its response time for processing applications and answering questions where program rules and eligibility requirements are not clear.

**Additional Comments:**

- A large proportion of LDC savings are attributed to ERII.
- Capability building programs from Industrial programs have had very positive contributions to ERII program.
- This Initiative is limited by the state of the economy and the ability of commercial/institutional facility to complete capital upgrades.
- Applicants and Applicant Representatives continue to express dissatisfaction and difficulty with the online application system. This issue has been addressed by LDCs through application training workshops, Key Account Managers, channel partner/contractor training and LDC staff acting as customer Application Representatives. Although this has been an effective method of overcoming these issues and encouraging submissions, it also reflects on the complexity and time consuming nature of the application process. As such, Applicant Representatives continue to influence the majority of applications submitted. Continued development of Channel Partners is essential to program success.
- Prescriptive and Engineered worksheets provide a much needed simplified application process for customers. However, the eligible measures need to be updated and expanded in both technology and incentive amounts to address changing product costs and evolution of the marketplace.

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

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

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

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

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

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

#### *2.2.2.2 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 $1000 and eligible owners and tenants of commercial and industrial businesses with a demand less than 50kw. NBHDL is pleased with the results achieved in 2013 and despite signs of market saturation; NBHDL completed a total 149 projects from 2012.

NBHDL actively promotes the Direct Install Initiative to all of its less than 50kW customers. A dedicated third party is assigned to conduct door-to-door visits.

**Additional Comments:**

- LED lighting was introduced in 2013 as a new measure and has been well received by customers who may not have previously qualified for DIL eligible upgrades. This is an efficient product with a long estimate useful life.

- Cold start high output lighting was removed from the program. This particularly affected the farming customers who now have limited options within the program to utilize.

- The inclusion of a standard incentive for additional measures increased project size and drove higher energy and demand savings results in some situations. However, LDCs are unable to offer these standard incentives to prior participants. The ability to return to prior participants and offer a standard incentive on the remaining upgrades has potential to provide additional energy and demand savings

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

- Electrical contractor's margins have been reduced due to no labour rate increase, increase cost of materials, greater distances between retrofit and more door knocking required before a successful sale. This has led to a reduction in vendor channel participation in some regions.

- Measure incentives and additional funding for fork lifts were introduced in September 2013 and were well received by installers. However, adjustments like these require longer lead times. As such, many customers were not able to benefit from this change in late 2013. Consideration should be given to providing advanced notification to LDCs and contractors of the upcoming changes to allow for planning.

#### *2.2.2.3 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. NBHDL actively promoted and attempted to seek projects under this initiative, however results indicated that there only 10 large chiller systems in NBHDL's service territory and possibly one of them qualifies for incentives under this initiative. NBHDL will continue to work with this client and offer this program.

**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 significant for many channel partners to participate.

- The customer expectation is that the program be expanded to include a broader range of measures for a more holistic approach to building recommissioning and chilled water systems used for other purposes should be made eligible and considered through Change Management.

- This initiative should be reviewed for incentive alignment with ERII, as currently a participant will not receive an incentive if the overall payback is less than 2 years.

#### *2.2.2.4 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. NBHDL 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**

- With the Ministerial Directive issued December 21, 2012, facilities with a completion date near the end of 2014 currently have some security that they will be compensated for choosing efficient measures. However, buildings that are in the planning phase with completion dates post-2015 may not participate due to funding uncertaintly.

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

- The custom application process requires considerable customer support and skilled LDC staff. The effort required to participate through the custom stream exceeds the value of the incentive for many customers.

- There are no custom measure options for items that do not qualify under the prescriptive or engineered track as the custom path does not allow for individual measures, only whole building modelling.

- This Initiative has a very low net-to-gross ratio, which results in half the proposed target savings being 'lost'.

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

### *2.2.2.5 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. 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.

The introduction of the new audit component for one system (i.e. compressed air), has increased customer participation.

- The energy audit Initiative is considered an 'enabling' Initiative and 'feeds into' other saveONenergy Initiatives.

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

- 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.

- Participation has been limited to one energy audit per customer which has restricted enabling and direction to the other Initiatives. This has been revised in 2014 and LDCs are now able to consider additional customer participation when presented with a new scope of work.

- Consideration should be given to allowing a building owner to undertake an audit limited to their lighting system. This way they may receive valuable information from neutral third party regarding the appropriate lighting solution for their facility instead of what a local supplier wants to sell.

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

### 2.2.3 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 wells as provide a substantial boost to energy productivity. This allows facilities to take control of their energy so they can create long-term competitive energy advantages which reach across the organization.

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

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

**Discussion:**

The Industrial Program Portfolio has been able to provide significant incentives and valuable resources to large facilities to help them with energy efficiency upgrades and process system improvements. The Engineering Studies in particular as well as the Monitoring and Targeting initiative provide a unique opportunity for a customer to complete a comprehensive analysis of an energy intensive process that they otherwise may not undertake. The Energy Manager Initiative provides customers with a skilled individual whose only role is to assist them with conservation initiatives. To date these Energy Managers have played a key role in customer participation.

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

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

Extensive legal documents, complex program structure and lengthy change management have restricted the change and growth of this Portfolio. While the expedited change management has benefited the Commercial Portfolio, the Industrial Portfolio has not seen the same results due to the narrow scope of the process. For 2013 the change to the threshold for small capital projects and the new small capital project agreement are expected to improve the number of projects and savings achieved within PSUI. Likewise, a decision to proceed with 2012 natural gas load displacement generation projects applications will also increase uptake although the limited time to bring new projects into service is a barrier.

#### *2.2.3.1 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. NBHDL completed three feasibility studies in 2013 out of which one of them has now moved to the capital incentive phase. The project involved the installation of a load displacement cogeneration system will not be completed in 2014 as decision on approval and eligibility were not finalized until late 2013.

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. NBHDL actively promotes all industrial programs; however this program was not specifically promoted.

**Additional Comments:**

- Numerous energy studies have been submitted and completed. 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 2013. The majority of the results are expected in 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 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. This small capital project agreement was finalized in August 2013.

- 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.

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

#### *2.2.3.2 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 provide 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 2011/2012 and finalized installation in 2013. The pilot initiative has proven to be extremely successful and results have been measureable and quantifiable. 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.

- Changes were made to ERII in 2013 to allow smaller facilities to employ M&T systems.

### *2.2.3.3 Energy Manager Initiative (Schedule D-3)*

**Initiative Activities/Progress:**

The Energy Manager Initiative is designed to provide customers of NBHDL with the opportunity to receive technical expertise of an energy management expert. NBHDL hired two Roving Energy Managers in early 2013 and provided services to over 10 large industrial/commercial customers. The program has been well received and many complex projects have been identified which are scheduled to be completed in 2014.

**Additional Comments:**

- The Energy Managers have proven to be a popular and useful resource for larger customers.
- LDCs that are too small to qualify for their own REM are teaming up with other utilities to hire an REM to be shared by the group of utilities.
- Some LDCs and Customers are reporting difficulties in hiring capable Roving and Embedded Energy Managers (REM/EEM), in some instances taking up to 7 months to have a resource in place.
- 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 in 2012 but few projects were implemented until 2013.

### *2.2.3.4 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 discourages some skilled applicants resulting in longer lead times to acquire the right resource.

### *2.2.3.5 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 facilities and also another 700kw with a large industrial customer in 2013.

NBHDL is concerned about OPA's approach on the demand response program in 2014 and beyond as closing the application process will seriously impede NBHDL's plans to achieve demand reduction objectives.
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 2013 however, it was accepted that prior participants who renew their DR3 contract within the 2011-2014 term will contribute to LDC targets.

- As of 2013, Aggregators were able to enter into contracts beyond 2014 which 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.

## 2.2.4 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 762 participants in NBHDL's service territory and numerous program measures were installed. These measures include CFL bulbs, Smart Power Bars, and Programmable Thermostats, Low Flow Showerheads, Sink Aerator, Hot Water Tank Pipe Insulation, Energy Star Fridge/Freezer Replacement,

Attic, Wall, and Basement Insulation. NBHDL will continue to encourage qualifying customers to take part in this program as it is a great way for them to reduce costs and make their homes more comfortable and efficient.

**Additional Comments:**

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

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

### 2.2.5 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

# 3 2013 LDC CDM Results

## 3.1 Participation and Savings

### Table 1: NBHDL Initiative and Program Level Savings by Year

Table 1: North Bay Hydro Distribution Limited Initiative and Program Level Net 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) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | 2014 Net Annual Peak Demand Savings (kW) | 2011-2014 Net Cumulative Energy Savings (kWh) |
| | | 2011* | 2012* | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2014 | 2014 |
| **Consumer Program** | | | | | | | | | | | | | | | |
| Appliance Retirement | Appliances | 252 | 127 | 105 | | 16 | 7 | 7 | | 106,705 | 50,114 | 44,140 | | 29 | 664,734 |
| Appliance Exchange | Appliances | 21 | 3 | 17 | | 3 | 0 | 4 | | 4,047 | 782 | 6,280 | | 6 | 30,529 |
| HVAC Incentives | Equipment | 148 | 180 | 154 | | 67 | 47 | 37 | | 133,752 | 90,414 | 70,397 | | 151 | 947,042 |
| Conservation Instant Coupon Booklet | Items | 3,490 | 165 | 1,850 | | 8 | 1 | 3 | | 132,210 | 7,456 | 41,103 | | 12 | 633,416 |
| Bi-Annual Retailer Event | Items | 5,078 | 5,658 | 5,038 | | 9 | 8 | 6 | | 156,717 | 142,821 | 91,616 | | 23 | 1,238,561 |
| Retailer Co-op | Items | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Residential Demand Response | Devices | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Residential Demand Response (IHD) | Devices | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Residential New Construction | Homes | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| **Consumer Program Total** | | | | | | 101 | 64 | 57 | | 533,430 | 291,587 | 253,536 | | 221 | 3,514,282 |
| **Business Program** | | | | | | | | | | | | | | | |
| Retrofit | Projects | 13 | 42 | 31 | | 118 | 285 | 171 | | 559,325 | 1,373,684 | 1,039,032 | | 564 | 8,385,975 |
| Direct Install Lighting | Projects | 212 | 159 | 149 | | 207 | 117 | 145 | | 541,233 | 460,482 | 532,451 | | 429 | 4,486,380 |
| Building Commissioning | Buildings | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| New Construction | Buildings | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Energy Audit | Audits | 2 | 3 | 0 | | 0 | 16 | 0 | | 0 | 75,529 | 0 | | 16 | 226,586 |
| Small Commercial Demand Response | Devices | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Small Commercial Demand Response (IHD) | Devices | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Demand Response 3 | Facilities | 1 | 1 | 1 | | 455 | 456 | 463 | | 17,768 | 6,634 | 6,181 | | 0 | 30,583 |
| **Business Program Total** | | | | | | 780 | 874 | 779 | | 1,118,325 | 1,916,330 | 1,577,663 | | 1,008 | 13,129,525 |
| **Industrial Program** | | | | | | | | | | | | | | | |
| Process & System Upgrades | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Monitoring & Targeting | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Energy Manager | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Retrofit | Projects | 1 | 0 | 0 | | 11 | 0 | 0 | | 70,290 | 0 | 0 | | 11 | 281,159 |
| Demand Response 3 | Facilities | 0 | 0 | 1 | | 0 | 0 | 570 | | 0 | 0 | 12,971 | | 0 | 12,971 |
| **Industrial Program Total** | | | | | | 11 | 0 | 570 | | 70,290 | 0 | 12,971 | | 11 | 294,130 |
| **Home Assistance Program** | | | | | | | | | | | | | | | |
| Home Assistance Program | Homes | 0 | 211 | 551 | | 0 | 1 | 76 | | 0 | 29,252 | 732,159 | | 76 | 1,531,456 |
| **Home Assistance Program Total** | | | | | | 0 | 1 | 76 | | 0 | 29,252 | 732,159 | | 76 | 1,531,456 |
| **Aboriginal Program** | | | | | | | | | | | | | | | |
| Home Assistance Program | Homes | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Direct Install Lighting | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| **Aboriginal Program Total** | | | | | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| **Pre-2011 Programs completed in 2011** | | | | | | | | | | | | | | | |
| Electricity Retrofit Incentive Program | Projects | 18 | 0 | 0 | | 102 | 0 | 0 | | 491,904 | 0 | 0 | | 102 | 1,967,615 |
| High Performance New Construction | Projects | 1 | 0 | 0 | | 27 | 1 | 0 | | 139,326 | 584 | 0 | | 28 | 559,055 |
| Toronto Comprehensive | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Multifamily Energy Efficiency Rebates | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| LDC Custom Programs | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| **Pre-2011 Programs completed in 2011 Total** | | | | | | 129 | 1 | 0 | | 631,229 | 584 | 0 | | 129 | 2,526,669 |
| **Other** | | | | | | | | | | | | | | | |
| Program Enabled Savings | Projects | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| Time-of-Use Savings | Homes | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| **Other Total** | | | | | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 |
| **Adjustments to 2011 Verified Results** | | | | | | | 62 | 0 | | | 281,660 | 0 | | 48 | 1,073,356 |
| **Adjustments to 2012 Verified Results** | | | | | | | | 3 | | | | 453,316 | | 3 | 1,359,948 |
| **Energy Efficiency Total** | | | | | | 566 | 483 | 450 | | 2,335,507 | 2,231,118 | 2,557,178 | | 1,446 | 20,952,508 |
| **Demand Response Total (Scenario 1)** | | | | | | 455 | 456 | 1,033 | | 17,768 | 6,634 | 19,152 | | 0 | 43,554 |
| **Adjustments to Previous Years' Verified Results Total** | | | | | | 0 | 62 | 3 | | 0 | 281,660 | 453,316 | | 50 | 2,433,303 |
| **OPA-Contracted LDC Portfolio Total (inc. Adjustments)** | | | | | | 1,021 | 1,002 | 1,485 | | 2,353,275 | 2,519,412 | 3,029,646 | | 1,496 | 23,429,366 |
| | | | | | | | | | | | | | **Full OEB Target:** | 5,050 | 26,100,000 |
| | | | | | | | | | | | | | **% of Full OEB Target Achieved to Date (Scenario 1):** | 29.6% | 89.8% |

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

*Includes adjustments after Final Reports were issued

The IHD line item on the 2013 annual report has been left blank pending a results update from evaluations; results will be updated once sufficient information is made available.

Energy Manager, Aboriginal Program and Program Enabled Savings were not independently evaluated

**Table 2: Summarized Program Results**

| Program | Gross Savings | | Net Savings | | Contribution to Targets | |
|---|---|---|---|---|---|---|
| | Incremental Peak Demand Savings (MW) | Incremental Energy Savings (GWh) | Incremental Peak Demand Savings (MW) | Incremental Energy Savings (GWh) | Program-to-Date: Net Annual Peak Demand Savings (MW) in 2014 | Program-to-Date: 2011-2014 Net Cumulative Energy Savings (GWh) |
| Consumer Program Total | 0.11 | 0.38 | 0.06 | 0.25 | 0.22 | 3.51 |
| Business Program Total | 0.87 | 2.13 | 0.78 | 1.58 | 1.01 | 13.13 |
| Industrial Program Total | 0.57 | 0.01 | 0.57 | 0.01 | 0.01 | 0.29 |
| Home Assistance Program Total | 0.08 | 0.73 | 0.08 | 0.73 | 0.08 | 1.53 |
| Pre-2011 Programs completed in 2011 Total | | | 0.00 | 0.00 | 0.13 | 2.53 |
| 2011 Adjustment to Verified Results | | | 0.06 | 0.28 | 0.05 | 1.07 |
| 2012 Adjustment to Verified Results | 0.01 | 0.75 | 0.00 | 0.45 | 0.00 | 1.36 |
| **Total OPA Contracted Province-Wide CDM Programs** | 1.63 | 4.01 | 1.55 | 3.31 | 1.50 | 23.43 |

## 3.2 Evaluation

The following tables show North Bay Hydro Distribution's Net to Gross Ratio for NBHDL's programs in 2013

**Table 3: North Bay Hydro Distribution Limited 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 | 1.00 | n/a | | 0.51 | 0.46 | 0.42 | | 1.00 | 1.00 | n/a | | 0.52 | 0.47 | 0.44 | |
| Appliance Exchange | 1.00 | 1.00 | 1.00 | | 0.52 | 0.52 | 0.53 | | 1.00 | 1.00 | 1.00 | | 0.52 | 0.52 | 0.53 | |
| HVAC Incentives | 1.00 | 1.00 | n/a | | 0.60 | 0.49 | 0.48 | | 1.00 | 1.00 | n/a | | 0.59 | 0.48 | 0.48 | |
| Conservation Instant Coupon Booklet | 1.00 | 1.00 | 1.00 | | 1.14 | 1.00 | 1.11 | | 1.00 | 1.00 | 1.00 | | 1.11 | 1.05 | 1.13 | |
| Bi-Annual Retailer Event | 1.00 | 1.00 | 1.00 | | 1.13 | 0.91 | 1.04 | | 1.00 | 1.00 | 1.00 | | 1.10 | 0.92 | 1.04 | |
| Retailer Co-op | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Residential Demand Response | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Residential Demand Response (IHD) | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Residential New Construction | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| **Business Program** | | | | | | | | | | | | | | | | |
| Retrofit | 0.90 | 0.95 | 0.92 | | 0.72 | 0.76 | 0.70 | | 1.20 | 1.10 | 0.98 | | 0.75 | 0.77 | 0.68 | |
| Direct Install Lighting | 1.08 | 0.68 | 0.82 | | 0.93 | 0.94 | 0.94 | | 0.90 | 0.85 | 0.84 | | 0.93 | 0.94 | 0.94 | |
| Building Commissioning | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| New Construction | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Energy Audit | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Small Commercial Demand Response | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Small Commercial Demand Response (IHD) | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Demand Response 3 | 0.76 | n/a | n/a | | n/a | n/a | n/a | | 1.00 | n/a | n/a | | n/a | n/a | n/a | |
| **Industrial Program** | | | | | | | | | | | | | | | | |
| Process & System Upgrades | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Monitoring & Targeting | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Energy Manager | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Retrofit | | | | | | | | | | | | | | | | |
| Demand Response 3 | 0.84 | n/a | n/a | | n/a | n/a | n/a | | 1.00 | n/a | n/a | | n/a | n/a | n/a | |
| **Home Assistance Program** | | | | | | | | | | | | | | | | |
| Home Assistance Program | n/a | 1.20 | 0.04 | | n/a | 1.00 | 1.00 | | n/a | 1.37 | 0.84 | | n/a | 1.00 | 1.00 | |
| **Aboriginal Program** | | | | | | | | | | | | | | | | |
| Home Assistance Program | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Direct Install Lighting | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| **Pre-2011 Programs completed in 2011** | | | | | | | | | | | | | | | | |
| Electricity Retrofit Incentive Program | 0.77 | n/a | n/a | | 0.52 | n/a | n/a | | 0.78 | n/a | n/a | | 0.52 | n/a | n/a | |
| High Performance New Construction | 1.00 | 1.00 | 1.00 | | 0.50 | 0.50 | 0.50 | | 1.00 | 1.00 | 1.00 | | 0.50 | 0.50 | 0.50 | |
| Toronto Comprehensive | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Multifamily Energy Efficiency Rebates | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| LDC Custom Programs | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| **Other** | | | | | | | | | | | | | | | | |
| Program Enabled Savings | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |
| Time-of-Use Savings | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | | n/a | n/a | n/a | |

Energy Manager, Aboriginal Program and Program Enabled Savings were not independently evaluated

The following is a summary of evaluation findings provided by the OPA on Aug 30, 2014:

| CONSUMER PROGRAM |
|---|

| Appliance Retirement Initiative |
|---|
| • Per unit savings increased for both energy (+15.4%) and demand (+4.0%) between 2012 and 2013 due to a greater proportion of refrigerators/freezers with large volumes and a manufacturer date before National Appliance Energy Conservation Act (NAECA) was implemented. Dehumidifiers also show a higher per unit savings related to the change in ENERGY STAR definitions.<br>• Overall participation continues to decline with 20,952 appliances recycled in 2013, compared with 34,146 in 2012 and 56,110 in 2011. The program has experienced close to a 40% reduction (39.1% 2011 to 2012, 41.1% 2012 to 2013) in recycled appliances in each subsequent year of operation.<br>• Net to gross ratio stayed constant at around 43% between 2012 and 2013 |

| Appliance Exchange Initiative |
|---|
| • Increased per unit energy and demand savings due to an adjustment to the assumed consumption of "conventional" and Energy Star dehumidifiers. The calculated weighted average annual energy savings of a exchanged dehumidifier increased 36.6%<br>• Of the participants surveyed who reported they had replaced the dehumidifiers they exchanged, 100% reported purchasing ENERGY STAR® models.<br>• 21% increase in the number of eligible dehumidifiers collected in the program. In 2013, 5,337 dehumidifier units were collected compared to 3,617 dehumidifier units and 219 window air conditioners.<br>• Net to Gross ratio (NTG) was 52.6% which is a slight increase of the 2012 NTG of 51.5% |

| Heating and Cooling Initiative |
|---|
| • Total participation (equipment) increased 7.5% from 2012 to 91,581.<br>• Per unit furnace savings decreased from 1139 kWh/yr in 2012 to 1090 kWh/yr due to a slight shift in the number of participants who use their furnace fan non-continuously both before and after the retrofit as opposed to changing from continuous to non-continuous operation<br>• Per unit energy and demand savings assumptions for central air conditioners did not change from 2012. |

| Annual Coupons |
| --- |
| • Customers redeemed more than ten times as many annual coupons in 2013 as in 2012 because of new LED coupons and full year availability of all coupons. Customers redeemed 13% more annual coupons in 2013 than in 2011, the first full year of annual coupons due to the high volume of new LED coupons.<br>• There was a significant reduction in savings specialty CFL related measures. In 2013, the findings showed around 30% of participants are replacing incandescent bulbs compared to 60% of participants replacing incandescent bulbs in 2012.<br>• Despite the significant per unit savings reductions, the Net Annual Savings from Annual Coupons in 2013 was more than 5.5 times that in 2012. This is primarily because of higher participation due to the inclusion of LED coupons and full year availability of all coupons.<br>• 93% of coupons redeemed in 2013 were for general purpose LEDS and specialty CFLs and LEDs, producing 89% of net annual energy savings and 84% of net demand savings.<br>• Measure NTG ratio was approximately 8% higher in 2013 than in 2012 due to the inclusion of participant like spillover, i.e., purchase of additional coupon initiative measures without using coupons because of program influence. |

| Bi-Annual Coupon Events |
| --- |
| • 19% increase in the number of coupons redeemed during the Spring and Fall Events in 2013 compared to 2012 because of substantial increase in LED purchases with event coupons.<br>• 36% lower net annual savings in 2013 compared to 2012 primarily because of significant reductions in per unit savings estimates for standard and specialty CFLs. In 2013, findings showed a decrease in replacement rate of incandescent bulbs. Only 30% of 2013 participants are estimated to have replaced incandescent bulbs compared to 60% of participants replacing incandescent bulbs in 2012. This leads to a change in the baseline assumption for the savings calculations.<br>• 87% of coupons redeemed were for general purpose and specialty CFLs and LEDs, producing 80% of net annual energy savings and 73% of net demand savings<br>• Measure NTG ratio was approximately 8% higher in 2013 than in 2012 due to the inclusion of participant like spillover, i.e., purchase of additional coupon initiative measures without using coupons because of program influence. |

| ***peaksaver*PLUS** |
| --- |
| • The cycling strategy for CAC load control was changed from 50% simple cycling to 60% simple cycling.<br>• Under 1-in-10 year weather conditions, the 2013 estimated impacts for load control devices are higher than the 2012 estimates in all months and are between 10 and 15% higher during the core summer months of June through August.<br>• Load impact estimates for the average small and medium business and for electric water heaters among residential customers are also unchanged from the prior year's analysis<br>• This year's IHD analysis has yielded an estimate of no statistically significant energy savings. |

| Residential New Construction |
|---|
| • Energy and demand savings for the Initiative increased by 300% compared to the combined 2011 and 2012 results ; number of projects also increased from 45 in 2011 and 2012 to 86 in 2013.<br>• All projects are opting for the prescriptive or performance path. No custom project applications were received in 2013, similar to 2011-2012 .<br>• Net-to-gross ratio for the initiative was higher by 14% from 49% in 2012 to 63% in 2013. |

## HOME ASSISTANCE PROGRAM

| Home Assistance Program |
|---|
| • Participation increased significantly to 26,756 participants in 2013 from 5,033 in 2012<br>• Realization rates were slightly lower in 2013 (0.88 for kWh and 0.26 for kW) than in 2012 (0.98 for kWh and 0.32 for kW) primarily due to updated verified per unit assumptions .<br>• Realization rate for demand savings remained low as FAST Tool calculated kW savings for certain insulation measures remained very high and recommended revisions to kW savings factors were not yet in use in 2013 (changes to the FAST Tool to address these issues were made in early 2014) |

## BUSINESS PROGRAM

| Retrofit |
|---|
| • A total of 8,785 projects completed in 2013. Reported energy savings for individual projects ranged from 1 kWh to over 5,000,000 kWh<br>• Net to Gross ratio (NTG) for energy was 72.8%, consistent with prior years<br>• NTG for demand was 72.0%, consistent with prior years<br>• NTG ratios are comparable to similar programs across North America |

| Small Business Lighting |
|---|
| • In 2013 the initiative introduced: a) an increase in the incentive to $1500 from $1000, b) new LED measures c) Agribusiness eligibility, resulting in the stabilization of participation and an increase in savings.<br>• 17,782 projects completed in 2013 (3.8% decrease from 2012)<br>• However, 12.2% increase in Net Verified Energy Savings relative to 2012.<br>• The average incentive per project and savings per project both increased between 2012 to 2013<br>• Net to Gross ratio (NTG) for 2013 remained unchanged at 94% |

| Audit Funding |
|---|
| • 319 audits were completed in 2013<br>• 2013 sample saw more recommended measures implemented without incentives (33% in 2013 vs. 13% in 2012)<br>• The average per audit summer peak demands savings is estimated to be 13 kW. |

| Existing Building Commissioning |
|---|
| • 29 unique participants in the 2013 population<br>• No Commissioning projects completed the hand-off/completion phase in 2013<br>• Improvements to the chilled water system controls were the most commonly targeted measure.<br>• Large variation in estimated savings results between preliminary investigation phase and actual implementation phase |

| High Performance New Construction |
|---|
| • Number of projects increased by 25% from 69 in 2012 to 86 in 2013.<br>• Custom projects, representing only about 8% of the total number of projects, account for 67% of verified demand savings and 54% of verified energy savings.<br>• A realization rate of 72% for energy savings is low due to the low realization rate of the Agribusiness high ventilation, low speed fans which comprised of 15 % of the HPNC prescriptive project energy savings.<br>• Net-to-gross ratio for the initiative was higher by 5% from 49% in 2012 to 54% in 2013. |

## INDUSTRIAL PROGRAM

| Process and Systems Upgrade Initiative |
| --- |
| • In 2013, three PSUI projects were put into service. Projects were very well documented and technical reviews were thorough. Most projects are delivering the level of energy savings expected or more (realization rates of 87% for energy savings and 86% for summer demand savings)<br>• Good level of quality on M&V conducted in each project. The level of free-ridership was found to be very low, at only 7% for energy savings and 6% for demand savings, and no spillover was identified.<br>• Energy Managers are seen as important drivers of program enabled savings projects. Almost a 300% increase vs. 2012 in the amount of energy savings from program enabled savings projects. |

| DR-3 |
| --- |
| • The largest 20 contributors account for 60% of the contractual demand reduction – in other words, less than 5% of contributors account for the majority of the load reductions.<br>• In 2013, DR-3 was successfully dispatched locally for the first time in order to provide assistance in restoring power after a prolonged power outage due to substation flooding. |

## 3.3 Spending

Table 3 and 4 summarize the total spending by initiative that North Bay Hydro Distribution Limited has incurred in 2013 and cumulatively since 2011. It is detailed by the Program Administration Budget (PAB), Participant Based Funding (PBF), Participant Incentives (PI) and Capability Building Funding (CBF).

**Table 3: 2013 Spending**

| Initiative | PAB | PBF | PI | CBF | TOTAL |
|---|---|---|---|---|---|
| Consumer Program | | | | | |
| Appliance Retirement | $3,690 | | | | $3,690 |
| Appliance Exchange | $3,690 | | | | $3,690 |
| HVAC Incentives | $3,690 | | | | $3,690 |
| Annual Coupons | $5,062 | | | | $5,062 |
| Bi-Annual Retailer Event | $0 | | | | $0 |
| Retailer Co-op | 0 | | | | 0 |
| Residential Demand Response | $9,895 | | | | $9,895 |
| New Construction Program | $3,690 | | | | $3,690 |
| Business Program | | | | | |
| Equipment Replacement | $66,268 | | $178,351 | | $244,619 |
| Direct Installed Lighting | $17,939 | | $190,974 | | $208,913 |
| Existing Building Commissioning Incentive | $8,858 | | | | $8,858 |
| New Construction and Major Renovation Initiative | $8,858 | | | | $8,858 |
| Energy Audit | $8,944 | | $4350 | | $13,294 |
| Small Commercial Demand Response | | | | | |
| Demand Response 3 | $8,857 | | | | $8,857 |
| Industrial Program | | | | | |
| Process & System Upgrades | $25,433 | | 80,729 | | |
| a) preliminary engineering study | $6,796 | | | | $6,796 |
| b) detailed engineering study | $5,393 | | 80,729 | | $86,122 |
| c) program incentive | $13,243 | | | | $13,243 |
| Monitoring & Targeting | | | | | |
| Energy Manager | $8,858 | | | | $8,858 |
| Key Account Manager (“KAM”) | | | | | |
| Equipment Replacement | | | | | |
| Demand Response 3 | $2,214 | | | | $2,214 |
| Home Assistance Program | | | | | |
| Home Assistance Program | $26,701 | | | | $26,701 |
| TOTAL SPENDING | $212,649 | | | | $667,050 |

**Table 4: Cumulative Spending (2011-2014)**

| Initiative | PAB | PBI | PI | CBF | TOTAL |
|---|---|---|---|---|---|
| Consumer Program | | | | | |
| Appliance Retirement | $55,945 | | | | $55,945 |
| Appliance Exchange | $7,383 | | | | $7,383 |
| HVAC Incentives | $9,958 | | | | $9,958 |
| Annual Coupons | $56,527 | | | | $56,527 |
| Bi-Annual Retailer Event | $1,583 | | | | $1,583 |
| Retailer Co-op | $1,562 | | | | $1,562 |
| Residential Demand Response | $12,523 | | | | $12,523 |
| New Construction Program | $8,798 | | | | $8,798 |
| Business Program | | | | | |
| Equipment Replacement | $297,956 | | $364,214 | | $662,170 |
| Direct Installed Lighting | $84,065 | | $490,148 | | $574,213 |
| Existing Building Commissioning Incentive | $11,060 | | | | $11,060 |
| New Construction and Major Renovation Initiative | $13,191 | | | | $13,191 |
| Energy Audit | $31,203 | | $18,015 | | $49,218 |
| Small Commercial Demand Response | | | | | |
| Demand Response | $7,405 | | | | $7,405 |
| Industrial Program | | | | | |
| Process & System Upgrades | | | | | |
| a) preliminary engineering study | $11,935 | | | | $11,935 |
| b) detailed engineering study | $13,887 | | $80,729 | | $94,616 |
| c) program incentive | $15,574 | | | | $15,574 |
| Monitoring & Targeting | | | | | |
| Energy Manager | $13,555 | | | | $13,555 |
| Key Account Manager (“KAM”) | | | | | |
| Equipment Replacement Incentive | | | | | |
| Demand Response 3 | $7,405 | | | | $7,405 |
| Home Assistance Program | | | | | |
| Home Assistance Program | $36,655 | | | | $36,655 |
| Pre 2011 Programs | | | | | |
| Electricity Retrofit Incentive Program | | | $398,879 | | $398,879 |
| TOTAL SPENDING | $699,722 | | $1,351,985 | | $2,051,707 |

## 3.4 Additional Comments

Looking forward to 2014 and beyond, North Bay Hydro Distribution Limited expects to continue its efforts towards meeting its conservation mandate.

NBHDL will begin deploying the Peaksaver Plus program to its customers and also continue delivering the Home Assistance Program to qualifying customers. NBHDL will also promote all other consumer programs and work with the OPA to develop a program under the Conservation Fund.

For non-residential customers, NBHDL will continue to offer all programs and work local contractors and suppliers to ensure successful completion of energy efficiency projects. NBHDL will also facilitate load displacement cogeneration projects within its service territory by working with the OPA and upstream LDC's to ensure the grid-interconnection process is completed in a timely manner.

# 4 Combined CDM Reporting Elements

## 4.1 Progress Towards CDM Targets

**Table 5: 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 | 0.1 | 1.0 | 0.5 | 0.5 |
| 2013 – Verified by OPA | 0.0 | 0.0 | 1.5 | 0.5 |
| 2014 | | | | |
| **Verified Net Annual Peak Demand Savings in 2014:** | | | | **1.5** |
| **North Bay Hydro Distribution Limited 2014 Annual CDM Capacity Target:** | | | | **5** |
| **NBHDL Strategy – Demand Savings Milestone submitted for 2013 (MW)** | | | | **4** |
| **NBHDL Strategy - % Variance for Demand Savings** | | | | **-50%** |
| **Verified Portion of Peak Demand Savings Target Achieved (%):** | | | | **29.6%** |

**Table 6: 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 | 0.3 | 2.5 | 2.5 | 2.4 | 7.7 |
| 2013 – Verified by OPA | 0.0 | 0.5 | 3.0 | 3.0 | 6.5 |
| 2014 | | | | | |
| **Verified Net Cumulative Energy Savings 2011-2014:** | | | | | **23.1** |
| **North Bay Hydro Distribution Limited 2011-2014 Cumulative CDM Energy Target:** | | | | | **26.1** |
| **NBHDL Strategy – Demand Savings Milestone submitted for 2013 (GWh)** | | | | | **17** |
| **NBHDL Strategy - % Variance for Energy Savings** | | | | | **+25%** |
| **Verified Portion of Cumulative Energy Target Achieved (%):** | | | | | **89.8%** |

## 4.2 Variance from Strategy

The variance between forecasted CDM Strategy and the results achieved between 2011-2013 period show that NBHDL is behind in demand savings but ahead in meeting its energy savings milestones. Achieving summer peak demand savings continues to serve as a challenge for NBHDL as opportunities within the service territory are limited. NBHDL has put together an aggressive demand reduction strategy which focuses primarily on deploying the PeaksaverPlus program and aggressively promoting the Demand Response 3 initiative. NBHDL is optimistic that this slight change in strategy will help close the gap between its target and results. NBHDL was encouraged to see funding approval for natural gas cogeneration projects in mid-2013 but the 3 year delay has led to a missed opportunity for a project within North Bay that could have resulted in 30% of NBHDL's overall demand reduction target.

## 4.3 Outlook to 2014 and Strategy Modifications

On March 31st, 2014 the Minister of Energy issued a directive entitled "Continuance of the OPA's Demand Response Program under IESO management" which effectively halts new customer enrollments in the DR3 program until the IESO has a program in market. This is estimated to be some time in 2015.

The DR3 Initiative is a significant contributor to helping LDCs achieve their demands savings target. The program has taken some time to get traction and LDCs have been diligently working with their customers to encourage participation in the DR3 program. LDC customers are now in a position where many of them have contracted with an Aggregator but will be unable to participate due to the inability of the Aggregator to receive new contract schedules resulting in the current "pipeline" of potential DR contributors being stranded.

This will hamper NBHDL's ability to meet its demand reduction target. NBHDL's is hopeful that the OPA will provide necessary direction to aggregators to accept more Demand Response capacity. Failure to do this will result in a missed opportunity and will hamper the utility for meeting its demand savings target.

# 5 Conclusion

Over the course of 2013, North Bay Hydro Distribution Limited has achieved 1.5 MW in peak demand savings and 23.4 GWh in energy savings, which represents 30% and 90% of North Bay Hydro Distribution Limited'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 consumption target but will struggle to meet its demand savings target. North Bay Hydro Distribution Limited expects a 1.2MW shortfall to its target in 5MW 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:** Schedule B-1, Exhibit D on the OPA extranet and SaveONenergy website

**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. Window ACs were discontinued from the program in 2013.

**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:** Schedule B-1, Exhibit C on the OPA extranet and SaveONenergy website

**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:** Schedule B-1, Exhibit B on the OPA extranet and SaveONenergy website

**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 Flourescent 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:** Schedule B-1, Exhibit A on the OPA extranet and SaveONenergy website

**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:** Schedule B-1, Exhibit C on the OPA extranet and saveONenergy website

**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:** Schedule B-1, Exhibit C on the OPA extranet and SaveONenergy website

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

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

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

**Additional Detail:** Schedule B-1, Exhibit C on the OPA extranet and SaveONenergy website

**In Market Date:** March 23, 2011

# 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:** Schedule C-2 on the OPA extranet and saveONenergy website

**In Market Date:** March 23, 2011

**Lessons Learned:**

### 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:** Schedule C-3 on the OPA extranet and SaveONenergy website

**Initiative Activities/Progress:**

**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:** Schedule C-6 on the OPA extranet and SaveONenergy website Additional detail is available:

**Initiative Activities/Progress:**

**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:** Schedule C-4 on the OPA extranet and SaveONenergy website

**Initiative Activities/Progress**:

**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:** Schedule C-1 on the OPA extranet Schedule C-1 and SaveONenergy website https://saveonenergy.ca/Business/Program-Overviews/Audit-Funding.aspx

**Initiative Activities/Progress:**

**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:** Schedule D-1 on the OPA extranet 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:** Schedule D-2 on the OPA extranet 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**: Schedule D-3 on the OPA extranet 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:** ScheduleD-4 on the OPA extranet.

**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:** Schedule D-6 available on the OPA 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.

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

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

**Initiative Frequency:** Year Round

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

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

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

**Delivery:** LDC delivered.

**Additional Detail**: Schedule E available on the OPA extranet.

**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:** March 23, 2011

# **Appendix B:** Pre-2011 Programs

## ELECTRICITY RETROFIT INCENTIVE PROGRAM

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

**Initiative Frequency:** Year Round

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

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

**Targeted End Uses**: Electricity savings measures

**Delivery**: LDC Delivered

## HIGH PERFORMANCE NEW CONSTRUCTION

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

**Initiative Frequency:** Year round

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

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

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

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