
Cooperative Hydro Embrun Inc.

Conservation and Demand Management 2013 Annual Report

**Submitted to:
Ontario Energy Board**

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Executive Summary

This annual report is submitted by Cooperative Hydro Embrun Inc. in accordance with the filing requirements set out in the CDM Code (Board File No. EB-2010-0215), specifically Appendix C Annual Report Template, as a progress report and modification to Hydro Embrun Strategy. Accordingly, this report outlines Cooperative Hydro Embrun Inc.'s CDM activities for the period of January 1, 2013 to December 31, 2013. It includes net peak demand and net energy savings achieved from 2011, 2012 and 2013, with discussion of the current/future CDM framework, CDM program activities, successes and challenges, as well as forecasted savings to the end of 2014.

Cooperative Hydro Embrun 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 Hydro Embrun.

In 2011, Cooperative Hydro Embrun Inc. 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 2013, Cooperative Hydro Embrun Inc. opted to offer the Province-Wide CDM Programs that best matched the requirements of our customer base. Cooperative Hydro Embrun Inc. employed a variety of marketing and program outreach campaigns to promote the various initiatives. Door to door promotion, education through public meetings, website promotions and one-on-one customer engagement were the primary marketing and advertising campaigns that were launched in 2012. The focus for 2013 was on the Direct Install Program, the Home Assistance Program, and **peaksaver PLUS**.

To date Cooperative Hydro Embrun Inc. has achieved 0.1 MW of net incremental peak demand savings and 1.4 GWh of net incremental energy savings in 2013. A summary of the achievements towards the CDM targets is shown below:

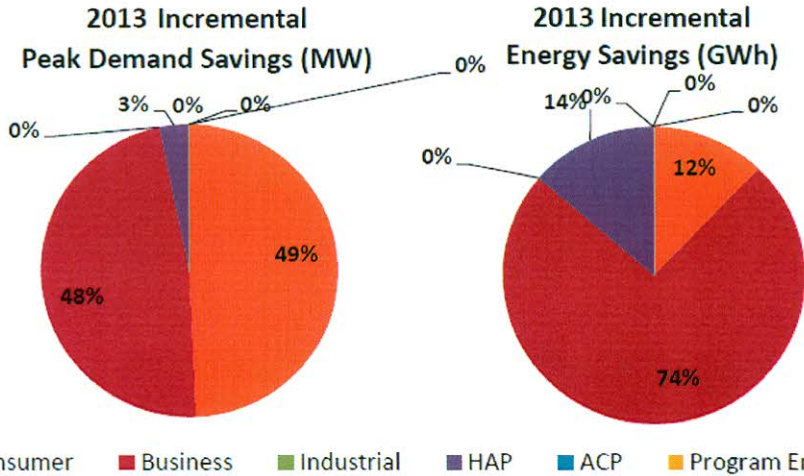
LDC: Cooperative Hydro Embrun Inc.

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)	0.1	0.1	35.5%	47.1%
Net Energy Savings (GWh)	0.2	1.4	124.1%	124.1%

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

Achievement by Sector



The updated forecast prepared for this report shows that there will be a shortfall of approximately 0.2 MW versus Cooperative Hydro Embrun Inc.'s 2014 peak demand reduction target. Although, the peak demand savings are below target, Cooperative Hydro Embrun has achieved the 2014 electricity energy savings target. Given the expected shortfall, Cooperative Hydro Embrun continues to work actively on participant engagement. In addition Cooperative Hydro Embrun has partnered with other LDCs, and has been working with the Ontario Power Authority ("OPA") and the Electrical Distribution Association ("EDA") to improve program effectiveness; however it is Cooperative Hydro Embrun's position that in it will not fully overcome the forecasted peak demand savings shortfall.

Background

On March 31, 2010, the Minister of Energy and Infrastructure of Ontario, under the guidance of sections 27.1 and 27.2 of the *Ontario Energy Board Act, 1998*, directed the Ontario Energy Board (OEB) to establish Conservation and Demand Management (CDM) targets to be met by electricity distributors. Accordingly, on November 12, 2010, the OEB amended the distribution license of Cooperative Hydro Embrun to require Cooperative Hydro Embrun, as a condition of its license, to achieve 1.1 GWh of energy savings and 0.3 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, Cooperative Hydro Embrun submitted its CDM Strategy on November 1, 2010 which provided a high level of description of how Cooperative Hydro Embrun 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 Cooperative Hydro Embrun and has been prepared in accordance with the Code requirement and covers the period from January 1, 2013 to December 31, 2013.

Cooperative Hydro Embrun submitted its 2011 Annual Report on September 30, 2012 which summarized the CDM activities, successes and challenges experienced by Cooperative Hydro Embrun 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.

Cooperative Hydro Embrun submitted its 2012 Annual Report on October 18, 2013 which summarized the CDM activities undertaken by Cooperative Hydro Embrun 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 Cooperative Hydro Embrun’s service area.

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

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

Initiative Activities/Progress:

All eligible customers were on TOU by billing as of February 1st, 2012.

1.3 Cooperative Hydro Embrun’s Application with the OEB

Cooperative Hydro Embrun did not submit a CDM program application to the OEB in 2013.

1.4 Cooperative Hydro Embrun’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.

Cooperative Hydro Embrun did not submit a CDM program application to the OPA's Conservation Fund in 2013.

2 OPA-Contracted Province-Wide CDM Programs

2.1 Introduction

Effective February 1, 2011, Cooperative Hydro Embrun 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	Cooperative Hydro Embrun in Market Date
Residential Programs			
Appliance Retirement	Schedule B-1, Exhibit D	Jan 26, 2011	February 1, 2011
Appliance Exchange	Schedule B-1, Exhibit E	Jan 26, 2011	February 1, 2011
HVAC Incentives	Schedule B-1, Exhibit B	Jan 26, 2011	February 1, 2011
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	Jan 26, 2011	February 1, 2011
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	Jan 26, 2011	February 1, 2011
Retailer Co-op	n/a	n/a	n/a
Residential Demand Response	Schedule B-3	Aug 22, 2011	January 1, 2013
New Construction Program	Schedule B-2	Jan 26, 2011	February 1, 2011
Home Assistance Program	Schedule E-1	May 9, 2011	February 1, 2011
Commercial & Institutional Programs			
Efficiency: Equipment Replacement	Schedule C-2	Jan 26, 2011	February 1, 2011
Direct Install Lighting <ul style="list-style-type: none"> General Service <50 kW 	Schedule C-3	Jan 26, 2011	February 1, 2011
Existing Building Commissioning Incentive	Schedule C-6	Feb 2011	n/a
New Construction and Major Renovation Initiative	Schedule C-4	Feb 2011	February 1, 2011
Energy Audit	Schedule C-1	Jan 26, 2011	February 1, 2011
Commercial Demand Response <ul style="list-style-type: none"> General Service <50 kW 	Schedule B-3	Jan 26, 2011	February 1, 2011
Industrial Programs - General Service 50 kW & above			
Process & System Upgrades	Schedule D-1	May 31, 2011	n/a
Monitoring & Targeting	Schedule D-2	May 31, 2011	n/a
Energy Manager	Schedule D-3	May 31, 2011	n/a
Key Account Manager ("KAM")	Schedule D-4	May 31, 2011	n/a
Efficiency Equipment Replacement Incentive <ul style="list-style-type: none"> (part of the C&I program schedule) 	Schedule C-2	May 31, 2011	n/a
Demand Response 3	Schedule D-6	May 31, 2011	n/a

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

- Electricity Retrofit Incentive Program

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

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

Not in Market	Objective	Status
Residential Program		
Midstream Electronics	Encourages retailers to promote and sell high efficiency televisions, and for distributors to distribute high efficiency set top boxes.	Did not launch and removed from Schedule in Q2, 2013.
Midstream Pool Equipment	Encourage pool installers to sell and install efficient pool pump equipment in residential in-ground pools.	Did not launch and removed from Schedule in Q2, 2013.
Home Energy Audit Tool	This is a provincial online audit tool to engage customers in conservation and help drive customer participation to CDM programs.	Did not launch and removed from Schedule in Q2, 2013.
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/lcd-province-wide-program-documents> and additional initiative information can be found on the saveONenergy website at <https://saveonenergy.ca>. The targeted customer types, objectives, and individual descriptions for each Program Initiative are detailed in Appendix A.

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:

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 many 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:

- Promoted the initiative through the bill inserts to all eligible customers, Cooperative Hydro Embrun website and newspaper ads.

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 participation uptake was 2 units for this initiative in 2013, which was up from 0 in 2012.

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:

- Promoted the initiative through the Cooperative Hydro Embrun website and newspaper ads.
- There were 30 applications completed in Cooperative Hydro Embrun's service area in 2013 which was an increase from 2012.
- Cooperative Hydro Embrun assisted contractors with registration and educated them on available customer incentives for HVAC products.

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:

- Promoted the initiative through the Cooperative Hydro Embrun website and newspaper ads.
- In 2013 there were 171 coupons redeemed which was up from 15 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 behavior.
- 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 products throughout a retail environment weakens the impact.

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

Initiative Activities/Progress:

- Promoted in-store coupon events through the Cooperative Hydro Embrun website.

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 *New Construction Program (Schedule B-2)*

Initiative Activities/Progress:

- Cooperative Hydro Embrun did not have any applications for the New Home Construction Initiative in 2013. The service area does not have a much growth in terms of new home construction. If new home builders start projects in the service area in 2014, Cooperative Hydro Embrun will educate the builders on the available incentives and the application process.

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.

2.2.1.7 Residential Demand Response Program (Schedule B-3)

Initiative Activities/Progress:

- Cooperative Hydro Embrun launched the *peaksaver PLUS* program in 2013. There were 70 load control devices and 7 In Home Displays installed.
- Cooperative Hydro Embrun advertised peaksaver PLUS through bill inserts, newspaper ads, and the website.
- Cooperative Hydro Embrun plans to place a large focus on RDR in 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:

- Cooperative Hydro Embrun focused on one-on-one promotion to commercial customers.
- Offered individual education sessions on eligibility requirements and incentive options to customers and contractors.
- Cooperative Hydro Embrun had one ERII application start and finish in 2013.
- Cooperative Hydro Embrun presented to the Township of Russell on the conversion to LED street lights.
- Cooperative Hydro Embrun advertised through newspaper articles and outbound call campaigns.

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:

- Cooperative Hydro Embrun focused on Direct Lighting on 2012 and 2013. Cooperative Hydro Embrun completed 36 installs in 2013.
- Advertised through posters, call campaign followed up with a site visit, and newspaper articles.
- Offered individual education session on eligibility requirements and incentive options to customers and contractors.
- Provided customers with the OPA's initiative brochures (English only).

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

Initiative Activities/Progress:

- Cooperative Hydro Embrun's service area has limited commercial growth. This initiative will only be promoted when there are new commercial customers in our service area.

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 uncertainty.
- 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.

2.2.2.4 Energy Audit Initiative

Initiative Activities/Progress:

- Cooperative Hydro Embrun did not have any applications for energy audits in 2013.

Additional Comments

- The introduction of the new audit component for one system (i.e. compressed air), has increased customer participation.
- The energy audit Initiative is considered an 'enabling' Initiative and 'feeds into' other saveONenergy Initiatives.
- Evaluators in 2012 and 2013 recognized savings towards LDCs targets as a result of customers implementing low/no cost recommendations from their energy audits.
- 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

Cooperative Hydro Embrun did not register to participate in the Industrial Programs. Cooperative Hydro Embrun has no eligible customers for Industrial Programs.

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

Initiative Activities/Progress:

- In 2013 Cooperative Hydro Embrun put a major focus on the Home Assistance Program. Cooperative Embrun completed 48 applications in 2013.
- In 2013 Cooperative Hydro Embrun will continue to focus on the Home Assistance Program.
- Cooperative Hydro Embrun used Greensaver to deliver this program.
- The program was advertised through posters, call campaign, and e-blasts.
- Cooperative Hydro Embrun did a presentation of the program to the local and regional governments and also the local manager and board of the low income housing complex in their service area.

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:

Table 1. Cooperative Hydro Embrun Inc. 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)	
		2011*	2012*	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014	2014 Net Annual Peak Demand Savings (kW)	2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program															
Appliance Retirement	Appliances	31	6	2		2	0	0		12,946	2,564	885		2	61,146
Appliance Exchange	Appliances	1	0	2		0	0	0		66	48	739		0	1,849
HVAC Incentives	Equipment	14	22	30		6	6	7		10,853	11,381	12,921		19	103,427
Conservation Instant Coupon Booklet	Items	282	15	171		1	0	0		9,926	691	3,809		1	49,394
Bi-Annual Retailer Event	Items	471	524	467		1	1	1		14,524	15,236	8,491		2	114,783
Retailer Co-op	Items	0	0	0		0	0	0		0	0	0		0	0
Residential Demand Response	Devices	64	0	70		36	0	38		93	0	123		0	215
Residential Demand Response (HD)	Devices	0	0	7		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						45	7	46		48,408	27,930	26,966		25	330,814
Business Program															
Retrofit	Projects	1	0	1		5	0	2		20,655	0	7,736		7	98,093
Direct Install Lighting	Projects	0	64	36		0	48	40		0	198,528	155,683		88	902,605
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	0	0	0		0	0	0		0	0	0		0	0
Small Commercial Demand Response	Devices	4	0	3		3	0	2		9	0	3		0	12
Small Commercial Demand Response (HD)	Devices	0	0	0		0	0	0		0	0	0		0	0
Demand Response 3	Facilities	0	0	0		0	0	0		0	0	0		0	0
Business Program Total						7	48	44		20,665	198,528	163,422		94	1,000,710
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	0	0	0		0	0	0		0	0	0		0	0
Demand Response 3	Facilities	0	0	0		0	0	0		0	0	0		0	0
Industrial Program Total						0	0	0		0	0	0		0	0
Home Assistance Program															
Home Assistance Program	Homes	0	0	48		0	0	3		0	0	30,093		3	59,689
Home Assistance Program Total						0	0	3		0	0	30,093		3	59,689
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	1	0	0		0	0	0		1,838	0	0		0	7,352
High Performance New Construction	Projects	0	0	0		0	0	0		40	54	0		0	323
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						0	0	0		1,878	54	0		0	7,675
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															
Adjustments to 2012 Verified Results															
Energy Efficiency Total						14	56	54		70,849	226,512	220,356		122	1,398,661
Demand Response Total (Scenario 1)						38	0	40		102	0	126		0	228
Adjustments to Previous Years' Verified Results Total						0	-2	0		0	-2,181	4		-2	-8,751
OPA-Contracted LDC Portfolio Total (inc. Adjustments)						52	54	95		70,951	224,321	220,485		121	1,390,137
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).															
The HD 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.															
														Full OEB Target:	
														340	
														1,120,000	
														% of Full OEB Target Achieved to Date (Scenario 1):	
														35.5%	
														124.1%	

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	0.054	42.235	0.046	26.966	0.025	330.814
Business Program Total	0.048	176.762	0.044	163.422	0.094	1000.710
Industrial Program Total	0	0	0	0	0	59.689
Home Assistance Program Total	0.003	30.093	0.003	30.093	0.003	0
Pre-2011 Programs completed in 2011 Total	0	0	0	0	0	7.675
Other Adjustments	0	0.008	0	0.004	-0.002	-8.751
Total OPA Contracted Province-Wide CDM Programs * please make sure you complete the total line	0.105	249.098	0.093	220.485	0.121	1390.137

3.2 Evaluation

2013 KEY EVALUATION FINDINGS

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.
- 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.
- 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%
- Of the participants surveyed who reported they had replaced the dehumidifiers they exchanged, 100% reported purchasing ENERGY STAR® models.
- 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.
- 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.
- 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
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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
- 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.

peaksaverPLUS

- The cycling strategy for CAC load control was changed from 50% simple cycling to 60% simple cycling.
- 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.
- 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
- 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.
- All projects are opting for the prescriptive or performance path. No custom project applications were received in 2013, similar to 2011-2012.
- 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
- 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.
- 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
- Net to Gross ratio (NTG) for energy was 72.8%, consistent with prior years
- NTG for demand was 72.0%, consistent with prior years
- 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.
- 17,782 projects completed in 2013 (3.8% decrease from 2012)
- However, 12.2% increase in Net Verified Energy Savings relative to 2012.
- The average incentive per project and savings per project both increased between 2012 to 2013
- Net to Gross ratio (NTG) for 2013 remained unchanged at 94%

Audit Funding

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

Existing Building Commissioning

- 29 unique participants in the 2013 population
- No Commissioning projects completed the hand-off/completion phase in 2013
- Improvements to the chilled water system controls were the most commonly targeted measure.
- 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.
- 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.
- 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.
- 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)
- 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.
- 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.
- 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 Hydro Cooperative 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	522.88	-	-	-	522.88
Appliance Exchange	-	-	-	-	-
HVAC Incentives	522.88	-	-	-	522.88
Annual Coupons	2500.00	-	-	-	2500.00
Bi-Annual Retailer Event	-	-	-	-	-
Retailer Co-op	-	-	-	-	-
Residential Demand Response	1518.25	3169.95	-	-	4688.20
New Construction Program	-	-	-	-	-
Business Program					
Equipment Replacement	2965.68	-	-	-	2965.68
Direct Installed Lighting	2965.68	9900.00	59299.50	-	72165.18
Existing Building Commissioning Incentive	-	-	-	-	-
New Construction and Major Renovation Initiative	-	-	-	-	-
Energy Audit	-	-	-	-	-
Small Commercial Demand Response	-	-	-	-	-
Demand Response 3	-	-	-	-	-
Industrial Program					
Process & System Upgrades	-	-	-	-	-
a) preliminary engineering study	-	-	-	-	-
b) detailed engineering study	-	-	-	-	-
c) program incentive	-	-	-	-	-
Monitoring & Targeting	-	-	-	-	-
Energy Manager	-	-	-	-	-
Key Account Manager ("KAM")	-	-	-	-	-
Equipment Replacement	-	-	-	-	-
Demand Response 3	-	-	-	-	-
Home Assistance Program					
Home Assistance Program	-	-	-	-	-
TOTAL SPENDING					83364.82

Table 4: Cumulative Spending (2011-2014)

Initiative	PAB	PBI	PI	CBF	TOTAL
Consumer Program					
Appliance Retirement	3067.16	-	-	-	3067.16
Appliance Exchange	-	-	-	-	-
HVAC Incentives	2004.96	-	-	-	2004.96
Annual Coupons	7000.00	-	-	-	7000.00
Bi-Annual Retailer Event	-	-	-	-	-
Retailer Co-op	-	-	-	-	-
Residential Demand Response	3318.27	1600.00	26880.00	-	34018.21
New Construction Program	667.08	-	-	-	667.08
Business Program					
Equipment Replacement	8497.04	-	2360.00	-	10857.04
Direct Installed Lighting	14862.32	27500.00	120070.75	-	162433.07
Existing Building Commissioning Incentive	-	-	-	-	-
New Construction and Major Renovation Initiative	-	-	-	-	-
Energy Audit	2000.00	-	-	-	-
Small Commercial Demand Response	-	-	-	-	-
Demand Response	-	-	-	-	-
Industrial Program					
Process & System Upgrades	-	-	-	-	-
a) preliminary engineering study	-	-	-	-	-
b) detailed engineering study	-	-	-	-	-
c) program incentive	-	-	-	-	-
Monitoring & Targeting	-	-	-	-	-
Energy Manager	-	-	-	-	-
Key Account Manager ("KAM")	-	-	-	-	-
Equipment Replacement Incentive	-	-	-	-	-
Demand Response 3	-	-	-	-	-
Home Assistance Program					
Home Assistance Program	-	-	-	-	-
Pre 2011 Programs					
Electricity Retrofit Incentive Program	-	-	-	-	-
High Performance New Construction	-	-	-	-	-
TOTAL SPENDING					220047.52

3.4 Additional Comments

Prior to 2011, Cooperative Hydro Embrun had limited participation in the OPA’s conservation programs. In 2011 and 2012, Cooperative Hydro Embrun focused on procuring resources, developing internal processes, and determining a marketing strategy.

By the end of 2012, we noted significant traction across the Residential and Commercial & Institutional program portfolios due to the ground work that was completed earlier in the year. In 2014, Cooperative Hydro Embrun plans to continue the success that was seen in 2013 through the aggressive with the marketing and promotion of the initiatives that best meet our customers’ needs and requirements.

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	0.1	0.0	0.0	0.0
2012 – Verified by OPA		0.1	0.1	0.1
2013 – Verified by OPA			0.1	0.1
2014				
Verified Net Annual Peak Demand Savings in 2014:				0.1
COOPERATIVE HYDRO EMBRUN 2014 Annual CDM Capacity Target:				0.3
Verified Portion of Peak Demand Savings Target Achieved (%):				35.6%

Table 6: Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual (GWh)				Cumulative (GWh) 2011-2014
	2011	2012	2013	2014	
2011 – Verified by OPA	0.1	0.1	0.1	0.1	0.3
2012 – Verified by OPA		0.2	0.2	0.2	0.7
2013 – Verified by OPA			0.2	0.2	0.4
2014					
Verified Net Cumulative Energy Savings 2011-2014:					1.4
COOPERATIVE HYDRO EMBRUN 2011-2014 Cumulative CDM Energy Target:					1.1

4.2 Variance from Strategy

In 2012, Cooperative Hydro Embrun's Net Peak Demand Savings and Net Cumulative Energy Savings were below the forecasted MW and GWh milestones. This was due to multiple contributing factors. The main contributing factor was that the peaksaver PLUS program was not launched in 2012. Cooperative Hydro Embrun attributed a large number of both demand and energy savings to the peaksaver PLUS program. Cooperative Hydro Embrun is using an AMI solution which required upgrades their EA_MS system. This upgrade has been completed and the peaksaver PLUS program was launched in 2013. Cooperative Hydro Embrun marketed the peaksaver PLUS program heavily in 2013 in an effort to gain lost savings.

In 2013, Cooperative Hydro Embrun marketed the Low Income and Direct Install Programs aggressively and surpassed the GWh target for 2011-2014. Cooperative Hydro Embrun was planning to get demand savings from the peaksaver PLUS program but due to a recall was late to start in 2013. Peaksaver PLUS will be marketed heavily in 2014.

4.3 Outlook to 2014 and Strategy Modifications

At this time, Cooperative Hydro Embrun will not be filing a modification to their CDM Strategy. The energy savings has been achieved and the next year will be focused on achieving demand savings through promotion of the peaksaver PLUS and Equipment Replacement Incentive Initiative programs.

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.

5 Conclusion

Over the course of 2011-2013, Cooperative Hydro Embrun has achieved 0.1 MW in peak demand savings and 0.2 GWh in energy savings, which represents 35.6% and 124.1% of Cooperative Hydro Embrun's 2014 target, respectively. These results are representative of a considerable effort expended by LDC Name, 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 Cooperative Hydro Embrun 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, Cooperative Hydro Embrun expects to meet its energy consumption target but will struggle to meet its demand savings target.

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: February 1, 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: February 1, 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: February 1, 2011

CONSERVATION INSTANT COUPON INITIATIVE (Exhibit A)

Target Customer Type(s): Residential Customers

Initiative Frequency: Year round

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

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

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

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

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

In Market Date: February 1, 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: February 1, 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: February 1, 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: January 1, 2013

C&I Program

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

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

Initiative Frequency: Year round

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

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

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

Delivery: LDC delivered.

Additional Detail: Schedule C-2 on the OPA extranet and saveONenergy website

In Market Date: February 1, 2011

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

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

Initiative Frequency: Year round

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

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

Target End Uses: Lighting and electric water heating measures

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

Additional Detail: Schedule C-3 on the OPA extranet and SaveONenergy website

Initiative Activities/Progress:

In Market Date: February 1, 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: February 1, 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: February 1, 2011

Industrial Program

Cooperative Hydro Embrun did not register to participate in the Industrial Programs. Cooperative Hydro Embrun does not have any eligible customers in their service area.

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: January 1, 2013

Appendix B: Pre-2011 Programs

Cooperative Hydro Embrun did not offer any pre-2011 programs to their customers.