



**Conservation and Demand Management**

**2012 Annual Report**

**Submitted to:**

**Ontario Energy Board**

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## Executive Summary

Kingston Hydro achieved outstanding conservation results in 2012. Kingston Hydro owes its achievements to the willingness of its customers to invest in electricity efficiency, the commitment of its municipal shareholder to environmental sustainability, and to the focus on customer service employed by its conservation staff. Half-way through the 2011-2014 conservation target period established by the Ontario Energy Board, Kingston Hydro has established a well-qualified, customer service focused conservation team of staff and contractors managed by Utilities Kingston. Currently Kingston Hydro offers 13 SaveOnEnergy programs.

The Ontario Power Authority reports that at the end of 2012 Kingston Hydro and its customers had achieved 5,435 kW of projected 2014 Net Peak Demand Savings, equivalent to a 4.9% reduction in system wide average peak load since the beginning of 2011. This represents 91.5% of Kingston Hydro's 2011-2014 Net Peak Load reduction target should demand reductions achieved persist through 2014.

The Ontario Power Authority reports that Kingston Hydro achieved 5,415,664 kWh of annual savings, equivalent to taking 681 average Kingston Hydro residential customers completely off grid. Cumulative kWh savings achieved in 2011 and 2012 are projected by the OPA to be 29,181,713 kWh by the end of 2014, or 78.5% of Kingston Hydro's 2011-2014 cumulative kWh savings target. That's enough power to supply 981 average Kingston Hydro Residential customers for 4 years.

CDM project administration expenditures in 2012 were \$381,847. Kingston Hydro delivered \$858,983.66 in SaveOnEnergy incentives to its customers to support local electricity conservation investment in 2012, supporting total investment in electricity efficiency by its customers of over \$3 million. These spending totals do not include allocated expenses incurred by the OPA to promote consumer programs province-wide or costs associated with TOU Pricing.

Kingston Hydro's strategy of providing one-on-one customer service for all SaveOnEnergy programs, free on-site energy and water efficiency walkthroughs for all commercial customers, and engaging the electrical and HVAC contractor and equipment supply sectors created momentum as Kingston Hydro strives to meet its regulated conservation targets.

Kingston Hydro believes it will achieve 100% of its net peak demand reduction target, and 100% of its energy consumption target by the end of 2014.

Energy savings generated in 2012 by Kingston Hydro exceeded previous forecasts. This is due to great results generated through the Small Business Lighting and Retrofit programs. However, market saturation in the Small Business Lighting program was observed by Q3 2012, and the largest single conservation project expected within the four year target period was completed late in the year. As such, it may be difficult to duplicate the cost effectiveness and total savings of 2012 within the remaining 2 years of the target period.

As forecast, administrative spending was up from 2011 as additional staff and contracted resources were mobilized. Kingston Hydro still expects that program administration spending will not exceed its Project Administration Budget as allocated by the OPA for the 2011-2014 target period. Due to the positive impact and cost effectiveness of the Home Assistance Program in Kingston Hydro territory and projected under spending on Consumer SaveOnEnergy programs, Kingston Hydro will seek a re-allocation of Project Administration Budget from the OPA in 2013.

## 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 for electricity distributors. Accordingly, on November 12, 2010, the OEB amended Kingston Hydro's distribution licence to require achievement of 37.16 GWh of energy savings and 6.63 MW of summer peak demand savings between January 1, 2011 and December 31, 2014.

To put Kingston Hydro's conservation challenge in perspective, the conservation targets represent a 5%-7% reduction in both energy consumption and summer peak demand. 37.16 GWh of electricity consumption is enough to supply 4675 average Kingston Hydro Residential customers for a year. Kingston Hydro's summer peak MW target is equivalent to shutting off power for at least one of Kingston Hydro territory's top 3 employers (Queen's University, CFB Kingston, or Kingston General Hospital). The energy conservation targets set for Kingston Hydro will be challenging to meet.

In accordance with the same Minister's directive, the OEB issued the Conservation and Demand Management Code for Electricity Distributors on September 16, 2010. The code sets out the obligations and requirements with which electricity distributors must comply in relation to the CDM targets set out in their licences. To comply with the Code requirements, Kingston Hydro submitted its CDM Strategy on November 1<sup>st</sup>, 2010 which provided a high level of description of how Kingston Hydro intended to achieve its CDM targets. It further amended this plan with a Budget Addendum filed with the OEB June 10, 2011.

The Code also requires a distributor to file annual report with the Board. This Annual Report is therefore prepared accordingly and covers the period from January 1, 2012 to December 31, 2012.

# 1 Board-Approved CDM Programs

## 1.1 Introduction

### 1.1.1 General Overview of Kingston Hydro's Board-Approved CDM Programs

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

At this time, the implementation of Time-of-Use ("TOU") Pricing is the only Board-Approved Conservation and Demand Management ("CDM") program that is being offered in Kingston Hydro's service area.

## 1.2 Program Description

### 1.2.1 TOU Pricing

**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. TOU Pricing is enabled by the installation of smart meters and related infrastructure across Ontario.

The OEB establishes TOU prices and has made the implementation of this pricing mechanism mandatory for electricity 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. This means that Smart Metering and TOU implementation costs are recovered from the rates Kingston Hydro customers pay for local delivery of electricity, rather than from the price of electricity itself as are most other CDM activities.

**Objectives:** TOU pricing creates an economic incentive for residential and small business customers to shift their electricity use to off-peak times. Peak demand reductions are expected from TOU pricing, and energy conservation benefits may also be realized.

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.

**Target Customer Type(s):** Residential and small business customers (up to 250,000 kWh per year)

**Initiative Frequency:** Year-Round

The RPP TOU price is adjusted twice annually by the OEB. A summary of the RPP TOU pricing during 2012 is provided below:

<b>RPP TOU</b>	<b>Rates (cents/kWh)</b>		
	<b>On Peak</b>	<b>Mid Peak</b>	<b>Off Peak</b>
<b>Effective Date</b>			
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

**Delivery:** Pursuant to applicable codes, guidelines, and utility practice, Kingston Hydro has installed and maintains smart meters capable of collecting hourly interval electricity consumption data and an IT infrastructure that is communicates with a Provincial Smart Meter Data Management/Repository (MDM/R) facility. The OEB sets hourly rates for electricity consumption for RPP customers that rise during times of increased electricity demand. Once two way communications with the MDM/R was achieved, Kingston Hydro transferred all RPP customers to TOU billing. TOU Billing was in effect for all eligible customers through 2012.

### **1.3 Participation**

#### 1.3.1 TOU Pricing

All of Kingston Hydro's 23,232 residential and 3,180 GS<50kW customers are participants in TOU Pricing.

### **1.4 Spending**

#### 1.4.1 TOU Pricing

As filed in with the OEB (#EB-2012-0310), Kingston Hydro reports the following Smart Metering Costs as of Dec. 31, 2011:

2012 Capital Cost:	\$87,946
2011 OM&A:	\$43,714
Total OM&A:	\$184,749
Total Capital:	\$4,752,407

## **1.5 Evaluation**

### **1.5.1 TOU Pricing**

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. As of September 30, 2013, the OPA has not released its preliminary results of TOU savings to distributors. As such, Kingston Hydro has not included savings attributable to TOU Pricing in its 2012 results, nor can it estimate the savings that TOU Pricing may deliver towards its Conservation targets.

### **1.6 CDM Variance Account**

Kingston Hydro's CDM Variance Account balance as of Dec. 31, 2012 is \$67,942. This amount reflects lost revenues based on verified results of OPA Conservation Programs since the time of the final Lost Revenue Adjustment Mechanism claim made by Kingston Hydro as part of an OEB rate application. Specifically, the balance in this variance account reflects revenues lost by Kingston Hydro due to OPA verified consumption and demand reductions for SaveOnEnergy funded projects from Jan. 1, 2011 through Dec. 31, 2012.



## 2 OPA Contracted Programs

### 2.1 Introduction

Kingston Hydro has entered into a contract with the OPA. This agreement gives Kingston Hydro the option to deliver available “OPA Contracted” conservation programs to its customers. This agreement is effective January 1, 2011 through December 31, 2014. The Ontario Power Authority will measure and evaluate electricity savings applicable to Kingston Hydro’s CDM targets achieved through delivery of these programs. OPA Contracted Programs, branded province wide as “SaveOnEnergy” Programs, are consistent in their design and eligibility across Ontario. These programs have four broad categories: Consumer, Commercial & Institutional, Industrial, and Low Income.

Additionally, the Ontario Energy Board has permitted Ontario LDCs to count OPA-contracted “Electricity Retrofit Incentive Program” (ERIP) and High Performance New Construction Program savings from projects started before 2011 but completed within the 2011-2014 period towards achievement of CDM targets. These savings relate to projects that had incentives pre-approved before January 1<sup>st</sup>, 2011, but completed after January 1<sup>st</sup>, 2011 in accordance with program terms and conditions.

The charts on the following pages list the SaveOnEnergy initiatives that have been offered by the OPA to Kingston Hydro for delivery during the 2011-2014. Also listed is a contract schedule reference, the date each program schedule was made available to Kingston Hydro, the customer class the program is targeted towards, and the status of Kingston Hydro’s program offerings in 2012. Short program descriptions are available in each program’s individual section of this report.

<b>Residential SaveOnEnergy Programs</b>				
<b>OPA Contracted Initiative</b>	<b>Schedule Reference or Description</b>	<b>Date schedule posted</b>	<b>Customer Class</b>	<b>Offered by Kingston Hydro in 2012? (Y/N)</b>
Appliance Retirement	Schedule B-1, Exhibit D	<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>YES</b>
Appliance Exchange	Schedule B-1, Exhibit E	<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>YES</b>
HVAC Incentives	Schedule B-1, Exhibit B	<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>YES</b>
Conservation Instant Coupon Booklet	Schedule B-1, Exhibit A	<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>YES</b>
Bi-Annual Retailer Event	Schedule B-1, Exhibit C	<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>YES</b>
Retailer Co-op		<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>NO</b>
Residential Demand Response	Schedule B-3	<i>Aug 22, 2011</i>	<i>All residential rate classes and some general service customers</i>	<b>NO</b>
New Construction Program	Schedule B-2	<i>Jan 26, 2011</i>	<i>All residential rate classes</i>	<b>YES, No Customer Uptake</b>
Home Assistance Program	Schedule E-1	<i>May 9, 2011</i>	<i>All residential rate classes</i>	<b>YES</b>

## Commercial & Institutional SaveOnEnergy Programs

OPA Contracted Initiative	Schedule Reference or Description	Date schedule posted	Customer Class	Offered by Kingston Hydro in 2012? (Y/N)
Efficiency: Equipment Replacement	Schedule C-2	Jan 26, 2011	All general service classes	YES
Direct Install Lighting	Schedule C-3	Jan 26, 2011	General Service < 50 kW & qualified tenants embedded within GS>50kW services	YES
Existing Building Commissioning Incentive	Schedule C-6	Feb, 2011	All general service classes	YES, No Customer Uptake
New Construction and Major Renovation Initiative	Schedule C-4	Feb, 2011	All general service classes	YES
Energy Audit	Schedule C-1	Jan 26, 2011	All general service classes	YES
Commercial Demand Response (part of the Residential program schedule)	Schedule B-3	Jan 26, 2011	All general service classes	NO
Demand Response 3 (part of the Industrial program schedule)	Schedule D-6	May 31, 2011	General Service 50 kW & above	YES
Direct Service Space Cooling	Offers free servicing of air conditioning systems and refrigeration units for the purpose of achieving consumption and demand savings.	Program Not offered by OPA	All general service classes	NO
Demand Response 1	Allows customers to voluntarily reduce electricity demand during certain periods of the year pursuant to the DR 1 contract. The contract provides payment for service for the actual electricity reduction provided.	Program Eliminated by OPA	All general service classes	NO

<b>Industrial Program</b>				
Process & System Upgrades	Schedule D-1	May 31, 2011	General Service 50 kW & above	<b>YES, No Customer Uptake</b>
Monitoring & Targeting	Schedule D-2	May 31, 2011	General Service 50 kW & above	<b>YES, No Customer Uptake</b>
Energy Manager	Schedule D-3	May 31, 2011	General Service 50 kW & above	<b>Yes, No Customer Uptake</b>
Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Schedule C-2	May 31, 2011	General Service 50 kW & above	<b>YES</b>
Demand Response 3	Schedule D-6	May 31, 2011	General Service 50 kW & above	<b>YES</b>
Key Account Manager		Q3, 2012	Large User rate class	<b>YES</b>
<b>Pre-2011 Programs completed in 2011</b>				
Electricity Retrofit Incentive Program	n/a	n/a	All general service classes	<b>YES</b>
High Performance New Construction	n/a	n/a	All general service classes	<b>YES</b>

Some programs intended to be offered during the 2011-2014 period by the OPA to LDCs for delivery have been cancelled. The Direct Service Space Cooling initiative, Demand Response 1, and other consumer initiatives such as the Mid-stream Retail initiative will not be offered. This will reduce the total kW and kWh savings achievable within the 2011-2014 target period.

As outlined in sections 4.1 and 7 of Kingston Hydro's board filed CDM Strategy, achieving its projected savings from residential and small commercial customer classes would depend heavily on the success of Low Income Residential and Small Commercial Direct Install programs. With the Home Assistance Program not in market until Q3 2012 and the Direct Service Space Cooling initiative cancelled Kingston Hydro expects that results of these key programs will be lower than expected for the 2011-2014 period.

The Master CDM Program Agreement includes program change management provisions in Article 3. Collaboration between the OPA and the Local Distribution Companies commenced in 2011 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. In 2012 changes began to be made to existing programs that will improve achievable savings, but many more potential changes to programs that would increase the effectiveness of SaveOnEnergy programs in Kingston Hydro territory have been delayed or dismissed.

## 2.2 Program Descriptions

### 2.2.1 RESIDENTIAL PROGRAMS

#### 2.2.1.1 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 initiative offers individuals and businesses free pick-up and decommissioning of old large refrigerators and freezers. Window air conditioners and portable dehumidifiers will also be picked up if a refrigerator or a freezer is being collected.

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

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

Additional detail is available:

- Schedule B-1, Exhibit D:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricty\\_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricty_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer/Programs/Appliance-Retirement.aspx>

**Initiative Activities/Progress:** Kingston Hydro promotes the Appliance Retirement program on its website through its Customer Service Representatives and through affiliated websites and communications (Utilities Kingston, The City of Kingston, SaveOnEnergy). Kingston Hydro customer service is provided by the same CSRs that provide information to the public about the City of Kingston waste disposal options, creating a higher than average customer awareness rate. There is high awareness in the general public about this program due to province-wide marketing efforts.

The OPA reports that Kingston Hydro had 91 participants in the Appliance Retirement Program, compared to 182 in 2011. Kingston Hydro has been offering this program since 2007, meaning that this program has achieved market saturation and cannot be relied upon to deliver significant annual savings in coming years without significant program changes.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 15 kW, 0.2% of Target

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 387,512 kWh, 1% of Target

**In Market Date:** Q2, 2011

## Lessons Learned:

- Kingston Hydro was one of the first LDCs in Ontario to offer the pre-cursor to the Great Refrigerator Roundup, a program analogous to the Appliance Retirement Initiative, acting as a pilot test community for the province-wide initiative that began in 2007. As outlined in Kingston Hydro's CDM Strategy, Kingston Hydro believes the Appliance Retirement Initiative has reached market saturation within its territory.
- In Kingston Hydro's opinion, inclusion of other appliances and the offer of a meaningful financial incentive toward purchase of a replacement appliance could revive customer interest in this program.
- Results are very responsive to province wide advertising.
- Projected savings from this initiative are not high enough to warrant prioritization of it within Kingston Hydro's consumer marketing mix.

### 2.2.1.2 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.

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

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

**Delivery:** OPA contracts with participating retailers for collection of eligible units.

Additional detail is available:

- Schedule B-1, Exhibit C:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricty\\_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricty_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer.aspx>

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

Kingston Hydro would like to thank the Princess St. and Division St. Canadian Tire locations for participating in this OPA Contracted program.

The OPA reports that 67 appliances were exchanged through this program in 2012.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 10 kW, 0.1% of Target

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 57,289 kWh, 0.2% of Target

**In Market Date:** Q2, 2011

**Lessons Learned:**

- Kingston Hydro territory encompasses only the older, central part of the City of Kingston. It has a very high proportion of students, lower-incomes, and rental properties. There are geographically concentrated high transience areas such as the student housing area within Kingston Hydro territory. Most of Kingston's largest appliance dealers are located outside of Kingston Hydro's territory. As such, there is a thriving local secondary market in Kingston for small appliances such as air-conditioners and dehumidifiers. Landlords and tenants will typically leave appliances in place until failure or sell installed and existing units to new tenants. Unless the incentive towards a new unit is increased, Kingston Hydro does not believe its customers will participate in this program enough to contribute significantly towards achievement of Kingston Hydro's conservation targets.

**2.2.1.3 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 and LDCs are encouraged to convince local contractors to participate in the Initiative.

Additional detail is available:

- Schedule B-1, Exhibit B:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer.aspx>

**Initiative Activities/Progress:** Kingston Hydro promotes the HVAC incentives initiative through community relations and consumer event channels. Kingston Hydro and City of Kingston call centre staff are aware of the program and promote it to those who call looking for incentive information on furnaces. Contractor participation in Kingston Hydro territory is similar to that in comparable communities.

The OPA reports that there were 216 Kingston Hydro customers participated in this program during 2012.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 171 kW, 2.6% of Target

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 1,210,673 kWh, 3.3% of Target

**In Market Date:** Q1, 2011

**Lessons Learned:**

- This is Kingston Hydro's most effective Consumer CDM program. It has low administrative overhead and yields the highest 2014 achieved kW and kWh per customer for Consumer programs.
- Channel engagement (i.e. collaboration with HRAI and HVAC contractors) is a highly effective method of connecting with customers at a time when they are making purchase decisions that can affect electricity consumption and demand for years to come.
- There appears to be spillover from non-HRAI contractors who are ineligible for this initiative. There are cases where smaller independent contractors or non-HRAI contractors are offering their own incentives to make sales (i.e. discounting their installations to match the value of the OPA incentive). As this occurs outside of the initiative, these installations not being attributed to any LDC.

**2.2.1.4 CONSERVATION INSTANT COUPON BOOKLET INITIATIVE (Exhibit A)**

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

**Initiative Frequency:** Year round

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

**Description:** This initiative provides customers with year round coupons. The coupons offer instant rebates towards the purchase of a variety of low cost, easy to install energy efficient measures. They can be redeemed at participating retailers. Booklets were directly mailed to customers and were also available at point-of-purchase. Downloadable coupons were also available at [www.saveoneenergy.ca](http://www.saveoneenergy.ca). Kingston Hydro printed its own branded coupons which have been distributed at various community events over the course of 2013. This should improve uptake from Kingston Hydro customers.

**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, clotheslines, baseboard heater programmable thermostats, LED bulbs and other equipment.

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

Additional detail is available:

- Schedule B-1, Exhibit A:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricty\\_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricty_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer.aspx>

**Initiative Activities/Progress:** In 2012, Kingston Hydro made the coupons available at numerous public events such as the annual off-grid Earth Hour concert, Public Works Day, the Home Show, in City and Utility public buildings, the SWITCH sustainable energy awards, in Utilities Kingston’s Water Conservation Garden, in Utilities Kingston energy and water conservation packages, at its customer service desk, and at other public presentations and events.

The OPA reports that 155 of these coupon redemptions were allocated to Kingston Hydro by the OPA during 2012.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 7 kW, 0.1% of Target

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 415,384 kWh, 1.1% of Target

**In Market Date: Q2, 2011**

**Lessons Learned:**

- The downloadable coupons are a very popular and effective communication tool. Year-round downloadable coupons should help drive traffic to the SaveOnEnergy Consumer web-resources.
- Coupons are useful for engaging customers at public events in two ways
  - They are good for a starting point to discuss conservation for those who do not have a high level of energy literacy or who do not conserve.
  - They help identify those who are passionate conservers – these folks are proud to say that they have already done the things suggested in the coupons. This customer is almost as common as non-conservers at our booths.
- Consumer programs for “passionate conservers” that help these folks planning or financing deeper electricity retrofits may result in greater consumer savings opportunities with less cost. They self-identify, or have participated in other OPA programs, and are proven to be willing to invest.
- The timeframe for retailer submission of redeemed coupons vary from retailer to retailer. This delays the results reporting, which in turn limits the OPA and LDC abilities to react and respond to initiative performance or changes in consumer behaviour.

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

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

**Initiative Frequency:** Bi-annual events

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

**Description:** Twice a year (Spring and Fall), participating retailers host month-long rebate events. During the months of April and October, customers are encouraged to visit participating retailers where they can



find coupons redeemable for instant rebates towards a variety of low cost, easy to install energy efficient measures.

**Targeted End Uses:** Same as the conservation instant coupon booklet initiative

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

Additional detail is available:

- Schedule B-1, Exhibit C:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-1%20Residential%20Program.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer.aspx>

**Initiative Activities/Progress:** Kingston Hydro did not conduct in-store marketing or promotion of Bi-Annual Retailer events.

The OPA reports that 5319 purchases made with these coupons were allocated to Kingston Hydro during 2012.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 16 kW, 0.2% of Target

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 992,198 kWh, 2.7% of Target

**In Market Date:** Q2, 2012

**Lessons Learned:**

- The product list has changed very little over the past four 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 introduction of a new LED and a new CFL coupon has helped program participation rates, but new technologies and products are still needed for this program to remain relevant.
- A review conducted by the Residential Working Group in Q4 2011 identified three areas of need for initiative evolution: 1) introduction of product focused marketing; 2) enhanced product selection and 3) improved training for retailers. The OPA is making good progress on these areas.

#### 2.2.1.6 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:** Various

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

**Initiative Activities/Progress:** Kingston Hydro did not participate in Retailer Co-op activities. Due to the small impact of consumer retail activities to Kingston Hydro's targets, resources were focused elsewhere. The major consumer retailers of appliances, HVAC equipment, and other electronic devices that service Kingston are not in Kingston Hydro territory.

**In Market Date:** N/A

**Lessons Learned:**

- Given the relatively small savings produced per customer for retail-level initiatives and the large projected \$/kWh costs for marketing and staff time, Kingston Hydro chose to focus resources in other areas during 2012.
- As most major retailers are outside of Kingston Hydro territory, allocating savings to Kingston Hydro for these efforts and evaluating results may prove extremely difficult, resource intensive, or impossible. Kingston Hydro does not want to increase customer confusion by promote its own branded coupons at retailers in Hydro One territory.

#### 2.2.1.7 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 peak demand reduction, increasing consumer awareness of the importance of reducing summer demand and providing consumers their current electricity consumption and associated costs.

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

**Targeted End Uses:** Central air conditioning, water heaters and pool pumps

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

Additional detail is available:

- Schedule B-1, Exhibit C:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/SCHED\\_2011\\_ResDR\\_B\\_3\\_110727%28MJB%29v15\\_redacted.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/SCHED_2011_ResDR_B_3_110727%28MJB%29v15_redacted.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer.aspx>

**Initiative Activities/Progress:** Kingston Hydro has chosen not to offer Residential Demand response to its customers. Kingston Hydro customers have much lower incidence of central A/C than the provincial average. In a service territory with a population of 58,000, tens of thousands of students leave during the summer months, reducing demand for air conditioning. A large portion of the population rents their homes and cannot consent to modifications to the thermostat or HVAC system. As Kingston Hydro is a winter peaking utility, there are few direct system benefits to investment in residential demand response. Utilities Kingston has participated in studies that suggest savings from IHDs do not have persistence enough to be cost effective.

Since Kingston Hydro has already achieved most of its peak demand reduction target, Kingston Hydro will continue to monitor the success of other utilities' IHD programs and may enter into the program for 2014 to improve peak reduction target achievements should forecasted savings not persist through Dec. 31, 2014.

**In Market Date:** TBD

**Lessons Learned:** N/A

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

**Target Customer Type(s):** Residential New Home Builders

**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 switches, ECM motors, ENERGY STAR qualified central a/c, lighting control products, lighting fixtures, Energide 83 whole homes, Energide 85 whole homes

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

Additional detail is available:

- Schedule B-1, Exhibit C:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20B-2%20New%20Construction%20Program.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20B-2%20New%20Construction%20Program.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Consumer.aspx>

**Initiative Activities/Progress:** Though no applications for the New Construction program were completed in 2012, several potential applicants were identified through having Kingston Hydro conservation representatives attend City planning and zoning pre-consultation meetings. Brochures and marketing costs for educating builders about the new 2012 building code were shared between the City of Kingston’s building department and Kingston Hydro. The City of Kingston building department has provided numerous referrals to Kingston Hydro’s conservation department that may result in projects in future years. Several consultations were held with targeted Kingston Home Builders and Developers. Kingston Hydro territory does not have much green field construction of new homes, limiting opportunities for this initiative.

**In Market Date:** Q2, 2011

**Lessons Learned:**

- The OPA’s quick response in solving the “one-application per home” issue has decreased the administrative burden for participation by larger volume home builders.
- Administrative requirements must align with perceived stakeholder payback. The cost of EnerGuide home visits in the current marketplace and the administrative burden of applying for a single-home custom build project make participation in this program not worth the time of many homebuilders within Kingston Hydro territory. Increased incentives or new prescriptive measures are necessary to attract more participation.
- Cooperation with local building and development officials is key to identifying and communicating with potential applicants. Coordinated marketing efforts are appreciated by builders who have many requirements, obligations, and opportunities to balance in a project.

## 2.2.2 COMMERCIAL AND INSTITUTIONAL PROGRAMS

### 2.2.2.1 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, promoting investments in electricity conservation that reduce demand and consumption through equipment upgrades such as more energy efficient equipment for lighting, space cooling, ventilation and other purposes.

**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, pumps, motors, drives and other measures

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule C-22:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20C-2%20ERII%20Initiative.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-2%20ERII%20Initiative.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business/Program-Overviews/Retrofit-for-Commercial.aspx>

**Initiative Activities/Progress:** During 2012 Kingston Hydro focused its resources heavily the ERII program. This program offered the largest and most cost effective kWh savings opportunities of all SaveOnEnergy initiatives and is forecasted to provide the majority of Kingston Hydro's achieved kWh savings through the 2011-2014 target period. Many ERII projects take years to develop and reach completion. As such, special emphasis on this initiative early in the target period is seen as vital to achieving Kingston Hydro's targets.

Kingston Hydro runs the ERII program in-house, leveraging the close relationships it has with its customers. Utilities Kingston's Certified Energy Managers offer all Kingston Hydro Commercial, Institutional, and Industrial customers free electricity and water efficiency walkthroughs and one-on-one help filling out SaveOnEnergy applications. Kingston Hydro believes that its policy of 100% pre and post project inspections for all ERII/Retrofit program projects allows it to form good working relationships and encourages repeat applications for new and expanded electricity conservation measures or other facilities owned by an individual customer. Finally, Kingston Hydro's innovative PAB funded "Retrofit Referral Fee" encourages engagement of the electrical contractor trades. This \$250 referral fee has helped ensure that contractors make sure a Kingston Hydro representative can meet with Kingston Hydro customers at a time when they are considering new or upgraded equipment. This allows Kingston Hydro to perform pre-project inspections and help with applications, allowing pre-approved SaveOnEnergy incentives to be confirmed to the customer in time to affect their business decisions.

The OPA reports that 60 ERII projects were completed in Kingston Hydro territory during 2012.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 868 kW, 13% of Target.

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 16,960,809 kWh, 46% of Target

**In Market Date:** Q2, 2011

**Lessons Learned:**

- ERII (previously Equipment Replacement Incentive Program – ERIP) has been offered by LDCs for many years. It is a high performing program that some of Kingston Hydro's largest customers have been aware of for some time.
- The number of ERII applications received in 2012 was up 58% from 2011, the previous high for participation since 2006. Kingston Hydro's 2012 efforts in promotion of the program, its Retrofit Referral Fee program, and its customer service focus delivering timely pre-project approvals, free

electricity efficiency walkthroughs, and following up with customers on post-project applications has been very cost effective.

- Pre-project and post-project walkthroughs are required for each applicant by Kingston Hydro. Photographic evidence is collected of pre and post project equipment condition. Customers are made aware of their most cost effective conservation opportunities, and given options for future conservation projects. Help is offered one on one, in person, to each applicant. This ensures that most applications are entered correctly, minimizing administrative work. It also gives Kingston Hydro the opportunity to manage customer expectations realistically. Finally, the inspection and verification of pre and post project equipment condition and operation means that Kingston Hydro has an accurate accounting of actual savings in its territory and can demonstrate causation for ERII projects.
- The OPA has made great strides in improving payment processes and the iCon CRM system, significantly reducing LDC administrative burdens. The incorporation of a paper application option has made it easier to attract applications from contractors or customers who are not comfortable doing business online.
- By far the most successful means of customer engagement was leveraging existing relationships developed over years. One of these customers, Kingston General Hospital, completed the single largest retrofit project projected to occur between 2011 and 2014 in Kingston Hydro territory during 2012. This single project contributed very heavily to Kingston Hydro's ERII results.
- Kingston Hydro finds that its customers prefer on-site inspections/walkthroughs, small workshops, and one-on-one interaction. They are not likely to work through an entire SaveOnEnergy application on their own. Provision of one-on-one, on-site help from someone business customers have a relationship with is key to the success of Kingston Hydro's ERII program.

#### 2.2.2.2 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 free installation of eligible lighting and water heating measures of up to \$1,000 plus additional cost sharing incentives to eligible owners and tenants of commercial, institutional and agricultural facilities and multi-family buildings, for the purpose of achieving electricity savings and peak demand savings.

**Description:** The Direct Installed Lighting Initiative targets customers in the General Service <50kW account category and other qualifying customers of multi-tenant commercial buildings. This Initiative offers turnkey lighting and electric hot water heater measures at no cost to qualifying small businesses. In addition, standard prescriptive incentives are available for eligible equipment beyond the initial no cost upgrades. On Dec. 4, 2012, the no-cost/free installation limit was raised to \$1500.

**Target End Uses:** Lighting in commercial, institutional and/or light industrial spaces.

**Delivery:** All Kingston Hydro GS<50kW and other qualifying customers have been contacted by Kingston Hydro by phone and with targeted mailings and other communications. Contracted resources provide outgoing calls to customers and assessment scheduling. Customers are offered a free lighting assessment where they receive a detailed business case for investment in DIL program eligible measures. They may then sign a work order and select the licensed electrical contractor of their preference to install the measures.

Additional detail is available:

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

**Initiative Activities/Progress:** Kingston Hydro's small business lighting program was operating at full capacity in 2012. An outgoing call campaign, marketing efforts with local business associations, and other communications led to solid uptake by Kingston Hydro customers.

The OPA reports that 370 Small Business Lighting retrofits were completed in 2012.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 320 kW, 4.8% of Target.

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 3,817,852 kWh, 10.3% of Target

**In Market Date:** Q4, 2011

**Lessons Learned:**

- The Direct Installed Lighting Initiative is a continuation of the Power Saving Blitz Initiative offered by LDCs from 2008-2010. Successful execution of the previous rendition of this Initiative has resulted in diminished potential for the 2011-2014 as past Power Saving Blitz participants are not eligible. In 2011 and 2012, 473 DIL retrofits were conducted. Combined with past PSB participants, this means that well over 1/3 of all eligible customers have had retrofits completed. About 1/3 of customers are not responsive to marketing. A further 1/3 has been found to be ineligible as they've already retrofitted or do not have enough work available to meet program minimum work order values. Since past participants are no longer eligible, there is likely to be a significant slowdown in DIL activity unless the OPA removes restrictions on doing work at past participants businesses and adds new measures to the program.
- By far the most effective marketing activity was an outgoing call campaign made by our contractors to target customers.
- Kingston Hydro uses a unique model whereby independent third-party assessors specially trained in energy efficiency auditing visit each participant. This means that ALL electricity efficiency opportunities are specified in the work order. This model prevents "cherry picking" by electricians and ensures that all SBL-eligible conservation opportunities over and above the "free" \$1000 or \$1500 are quantified and presented to customers.

- Kingston Hydro performed QA/QC as per OPA guidelines for 2012 completed work orders. Of the 44 QA/QC visits, only three discrepancies were found, and all have been corrected. Contractors involved in the program should be commended for doing high quality work, addressing all customer warranty issues, and ensuring that work orders are followed.

### 2.2.2.3 EXISTING BUILDING COMMISSIONING INCENTIVE INITIATIVE (Schedule C-6)

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

**Initiative Frequency:** Year round

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

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

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

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

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule C-6: [http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20C-6%20Commissioning%20Initiative.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-6%20Commissioning%20Initiative.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business/Program-Overviews/Existing-Building-Commissioning.aspx>

**Initiative Activities/Progress:** Kingston Hydro explored this initiative with its large customers who could benefit. It was not seen as a program that they were interested in. Kingston Hydro reports no participation, kW or kWh savings from this initiative.

**In Market Date:** Q2, 2011

**Lessons Learned:**

- There was no customer uptake for this initiative. Kingston Hydro's customers prefer the Retrofit Program to this initiative to fund capital upgrades.
- The long time frame for this initiative is seen as a barrier. Kingston Hydro's customers were not prepared to commit to a multi-year project.

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

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

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

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

Additional detail is available:

- Schedule C-4:  
<http://www.powerauthority.on.ca/sites/default/files/page/ScheduleC-4NewConstructionInitiativeV2.pdf>
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business/Program-Overviews/New-Construction.aspx>

**Initiative Activities/Progress:** Kingston Hydro has worked with the City of Kingston's building department and has representatives in regular attendance at municipal "Pre-consultation" and planning meetings which all major construction and renovation projects within its territory go through. Six New Construction applications were submitted in 2012, but only one project was completed. Kingston Hydro's efforts to reach builders before projects are approved or get building permits should result in significant kW and kWh conservation achievements later in the 2011-2014 target period.

**In Market Date:** Q2, 2011

**Lessons Learned:**

- Engagement of development proponents during the City of Kingston pre-consultation process is key to driving program participation.

#### 2.2.2.5 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 conducted by a qualified third party to identify all possible opportunities to reduce electricity demand and consumption within their buildings or premises.

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

**Targeted End Uses:** Various

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule C-1:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20C-1%20Energy%20Audit%20Initiative.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20C-1%20Energy%20Audit%20Initiative.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business/Program-Overviews/Audit-Funding.aspx>

**Initiative Activities/Progress:** During 2012, Kingston Hydro provided audit funding to five customers. Three of these audits have already turned into completed Retrofit Program applications.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 26 kW, 0.4% of Target.

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 377,644 kWh, 1% of Target

**In Market Date:** Q2, 2011

**Lessons Learned:**

- In order to increase the conversion of audit measures to retrofit projects, Kingston Hydro believes that the OPA should consider making it mandatory for those who receive Audit funding to enter RETROFIT applications for any measures identified with less than 3 year paybacks.
- Kingston Hydro's provision of free walkthrough electricity efficiency assessments and short reports for all commercial customers has made the audit program somewhat irrelevant for customers looking at simpler energy retrofits.
- The Audit Program has helped justify some significant investment in electricity conservation by a small number of customers.

## **2.2.3 INDUSTRIAL PROGRAM**

### **2.2.3.1 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 parts: (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 project costs
- c) A one year payback

**Targeted End Uses:** Processes and systems at large industrial and or institutional customers

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

Additional detail is available:

- Schedule D-1: [http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20D-1%20Process%20and%20Systems%20Upgrades%20Initiative.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-1%20Process%20and%20Systems%20Upgrades%20Initiative.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business.aspx>

**Initiative Activities/Progress:** Numerous larger customers were approached by Kingston Hydro to gauge interest in the PSUI program. Most customers in Kingston Hydro territory either could not guarantee minimum kWh savings levels or were more interested in participating in the RETROFIT program. Kingston Hydro's larger customers are almost exclusively institutional and not process-based or industrial. This limits applicability of the PSUI program in Kingston Hydro territory.

**In Market Date:** Q2, 2011

**Lessons Learned:**

- The PSUI program targets large customers that are undertaking large capital projects. There is typically a long sales cycle to sell these projects, and then a long project development cycle. As such, results from PSUI are not projected before 2013, and then only if some prospects follow through with an application.
- Given the size of the projects involved, the contract required for PSUI is a lengthy and complicated document. Attempts were made by the OPA through change management in 2012 to simplify the document while still protecting the ratepayer.

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

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

**Initiative Frequency:** Year round

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

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

Additional detail is available:

- Schedule D-2:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20D-2%20Monitoring%20and%20Targeting%20Initiative.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-2%20Monitoring%20and%20Targeting%20Initiative.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business.aspx>

**Initiative Activities/Progress:** Kingston Hydro had no uptake by customers of this initiative during 2012. It is expected that with introduction of KAM resources to its larger customers, Kingston Hydro may see participation in this initiative in 2013 or 2014.

**In Market Date:** Q3, 2011

#### **Lessons Learned:**

- The M&T initiative was originally targeted at larger customers with the capacity to review the M&T data. This review requires the customer facility to employ an Energy Manager, or a person with equivalent qualifications, which has been a barrier for some customers. Through the change management process in 2012, changes were considered to both the M&T schedule and ERII to allow smaller facilities to employ M&T systems.

### 2.2.3.3 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 facility.

**Targeted End Uses:**

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

Additional detail is available:

- Schedule D-3:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20D-3%20Energy%20Manager%20Initiative%202011-2014.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-3%20Energy%20Manager%20Initiative%202011-2014.pdf)
- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business.aspx>

**Initiative Activities/Progress:** Kingston Hydro approached each of its largest customers in 2011 to make them aware of the opportunity for an embedded energy manager. Business cases were created by Kingston Hydro and its customers, and it was decided by the customers that they would prefer to utilize KAM resources rather than an embedded manager.

**In Market Date:** Q2, 2011

**Lessons Learned:**

- Kingston Hydro's larger customers prefer the KAM approach because it offers targeted, temporary help without the commitment or contract obligations of an Embedded Energy Manager.

#### 2.2.3.4 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 or ERII initiatives. 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.

**Description:** See above.

**Targeted End Uses:** Large, Class A Customers with demand over 5 MW. In Kingston Hydro's territory, these include Kingston General Hospital, CFB Kingston, and Queen's University.

**Delivery:** Kingston Hydro had applied and been accepted as a junior member of a Hydro One/Veridian application to the OPA for KAM funding. Delivery of KAM resources to Kingston Hydro's Class A customers began in 2012.

Additional detail is available:

- Schedule D-4:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/projects\\_programs/pdfs/PSUI%20Initiative%20Schedule%20D-4.Key%20Account%20Manager.20110322.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/projects_programs/pdfs/PSUI%20Initiative%20Schedule%20D-4.Key%20Account%20Manager.20110322.pdf)

**Initiative Activities/Progress:** Direct Energy supplies dedicated KAM resource to Kingston Hydro as part of its participation in a contract led by Hydro One. This KAM resource was instrumental in helping Kingston General Hospital complete its post project submission and EM&V for a large custom ERII/Retrofit Project in 2012.

**In Market Date:** Q3 2012

**Lessons Learned:**

- KAM resources have been a welcome, well-qualified, and cost effective addition to Kingston Hydro's conservation team.

### 2.2.3.5 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) payment for service to DR3 participants to compensate them for making available electricity demand response during a demand response event.

**Description:** Demand Response 3 (DR3) is for commercial and industrial customers with demand 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 energy payments for the actual energy reduction provided during a demand response event. Participants are scheduled to be on standby approximately 1,600 hours per calendar year for possible dispatch of up to 100 hours or 200 hours within that year depending on the contract.

**Targeted End Uses:**

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

Additional detail is available:

- Schedule D-6:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20D-6%20Demand%20Response%203%202011-2014.pdf](http://www.powerauthority.on.ca/sites/default/files/new_files/industry_stakeholders/current_electricity_contracts/pdfs/Schedule%20D-6%20Demand%20Response%203%202011-2014.pdf)

- SaveOnEnergy website: <https://SaveOnEnergy.ca/Business.aspx>

**Initiative Activities/Progress:** The Queen's University-KGH Combined Heat and Power Facility entered into a long-term DR3 contract with the OPA in Q1, 2011. This contract provides 5MW of demand response capacity through Dec. 31, 2014. Gross KW savings from this facility alone represent up to 75% of Kingston Hydro's peak demand target and net verified savings under Scenario 2 show that 65% of Kingston Hydro's peak demand target will be met from this facility if it continues to participate in DR3 as it is contracted to do so through Dec. 31, 2014.

In order to facilitate this large amount of demand response generation capability, Kingston Hydro continues to work with Queen's-KGH to make changes to operational and notification protocols, make capital investments in the distribution system and SCADA system to allow for safe and coordinated demand response operation, and to maximize the ability of the facility to respond in all situations to notifications from the IESO. Scheduled extensive capital works in downtown Kingston during 2012 and 2013 may present a challenge to maintaining 2012-2013 DR3 availability, though these issues should be resolved before the beginning of 2014, and will be minimized through collaboration with the plant operators.

It should be noted that the bulk of expenses incurred by Kingston Hydro in the course of enabling demand response capability for the 5MW Queen's-KGH CHP generator were not PAB eligible expenses. Much of the engineering and technical work required is fundable through rates as generator connection requirements are exclusive of CDM programming and are a requirement of the Distribution System Code.

Three other customers participated in DR3 in Kingston Hydro territory in 2012.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 4,379kW, 66% of Target.

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 223,886 kWh, 0.6% of Target

**In Market Date:** Q1, 2011

**Lessons Learned:**

- Despite Kingston Hydro referring many commercial customers to DR3 aggregators, few customers in Kingston seem to have the scale of DR capacity needed to enter into an economically feasible DR contract with an aggregator.

## **2.2.4 LOW INCOME INITIATIVE (HOME ASSISTANCE PROGRAM) (Schedule E)**

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

**Initiative Frequency:** Year Round

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

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

**Targeted End Uses:** Lighting, phantom load, refrigeration, air conditioning, dehumidification, electric heating, and others.

**Delivery:** LDC delivered.

Additional detail is available:

- Schedule E  
<http://www.powerauthority.on.ca/sites/default/files/page/Low%20Income%20Schedule%20-%20redacted%20version.pdf>
- SaveOnEnergy Website: [www.kingstonhydro.SaveOnEnergy.ca/homeassistance](http://www.kingstonhydro.SaveOnEnergy.ca/homeassistance)

**Initiative Activities/Progress:** Hearthmakers Energy Cooperative, a member of Green Communities Canada, leads a team of assessors, customer service staff, intake professionals, and contractors who deliver Kingston Hydro's Home Assistance Program. Delivery of the program did not start until Q3 2012 due to OPA delays in bringing the program to market. Kingston Hydro's Home Assistance Program team has enrolled a number of Social Housing Providers in the program, resulting in the opportunity to visit hundreds of pre-qualified participants in 2013 and 2014. The first Home Assistance Visits conducted in late 2012 have provided the Home Assistance team the opportunity to fine-tune delivery and administrative processes in preparation for a busy 2013.

Net Peak Demand Savings in MW from this initiative projected at Dec. 31, 2014: 6 kW, 0% of Target.

Cumulative 2011-2014 kWh savings achieved as of Dec. 31, 2012: 145,540 kWh, 0.4% of Target

**In Market Date:** Q3, 2012

**Lessons Learned:**

- The Home Assistance Program was not fully in market until mid-October 2012, due to Ontario Power Authority delays in making the program available. This has resulted in a compressed timeline for training staff and marketing in a difficult-to-reach customer segment.
- Each Home Assistance Program retrofit completed in 2012 ensured an in-home assessment and one-on-one conservation education session. Home Assistance visits are delivering energy savings of 10% for the average Kingston Hydro customer – a significant savings for customers in lower income situations. Customer feedback has been overwhelmingly positive and the program has forged links between Utilities Kingston's Credit and Collection staff, the Conservation Department, and local social services providers.
- The savings projected to be achieved by the Home Assistance Program for 2013 exceed those achieved by all SaveOnEnergy Consumer programs in Kingston Hydro territory in 2012, but its Project Administration Budget Allocation from the OPA is less than half that devoted to Consumer programs. In Kingston Hydro territory, less OPA PAB money is available per kWh achieved than for conservation programs targeting customers with higher incomes.
- The program has high fixed costs, customers who are hard to reach using direct or mass marketing efforts, and much more administratively burdensome application and retrofit procedures than comparable Commercial and Institutional programs.



- Kingston Hydro's 2011-2014 CDM strategy notes that the prevalence of seniors, students, and households with lower than average incomes makes it an especially relevant program for our community.
- Since Kingston Hydro projects to reach both its demand and consumption conservation targets while spending significantly less than the OPA-allocated Project Administration Budget on Consumer SaveOnEnergy programs, it will be requesting approval from the OPA for re-allocation of funding from Consumer PAB to Low Income PAB according to the process for re-allocation released by the OPA in late 2013.

## 2.2.5 PRE-2011 PROGRAMS COMPLETED IN 2011

### 2.2.5.1 ELECTRICITY RETROFIT INCENTIVE PROGRAM

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

**Initiative Frequency:** Year Round

**Objective:** Analogous to ERII, refer to section 2.2.2.1.

**Description:** Analogous to ERII, refer to section 2.2.2.1.

**Targeted End Uses:** Analogous to ERII, refer to section 2.2.2.1.

**Delivery:** Analogous to ERII, refer to section 2.2.2.1.

**Initiative Activities/Progress:**

The OPA reports that zero pre-2011 ERIP projects were completed in 2011 within Kingston Hydro territory.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 12 kW, 0.2% of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 317,348 kWh, 0.9% of Target

### 2.2.5.2 HIGH PERFORMANCE NEW CONSTRUCTION

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

**Initiative Frequency:** Year round

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

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

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

**Delivery:** The High Performance New Construction program previously delivered by Enbridge Gas under contract with the OPA (and subcontracted to Union Gas), which ran until December 2010.

**Initiative Activities/Progress:** The OPA reports that two pre-2011 HPNC projects were completed in 2012, generating 90 kW of peak demand savings and 327,226 kWh of annual consumption savings.

Net Annual Peak Demand Savings in MW projected at 2014 from these projects: 155 kW, 1% of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 2,305,850 kWh, 6.2% of Target

## 2.3 Participation

#	Initiative	Unit	2012 Participation
<b>Consumer Program</b>			
1	Appliance Retirement	Appliances	91
2	Appliance Exchange	Appliances	67
3	HVAC Incentives	Equipment	216
4	Conservation Instant Coupon Booklet	Products	155
5	Bi-Annual Retailer Event	Products	5,319
6	Retailer Co-op	Products	0
7	Residential Demand Response	Devices	0
8	Residential New Construction	Houses	0
<b>Business Program</b>			
9	Efficiency: Equipment Replacement	Projects	60
10	Direct Install Lighting	Projects	370
11	Existing Building Commissioning Incentive	Buildings	0
12	New Construction and Major Renovation Incentive	Buildings	6
13	Energy Audit	Audits	5
14	Commercial Demand Response (part of the Residential program schedule)	Devices	0
15	Demand Response 3 (part of the Industrial program schedule)	Facilities	3
<b>Industrial Program</b>			
16	Process & System Upgrades	Projects <sup>2</sup>	0
17	Monitoring & Targeting	Projects <sup>3</sup>	0
18	Energy Manager	Managers <sup>23</sup>	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Projects	1
20	Demand Response 3	Facilities	1
<b>Home Assistance Program</b>			
21	Home Assistance Program	Homes	62
<b>Pre 2011 Programs Completed in 2011</b>			
22	Electricity Retrofit Incentive Program	Projects	0
23	High Performance New Construction	Projects	2

## 2.4 Spending

It should be noted that information is not available to Kingston Hydro regarding PAB or Participant Incentives that were expended by the OPA in delivery of consumer programs or some C&I and Industrial Programs. Kingston Hydro's CDM Strategy budget and budget addendum filed with the OEB included program spending for these initiatives. Inclusion of spending on these initiatives once information is released will bring Kingston Hydro's spending closer in line with that identified in its previous filings.

#	Initiative	Program Administration Budget (PAB)	Participant Based Funding (PBF)	Participant Incentives (PI)	Capability Building Funding (CBF)	TOTAL
<b>Consumer Program</b>						
1	Appliance Retirement	\$13,502.83				\$13,502.83
2	Appliance Exchange	\$0.00				\$0.00
3	HVAC Incentives	\$13,502.83				\$13,502.83
4	Conservation Instant Coupon Booklet	\$13,502.83				\$13,502.83
5	Bi-Annual Retailer Event	\$0.00				\$0.00
6	Retailer Co-op	\$0.00				\$0.00
7	Residential Demand Response	\$0.00				\$0.00
10	New Construction Program	\$13,502.83				\$13,502.83
<b>Business Program</b>						
11	Efficiency: Equipment Replacement	\$114,542.01		\$538,788.32		\$650,330.33
12	Direct Installed Lighting	\$100,881.07	\$101,750.00	\$363,416.00		\$566,047.07
14	Existing Building Commissioning Incentive					
15	New Construction and Major Renovation Initiative	\$18,760.34		\$1,969.50		\$20,729.84
16	Energy Audit	\$18,760.34		\$9,525.00		\$30,294.42
17	Commercial Demand Response (part of the Residential program schedule)					
19	Demand Response 3 (part of the Industrial program schedule)					
<b>Industrial Program</b>						
20	Process & System Upgrades					
	a) preliminary study					
	b) engineering study					
	c) program incentive					
21	Monitoring & Targeting					
22	Energy Manager	\$9,938.79				\$9,938.79
23	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)					
25	Demand Response 3	\$9,938.79				\$9,938.79
<b>Home Assistance Program</b>						
26	Home Assistance Program	\$55,014.33	\$12,400.00	\$10,132.40		\$77,546.43
<b>Pre 2011 Programs Completed in 2011</b>						
27	Electricity Retrofit Incentive Program					
28	High Performance New Construction					
<b>2012 TOTALS</b>		<b>\$381,846.99</b>	<b>\$114,150.00</b>	<b>\$923,831.22</b>		<b>\$1,419,828.21</b>

## **2.5 Evaluation**

Kingston Hydro's evaluation of conservation results for 2012 was received from the OPA in August, 2013. A copy of this evaluation is attached. Please refer to this document for the OPA's program-by-program qualitative evaluation findings.

Kingston Hydro would like to note that it has identified a number of discrepancies between OPA reported results and its own calculations of kWh and kW savings achieved in 2012. Kingston Hydro expects these discrepancies to be accounted for in further adjustments to OPA verified results before the 2013 annual report is submitted.

## **2.6 Additional Comments**

Kingston Hydro believes that attentive customer service and in-person, on-site conservation consultations are key to conservation program success. Programs get better results when customers have someone to talk to. OPA programs and application procedures assume a level of sophistication, computer literacy, and energy management knowledge that many Kingston Hydro customers do not have. It's our utility's job to get out into the community, make our customers aware of SaveOnEnergy programs, and help them through the process of investing in electricity conservation and applying for incentives.

Electricity management is not a core function for most of Kingston Hydro customers. Directing investment away from core business functions or discretionary consumer spending to electricity conservation requires a sales approach and a commitment to customer service. Kingston Hydro has seen its strategy focused on provision of one-to-one, on-site customer service pay off with stellar 2012 results.

Kingston Hydro is fortunate that its relationship with affiliate Utilities Kingston allows close collaboration with the local Water, Wastewater, and Natural Gas provider, as required in the CDM Code. This improves conservation program cost effectiveness and value to its customers. Significant resources could be leveraged from Kingston's natural gas utility if fuel switching were allowed to count towards CDM targets. Kingston Hydro receives a large number of enquiries from multi-residential and commercial building owners about financial assistance for replacing electric heating and cooling systems with natural gas systems. Allowing this type of initiative within the scope of electricity conservation programming would mobilize significant resources from natural gas utilities towards meeting LDC conservation targets.

Kingston Hydro's affiliate, Utilities Kingston, manages the water and wastewater infrastructure in urban Kingston, contiguous with Kingston Hydro's service territory. Late in 2012, a study was commissioned to quantify the embedded electrical energy in each m3 of water and wastewater volume. Led by the St. Lawrence College Sustainable Energy Applied Research Centre, this study received a grant from the Ontario Power Authority's Conservation Fund. When this study is complete in 2013, it is expected that it will provide the data necessary to offer SaveOnEnergy RETROFIT incentives to customers who reduce water and wastewater volumes to represent the energy saved at Utilities Kingston's water and wastewater pumping and treatment facilities, increasing funding available to customers for conservation investments and helping Kingston Hydro make further progress towards its conservation targets.

### 3 Combined CDM Reporting Elements

#### 3.1 Progress Towards CDM Targets

##### Kingston Hydro Net Peak Demand Savings at End User Level

Implementation Period	Annual			
	2011	2012	2013	2014
2011 - Verified	4.7	0.7	0.7	0.7
2012 - Verified		5.4	1.1	1.0
2013				
2014				
Scenario 1 Annual Peak Demand Savings Persisting in 2014:				1.7
Scenario 2 Annual Peak Demand Savings Persisting in 2014				6.1
Kingston Hydro Corporation 2014 Annual CDM Capacity Target				6.7
Scenario 1 Peak Demand Savings Target Achieved (%):				25.5%
Scenario 2 Peak Demand Savings Target Achieved (%):				91.5%

The OPA reports that Kingston Hydro achieved peak demand savings of 5.4 MW in 2012. 1.0 MW of peak demand savings from non-DR3 SaveOnEnergy programs will persist in 2014.

Demand savings forecast each year of the target period in the absence of DR 3 were projected to be 750 kW/year incremental 2014 savings. Direct service space cooling is not available for delivery. DR1 has failed as a program offering. For these reasons, Kingston Hydro revised its projections downward to 650 kW/year of incremental net peak demand savings. It beat this projection for 2012 by 50kW primarily due to completion of a single, very large ERII/Retrofit funded project.

Kingston Hydro believes that achieving 105% of its peak demand savings target is possible. Kingston Hydro expects to meet at least 100% of its peak demand savings target.

##### Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual				Cumulative
	2011	2012	2013	2014	2011-2014
2011 - Verified	3.3	3.1	3.1	3.1	12.7
2012 - Verified		5.4	5.3	5.2	16.5
2013					
2014					
Verified Net Cumulative Energy Savings 2011-2014:					29.2
Kingston Hydro Corporation 2011-2014 Annual CDM Energy Target					37.2
Verified Portion of Cumulative Energy Target Achieved (%):					78.5%

Kingston Hydro believes that due to the strong cumulative factor for savings achieved early during the first two years of the 2011-2014 period achieving 105% of its cumulative 2014 kWh target is possible. Kingston Hydro expects to meet at least 100% of its energy consumption savings target.

## 3.2 Modifications to CDM Strategy

Since evaluation results for 2012 were released in Q3, 2013, Kingston Hydro can implement strategy modifications identified during the 2013 and 2014 program years. Kingston Hydro believes that the following modifications to its CDM strategy will result in more cost effective achievement of its 2014 conservation targets:

- Shifting of PAB resources
  - PAB resources will continue to be heavily devoted to in-house delivery of the ERII program, the most cost effective and largest potential source of verified kW and kWh savings.
  - Kingston Hydro will shift consumer PAB resources to Low-Income and Heating and Cooling incentive consumer programs as these offer the greatest cumulative savings opportunities. Kingston Hydro will request re-allocation of some Consumer PAB to the Low Income initiative in order to support this modification to strategy.

Kingston Hydro believes that its targets can be achieved by using solely OPA Contracted SaveOnEnergy programs. Kingston Hydro may begin applications for Board-Approved programs in 2013 that may extend past the 2014 target period end in order to keep existing contractors working by augmenting its Small Business Lighting program with additional non-lighting measures. There is considerable cost and risk involved in applying for OEB programs. As of Q3 2013, only one Board Approved program at a single distributor has been approved in Ontario. The time it takes to develop and achieve approval for OEB programs that meet funding requirements means that any OEB funded programs will likely not be delivered effectively by Kingston Hydro until late in the target period. With the OEB setting a high bar for preventing “duplication” of OPA programs, and OPA change management protocols creating long lead times and limited ability for Kingston Hydro to change program terms or design to meet local needs, Kingston Hydro does not have the flexibility in program design and delivery that it believed would be available from 2011-2014.

As mentioned in s. 3.1, Kingston Hydro now believes it will meet both its peak demand and energy consumption targets. With focused investment and hard work, Kingston Hydro may be able to exceed these targets by 5-10%. As much of the “low hanging fruit” has been picked at our larger customers, and market saturation is being observed for some consumer and small commercial programs, Kingston Hydro will have difficulty repeating 2012’s level of achieved savings and cost-effectiveness.