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# **Kingston Hydro Corporation**

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**Conservation and Demand Management**

## **2011 Annual Report**

**Submitted to:**

**Ontario Energy Board**

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## Executive Summary

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Kingston Hydro achieved positive conservation results in 2011. Kingston Hydro owes its achievements in 2011 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. These factors combined to enable Kingston Hydro to participate and complete more fundable conservation projects in 2011 than thought to be possible during development of its 2011-2014 CDM Strategy.

The Ontario Power Authority reports that Kingston Hydro achieved 4,693 kW of projected 2014 Net Peak Demand Savings, or a 4.2% reduction in system wide average peak load. This represents 70.8% of Kingston Hydro's 2011-2014 Net Peak Load reduction target should these demand reductions achieved in 2011 persist through 2014.

The Ontario Power Authority reports that Kingston Hydro achieved 3,302,477 kWh of annual savings, Equivalent to taking 404 average Kingston Hydro residential customers, or 1.7% of its residential customers, completely off the grid. Cumulative kWh savings achieved in 2011 are projected by the OPA to be 12,679,987 kWh, representing up to 35.4% of Kingston Hydro's 2011-2014 Cumulative kWh savings target.

Kingston Hydro was fortunate in 2011. Its results were boosted by a few, large electricity conservation retrofit projects conducted by its institutional customers, as well as a single 5MW combined head and power (CHP) generator enrolling in DR3. It is unlikely that achievement of annual results comparable to those achieved in 2011 is possible from 2012-2014.

Not including Smart Metering and TOU expenses, total CDM expenditures in 2011, including program administration and customer incentives, were \$654,607.11. Project administration and customer incentives totaling \$577,180.87 supported capital investment in electricity conservation measures of nearly \$3M within Kingston Hydro territory.

During 2011, Kingston Hydro focused on getting DR3, ER11 and Small Commercial Direct Install programs up and running. Given that 2011 was a "start-up" year, Kingston Hydro focused on processing large applications from a few institutional customers and learning the technical and logistical details of complex new program delivery systems.

Significant challenges were faced by Kingston Hydro in 2011. Many OPA-contracted programs were not market ready in 2011, reducing the conservation opportunities available to customers. Customer trust in conservation funding programs was low due to a history of short-term focused programs, volatility in federal and provincial funding of electricity conservation, and limited customer familiarity with the new "SaveOnEnergy" brand and application process. Kingston Hydro employed a policy of paying customers first while payment processes for these new programs were developed and revised by the OPA.

Significant progress has been made by the Ontario Power Authority on these issues throughout 2011. OPA staff should be commended for working diligently to address these challenges. These challenges can be expected to diminish in future years.

As mentioned in s. 3.1, Kingston Hydro now believes it can achieve 105% of its net peak demand reduction a 30% reduction from initial projections due to unexpected evaluation methods used by the OPA. Kingston Hydro predicts that it will achieve around 10% of its 2014 net peak demand target in each of 2012, 2013 and 2014.

With greater than expected kWh savings achieved in 2011, Kingston Hydro believes that it can still achieve 100% of its cumulative kWh savings target, with 30% of its remaining cumulative kWh savings achieved in 2012, 20% in 2013, and 15% in 2014.

Spending will remain slightly under CDM Strategy budgeted amounts in 2012 as additional OPA programs become market ready. Spending should be significantly over CDM Strategy budgeted amounts in 2013 and 2014 as all programs get up to full market availability and savings become more costly and difficult to achieve.

With the Home Assistance Program and the Direct Service Space Cooling initiatives not market ready in 2011, Kingston Hydro expects that results of these key programs will be lower than expected for the 2011-2014 period.

## Background

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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 equivalent to approximately 440, hour-long blackouts at average distribution system load. 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).

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 description of how Kingston Hydro intended to achieve its CDM targets.

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

# 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 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

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

## 1.3 Participation

### 1.3.1 TOU Pricing

As of Dec. 31, 2011 Kingston Hydro had completed 99.92% of Residential and GS<50kW smart meter installations.

## **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:

2011 Capital Cost:	\$314,275
2011 OM&A:	\$55,203
Total Capital Costs:	\$4,670,461
Total OM&A:	\$141,035

## **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, 2012, the OPA has not released its preliminary results of TOU savings to distributors. Kingston Hydro will amend this report to include OPA evaluated results once they are received.

## **1.6 CDM Variance Account**

### **1.6.1 TOU Pricing**

Smart Metering and TOU Pricing variances are not tracked within Kingston Hydro's CDM Variance Account. As such, there is a \$0 balance in Kingston Hydro's CDM Variance Account. Kingston Hydro reports Smart Metering and TOU implementation cost variance accounts separately as per OEB requirements.

## **1.7 Additional Comments**

### **1.7.1 TOU Pricing**

Kingston Hydro customers and stakeholders may track our progress in implementation of Smart Metering and Time Of Use Pricing at <http://www.kingstonhydro.ca/Transition-Tracking.aspx>.

## 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.

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 achieved in 2011 towards its 2011-2014 CDM targets. These savings relate to projects that had incentives pre-approved before January 1<sup>st</sup>, 2011, but were been completed after 2011 in accordance with program terms and conditions.

The charts on the following pages list the OPA initiatives that were projected to be offered by the OPA to Kingston Hydro from January 1<sup>st</sup>, 2011 through Dec. 31, 2014. Programs are broken down into three broad categories based on the types of customers that they are designed for: Residential, Commercial & Institutional (C&I), and Industrial. Also listed is a contract schedule reference or short program description, 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 2011:

## Residential SaveOnEnergy Programs

OPA Contracted Initiative	Schedule Reference or Description	Date schedule posted	Customer Class	Offered by Kingston Hydro in 2011? (Y/N)
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>
Midstream Electronics	Encourages retailers and distributors to promote and sell high efficiency televisions, and set-top boxes.	Program not available in 2011	<i>All rate classes</i>	<b>NO</b>
Midstream Pool Equipment	Encourages pool installers to sell and install efficient pumps residential in-ground pools.	Program not available in 2011	<i>All residential rate classes</i>	<b>NO</b>
First Nations Program	To be delivered by OPA with results are allocated to LDCs.	Program not available in 2011	<i>N/A</i>	<b>NO</b>
Home Energy Audit Tool	An OPA developed online tool to drive participation in CDM programs.	Program not available in 2011	<i>All residential rate classes</i>	<b>NO</b>
Home Assistance Program	Schedule E-1	<i>May 9, 2011 - Program not Market Ready in 2011.</i>	<i>All residential rate classes</i>	<b>NO</b>

## Commercial & Institutional SaveOnEnergy Programs

OPA Contracted Initiative	Schedule Reference or Description	Date schedule posted	Customer Class	Offered by Kingston Hydro in 2011? (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 available in 2011	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.	No customer uptake as of Dec. 31, 2011	All general service classes	NO

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

Several initiatives that were included in the schedules were not in market-ready in 2011. During the 2011 program year, the OPA placed emphasis on supporting the implementation of initiatives that would offer the greatest province wide ratepayer value and greatest amount of persisting savings.

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 and the Direct Service Space Cooling initiatives not market ready in 2011, 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.

## 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\\_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/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 past marketing efforts.

The OPA reports that Kingston Hydro had 182 participants in the Appliance Retirement Program in 2011, compared to 136 in 2010.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 10 kW, 0.2% of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 278,204 kWh, 0.8% of Target

**In Market Date:** Q2, 2011

**Lessons Learned:**

- Kingston Hydro was one of the first LDCs in Ontario to offer the precursor 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. This is in line with OPA 2011 evaluation results.
- 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.
- This initiative now faces some competition from independent retailers.
- 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\\_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 would like to thank the Princess St. and Division St. Canadian Tire locations for participating in this OPA Contracted program in the spring of 2011.

The OPA reports that 22 appliances were exchanged through this program in 2011.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 1 kW, 0.0 % of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 9,282 kWh, 0.0 % of Target

**In Market Date:** Q2, 2011

**Lessons Learned:**

- The spring event had the participation of 3 retailers with 300 – 400 locations across the province. However, the fall 2011 event had no retailer participation, therefore savings budgeted by LDCs did not materialize.
- Evaluation, Measurement, and Verification (EMV) results indicated that the value of savings for retired room AC has dropped.
- 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. These factors mean that 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 at the province wide rate.

**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.

The OPA reports that there were 367 participants in this program during 2011.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 118 kW, 1.8 % of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 923,279 kWh, 2.5 % 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. More resources will be devoted to this program throughout the rest of the target period.
- Channel engagement (i.e. collaboration with HRAI and HVAC contractors) is a highly effective method of connecting with customers; however channel partners require timeliness of the Rebate process to maintain a positive relationship between consumers, contractors, the OPA, and the participating LDC.
- There appears to be spillover from non-HRAI contractors who are ineligible for this initiative. There are cases where smaller independent contractors are offering their own incentives (by discounting their installations to match value of the OPA incentive) to make sales. As this occurs outside of the initiative, these installations are 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).

**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

**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\\_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:** In 2011, 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, and at other public presentations and events.

The OPA reports that 2,652 of these coupon redemptions were allocated to Kingston Hydro during 2011.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 6 kW, 0.1 % of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 394,354 kWh, 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 Consumer conservation 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 marketing or promotion of Bi-Annual Retailer events.

The OPA reports that 4364 of these discounts were allocated to Kingston Hydro during 2011.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 8 kW, 0.1 % of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 589,367 kWh, 1.6 % 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.
- 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.

**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:** TBD

**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 2011.
- Without information on mid-stream incentive programs yet to be released by the OPA, Kingston Hydro does not want to spend resources developing customized co-ops that may overlap with OPA initiatives yet to be launched.
- 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.

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

**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. 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. Kingston Hydro will continue to follow the peaksaver program to see if cost effectiveness projections change and/or more stability in the program offering and equipment are achieved.

**In Market Date:** TBD

**Lessons Learned:**

- The schedule for Peaksaver Plus was posted in August 2011, but this did not provide adequate time for product procurement for 2011, and part of 2012. The product procurement process uncovered that the In Home Display units that communicate with installed smart meter technology were still in development and not ready for market deployment. Consequently, LDCs could not be in market with the Peaksaver Plus program until 2012.
- Introduction of new technology requires incentives for the development of such technology. Appropriate lead times for LDC analysis and assessment, product procurement, and testing and integration into the Smart Meter environment are also required. Making seemingly minor changes to provincial technical specifications can create significant issues when all LDCs attempt to implement the solution in their individual environments.

**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, Energuide 83 whole homes, Energuide 85 whole homes

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

Additional detail is available:

- Schedule B-1, Exhibit C:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/current\\_electricity\\_contracts/pdfs/Schedule%20B-2%20New%20Construction%20Program.pdf](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 2011, 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 already delivered 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 greenfield construction of new homes, limiting opportunities for this initiative.

**In Market Date:** Q2, 2011

### **Lessons Learned:**

- Because the online application system is a one to one relationship, this program was only practical for custom builders who were building one home at a time. Tract builders who might build multiple identical homes must file an application for each home. This administrative challenge has deterred larger scale builders from participating in the program to date.
- Administrative requirements must align with perceived stakeholder payback. Changes are being processed through change management for 2012. Understanding and meeting the new 2012 building code and its new options seemed to Kingston Hydro staff to be the primary priority of home builders in its territory in 2011.
- 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 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, 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 2011 Kingston Hydro directed most of its in-house CDM resources to the ERII program. This program offered the largest and most cost effective kWh savings opportunities of all initiatives and is forecasted to provide the majority of kWh savings through the 2011-2014 target period. 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 to customers.

The OPA reports that 38 ERII projects were completed in Kingston Hydro territory during 2011.

Net Annual Peak Demand Savings in MW projected at the end of 2014 from this initiative: 360 kW, 5.5 % of Target.

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 7,687,340 kWh, 20.1 % 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 and the number completed were well over double that of 2010. Kingston Hydro’s 2011 efforts in promotion of the program and its customer service focus to drive project completion can be viewed as successful.
- 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.
- A major challenge for the ERII program in 2011 was payment delays from the OPA to Kingston Hydro. The centralized electronic processes were not ready as required by the Master Agreement. The lack of having these automated processes, exacerbated by a greater than expected volume of pre-2011 projects completing in 2011, caused considerable payment delays. Based on the lessons learned in the 2011 process, the centralized process review used for 2012 project payment has been streamlined. Kingston Hydro insulated its customers from the consequences of these payment delays by processing payments to customers many months before it could recover funds from the OPA. Maintaining customer trust in a program requires prompt processing and payment of incentive applications.

- In March 2011, the revised iCON system was launched by the OPA. This is the major online application system implemented to aid the 2011-2014 ERII application process. Kingston Hydro heard from many customers that the online process was confusing and/or above their level of computer literacy. Glitches and less than optimal workflow design prevented the system from being used effectively by contractors or applicant representatives. Kingston Hydro addressed this challenge by helping customers enter applications one-on-one at their offices. All customers were notified that their FIRST call on any issue should be to Kingston Hydro. Considerable resources were devoted to customer service.
- Long delays in OPA addressing of customer and LDC questions of master agreement and schedule interpretation were experienced in 2011. While response times have improved, Kingston Hydro lost the faith of some important customers when it was not able to obtain OPA waivers, interpretations, or other information in a timely manner. In addition, there were also on-going issues and limitations with the back-end CRM system that affected LDCs ability to effectively review and approve applications. Kingston Hydro developed parallel project documentation, application, and tracking systems at considerable time and expense to enable effective administration of the ERII application and payment process.
- By far the most successful means of customer engagement was leveraging existing relationships developed over several years. Large customers were able to complete large projects in 2011, leading to stellar results. Processing these rebates required a large allocation of staff resources, and precluded focus on some other initiatives.
- 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. Glitches in the “Applicant Representative” process for contractors and poor uptake of it by major Kingston contractors, along with customer input that OPA customer service offered little to no project specific advice meant

that Kingston Hydro staff were primary customer service points of contact throughout.

- It takes time to plan for, obtain, and train new personnel. The level of sophistication required to identify and analyze electricity efficiency opportunities, to guide customers through ERII processes, and to have in depth knowledge of OPA systems is something that needs to be developed on the job. As OPA training programs address human resource shortages, and as new Kingston Hydro staff gain experience, more incentive dollars will be able to be put to work.

#### **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 a free installation of eligible lighting and water heating measures of up to \$1,000 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. 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:**

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

Additional detail is available:

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

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

**Initiative Activities/Progress:** Kingston Hydro spent Q2 and Q3 2011 in procurement for this program. Delivery started late in 2011, limiting savings from this initiative to be achieved in 2011.

Kingston Hydro uses a unique model whereby independent third-party assessors specially trained in energy efficiency auditing visit each participant.

The OPA reports that 103 Small Business Lighting retrofits were completed in 2011.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 85 kW, 1.3 % of Target.

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 999,753 kWh, 2.7% 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 incarnation of this Initiative has resulted in diminished potential for the 2011-2014 program as past Power Saving Blitz participants are not eligible.
- The inclusion of a standard incentive for additional measures increased project size and drove higher energy and demand savings results compared to the Power Savings Blitz.
- The cost of materials has experienced price volatility, reducing the margins of electrical contractors and distributors involved in the program. This has led to a reduction in vendor channel participation.
- Kingston Hydro undertook payment risk for this program. Long delays in payment by the OPA for incentives and variable funding to Kingston Hydro were observed. Kingston Hydro believes that customer and contractor payments must be made in a business-like

manner, as soon as possible after the job is complete. This builds trust between the customer, contractors, and Kingston Hydro.

- 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 first \$1000 free are quantified and presented to customers.
- LDCs have been working with the OPA through Change Management to address:
  - extending the target initiative population to include small agricultural customers;
  - increasing the incentive envelope of \$1,000 to \$1,500 to ensure ongoing marketability of the program; and
  - reviewing the eligible measure price list to support contractor participation.

### **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. It is suspected that the scope of the Initiative being limited to space cooling contributed to the lack of participation. Accordingly chilled water systems used for other purposes should be made eligible and considered through Change Management .
- The customer expectation is that the program be expanded to include broader building improvements for a more holistic approach to building commissioning.
- 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 as there is a perception that incentive programs could change dramatically over the course of a few years as they have in the past.

#### 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 provided staff to attend municipal "Pre-consultation" and planning meetings which all major construction and renovation projects within its territory go through. There is minimal new construction activity within Kingston Hydro

territory. Most projects are major renovations. Though no applications were submitted in 2011, Kingston Hydro's efforts to reach builders before projects are approved or get building permits should lead to a few applications in 2012.

**In Market Date:** Q2, 2011

**Lessons Learned:**

- For 2011, new industry participation was limited due to the delays in redesign of certain aspects of the Initiative such as:
  - 2011 prescriptive incentives needed to be aligned with ERII incentives
  - In the cases of delivering large projects (i.e. custom applications), 2011 participation was limited due to 1) building code changes and 2) level of documentation required.

**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 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 2011, Kingston Hydro approved audit funding for 3 customers. Two of these audits were completed in 2011. No audit findings were converted to Retrofit projects in 2011, though we expect applications in 2012 for measures identified in 2011 Audits.

**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.

### 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 projects 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 projects costs
- c) A one year pay back

**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 did not appear in 2011. Limited results are expected to appear in 2012. The majority of the results are expected in 2013-2014, with a much reduced benefit to cumulative energy savings targets.
- Steps are being taken in the 2012 change management process to simplify and streamline the micro-project application process and to allow smaller projects to be directed to the ERII stream.
- Given the size of the projects involved, the contract required for PSUI is a lengthy and complicated document. Attempts are being made through change management in 2012 to simplify the document while still protecting the ratepayer.
- With the considerable customer interest in on-site Load Displacement projects, the Initiative should be reviewed to ensure that these projects may be accepted as part of the PSUI Initiative.

### **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 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 2011. It is expected that with introduction of KAM resources to its larger customers, Kingston Hydro may see participation in this initiative in 2013.

**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 are being made 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 facilities. LDCs receive funding of up to \$120,000 for a Roving Energy Manager plus \$8,000 for expenses.

**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-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. 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. It is hoped that delivery will start once procurement of KAM resources is completed sometime in 2012 by Hydro One.

Additional detail is available:

- Scheduled-4:  
[http://www.powerauthority.on.ca/sites/default/files/new\\_files/industry\\_stakeholders/projects\\_programs/pdfs/PSUI%20Initiative%20Schedule%20D-4.Key%20Account%20Manager.20110322.pdf](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:** Kingston Hydro has selected a larger consortium to become a part of in order to obtain KAM funding. KAM funding was pursued because no Class A customers were interested in pursuing Embedded Energy Manager funding or PSUI funding. A KAM will help drive savings at these organizations in lieu of these other incentives.

**In Market Date:** Q3 2012

**Lessons Learned:**

- Customers of this sophistication and size with public funding as their primary budgets are not willing to hire full time energy managers or make the commitments necessary to pursue PSUI funding. Finding KAM resources has proven difficult for the senior

members of the consortium who are leading procurement. There is a shortage of sophisticated, skilled CDM professionals in Ontario able to provide the type of customer service and expertise required of a KAM.

#### **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. In order to facilitate this large amount of demand response generation capability, Kingston Hydro worked 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. Modifications to the generator connection agreement and to metering protocol were also made.

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.

Few other customers were interested or able to participate in DR3. As mentioned in Kingston Hydro's CDM Strategy, Kingston's major institutions are partially shut down during summer months (post-secondary), or not able to guarantee demand response for operational or security reasons (Penitentiaries, Hospitals, etc.)

**In Market Date:** Q1, 2011

**Lessons Learned:**

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

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

#### **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. The Initiative is designed to coordinate efforts with gas utilities.

**Targeted End Uses:** End uses based on results of audit

**Delivery:** LDC delivered.

Additional detail is available:

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

**Initiative Activities/Progress:** The Home Assistance program was not, in Kingston Hydro's opinion, market ready as of Dec. 31, 2011. Initial outreach to social agencies has occurred to learn about program delivery considerations and collect information.

**In Market Date:** Q3, 2012

**Lessons Learned:**

- With the HAP program not market ready by the end of 2011, and not predicted to be in market until Q3, 2012, Kingston Hydro's residential and

consumer conservation results will be significantly negatively impacted. Electricity consumption savings are cumulative from 2011-2014. Kingston Hydro has lost at least 25% of the value of the savings from a program that was projected to have high uptake within Kingston Hydro's customer base.

- This Initiative Schedule was finalized later (May 2011) than the rest of the OPA Initiatives and in 2011 only 2 LDCs were in market as pilot LDCs by Dec. 31, 2011.
- Centralized payment processes were not developed in 2011, but were in place mid-2012. This resulted in some LDCs delaying their launch to market, or for some pulling out of the market until the payment processes were completed.
- As of end of 2011, OPA mandated training of Assessors was not offered as promised/required by the schedule.
- The financial scope, complexity, and customer privacy requirements of this initiative resulted in a lengthy procurement process. Some LDCs must adhere to very transparent procurement processes which meant that delivery of the program did not start in 2011.

## **2.2.5 PRE-2011 PROGRAMS COMPLETED IN 2011**

### **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 3 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 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 1 pre-2011 HPNC project was completed in 2011 within Kingston Hydro territory.

Net Annual Peak Demand Savings in MW projected at 2014 from this initiative: 64 kW, 1 % of Target

Cumulative 2011-2014 kWh savings from this initiative achieved in 2011: 1,324,173 kWh, 3.6% of Target

## 2.3 Participation

#	Initiative	Unit	Participation
<b>Consumer Program</b>			
1	Appliance Retirement	Appliances	182
2	Appliance Exchange	Appliances	22
3	HVAC Incentives	Equipment	367
4	Conservation Instant Coupon Booklet	Products	2,652
5	Bi-Annual Retailer Event	Products	4,364
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	38
10	Direct Install Lighting	Projects	103
11	Existing Building Commissioning Incentive	Buildings	0
12	New Construction and Major Renovation Incentive	Buildings	0
13	Energy Audit	Audits	1
14	Commercial Demand Response (part of the Residential program schedule)	Devices	0
15	Demand Response 3 (part of the Industrial program schedule)	Facilities	3

<sup>1</sup>Please see "Methodology" tab in attached spreadsheet "2011\_Final\_Annual\_Report\_Data\_Kingston\_Hydro\_Corporation"

#	Initiative	Unit	Participation
<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>2,3</sup>	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Projects	0
20	Demand Response 3	Facilities	0
<b>Home Assistance Program</b>			
21	Home Assistance Program	Homes	0
<b>Pre 2011 Programs Completed in 2011</b>			
22	Electricity Retrofit Incentive Program	Projects	3
23	High Performance New Construction	Projects	1

<sup>2</sup>Results are based on completed incentive projects.

<sup>3</sup>Includes: Roving Energy Managers, Key Account Managers and Embedded Energy Managers if projects are completed in 2011.

## 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	\$5,688.66				\$5,688.66
2	Appliance Exchange	\$0.00				\$0.00
3	HVAC Incentives	\$5,688.66				\$5,688.66
4	Conservation Instant Coupon Booklet	\$5,688.66				\$5,688.66
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	\$5,688.66				\$5,688.66
<b>Business Program</b>						
11	Efficiency: Equipment Replacement	\$34,681.79		\$355,105.77		\$389,787.56
12	Direct Installed Lighting	\$29,801.53	\$21,859.15	\$89,871.00		\$141,531.68
14	Existing Building Commissioning Incentive	\$9,909.08		-		\$9,909.08
15	New Construction and Major Renovation Initiative	\$9,909.08		-		\$9,909.08
16	Energy Audit	\$9,909.08		\$1,625.00		\$11,534.08
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	\$420.48				\$420.48
	a) preliminary study					-
	b) engineering study					-
	c) program incentive					-
21	Monitoring & Targeting	\$420.48				\$420.48
22	Energy Manager	\$420.48				\$420.48
23	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	\$420.48				\$420.48
25	Demand Response 3	\$420.48				\$420.48
<b>Home Assistance Program</b>						
26	Home Assistance Program	\$4,721.62				\$4,721.62
<b>Pre 2011 Programs Completed in 2011</b>						
27	Electricity Retrofit Incentive Program	\$12,406.99				\$12,406.99
28	High Performance New Construction					-
<b>2011 TOTALS</b>		<b>\$136,196.19</b>	<b>\$21,859.15</b>	<b>\$446,601.77</b>	<b>\$0.00</b>	<b>\$604,657.11</b>

## 2.5 Evaluation

Kingston Hydro's evaluation of conservation results for 2011 was received from the OPA in August, 2012. A copy of this evaluation is attached. Please refer to worksheet 2.5.1 for the OPA's program-by-program qualitative evaluation findings. Worksheet 2.5.2 shows the gross, net, and cumulative results by program for Kingston Hydro.

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 2011.

OPA reported results for SCDI show 103 participants and net annual savings of 105 kW and 264,376 kWh. Kingston Hydro records indicate 105 installations for 87 kW and 346,114 kWh. We believe that the discrepancies are due to the fact that OPA kW and kWh savings per measure are calculated using provincial averages that assume certain hours of operation. Kingston Hydro assessors track the actual operating hours of each customer and each piece of equipment.

The results reported by the OPA for Kingston Hydro's ERII initiative are also understated compared to Kingston Hydro's calculation of savings. Waivers issued by the OPA that put prescriptive measures into engineered or custom worksheets at the request of customers put savings from these measures into a category that had a much lower realization rates and net-to-gross factors. Kingston Hydro believes that savings for these projects should be calculated at prescriptive realization rates and net-to-gross factors as the actual measures are identical to those in prescriptive projects.

Finally, OPA DR3 results show a realization rate of 76%. Kingston Hydro does not believe that the approach taken by the OPA in discounting DR3 results is appropriate. According to evaluation results presented by the OPA at the Sept. 5<sup>th</sup>, 2012 EM&V workshop for LDCs, eastern Ontario DR kW capacity has ex-ante realization rates close to 100%. There were much lower realization rates in the rest of the province. The majority of eastern Ontario DR capacity is the 5MW Queen's-KGH CHP generator in Kingston Hydro territory. Given that evidence of site specific realization rates exists, Kingston Hydro does not believe it is fair to be penalized by applying a province wide realization rate to its DR3 savings, especially given the amount of investment made by Kingston Hydro to ensure near 100% availability for this facility.

## 2.6 Additional Comments

Kingston Hydro would like to note that 2011 was a "Start-up Year" for new OPA contracted initiatives and the 2011-2014 CDM target period. It was impossible for

Kingston Hydro to fully support delivery of some programs until well into 2011 due to the time it took from master schedule release to achieve full staffing and/or contracting.

Instead of devoting large resources to start up or full support of a large number of programs, Kingston Hydro focused its resources on the programs it believed offered the largest potential savings early in the 2011-2014 target period: ERII, SCDI, and DR3.

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.

Electricity management is not a core function for most Kingston Hydro customers. Directing investment away from core business functions or discretionary consumer spending to electricity conservation requires a sales approach that LDCs like Kingston Hydro have not employed in the recent past. With this lesson learned in 2011, and additional resources being brought on in 2012, Kingston Hydro expects this approach will pay off in 2013 and 2014 as savings get harder and more costly to achieve.

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.

### 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	4.69	0.69	0.69	0.66
2012				
2013				
2014				
<b>Verified Net Annual Peak Demand Savings Persisting in 2014:</b>				<b>.66</b>
<b>Kingston Hydro Corporation 2014 Annual CDM Capacity Target:</b>				<b>6.63</b>
<b>Peak Demand Savings Target Achieved in 2014 – Scenario 1 (%):</b>				<b>10.03%</b>
<b>Peak Demand Savings Target Achieved in 2014 Scenario 2 (%):</b>				<b>70.8%*</b>
<b>Variance from CDM Strategy Projection</b>				<b>-10.5%</b>

*\* A single Kingston Hydro customer has 5 MW DR 3 Contracted through 2014 – Scenario 2 is likely scenario as long as this contract is in force.*

The OPA reports that Kingston Hydro achieved peak demand savings of 4006 kW from a single DR 3 resource of 5MW DR. Kingston Hydro did not expect that OPA evaluation would reduce contracted and available capacity by realization and net to gross factors beyond the control of Kingston Hydro. This accounts for the bulk of the variance.

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. OPA evaluation reduced net peak demand savings by 20% from Kingston Hydro’s most reliable provider enrolled in DR3. For these reasons, Kingston Hydro has to revise its projections downward. Kingston Hydro expects a maximum 650 kW/year of incremental net peak demand savings for the remainder of the target period.

Kingston Hydro feels that given this new information, it will not achieve 135% of its peak demand savings target as originally forecast. Kingston Hydro believes that 105% of its peak demand savings target is an achievable goal.

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

Implementation Period	Annual				Cumulative
	2011	2012	2013	2014	2011-2014
2011 - Verified	3.30	3.15	3.15	3.09	12.68
2012					
2013					
2014					
<b>Verified Net Cumulative Energy Savings 2011-2014:</b>					<b>12.68</b>
<b>Kingston Hydro Corporation 2011-2014 Cumulative CDM Energy Target:</b>					<b>37.16</b>
<b>Verified Portion of Cumulative Energy Target Achieved (%):</b>					<b>34.12%</b>
<b>LDC Milestone submitted for 2011</b>					<b>14.36%</b>
<b>Variance from CDM Strategy Projection</b>					<b>+138%</b>

Kingston Hydro grossly underestimated savings achievable in the first year of the 2011-2014 target period. Due to a concentrated focus on facilitating, processing and completing a number of large ERII applications for Kingston Hydro’s biggest institutional customers, Kingston Hydro was able to realize savings in 2011 it thought was improbable to achieve in a start-up year.

Kingston Hydro believes that due to the strong cumulative factor for savings achieved early in the 2011-2014 period, and due to there not being large applications in the system to the same extent for 2012, results in future years will see less achieved savings than originally projected. Given strong 2011 results, Kingston Hydro feels that achieving 100% of its cumulative 2014 kWh target is achievable.

**3.2 Modifications to CDM Strategy**

Since evaluation results for 2011 were released in Q3, 2012, Kingston Hydro can implement strategy modifications identified during the 2013 program year. 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.

- 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.
- With the Direct Service Space Cooling and DR1 programs not available and/or seeing zero customer uptake, efforts to achieve net peak demand savings will be shifted from DR into ERII and SCDI programs.
- Kingston Hydro will direct PAB resources in 2012 and 2013 towards establishing KAM programming with its three largest customers.

Kingston Hydro was significantly under its spending projections for the 2011 program year. With OPA master schedules not being released until late in Q1 2011, many initiatives were not market ready. Given the time and effort required to get available programs up and running before expenditures could take place, this under-spending is not surprising. Kingston Hydro projects that it will be under its budgeted PAB spending for 2012 as the delays and limited market readiness and availability of OPA contracted programs persist.

With evaluation results released in Q3, 2012, Kingston Hydro can now make adjustments to spending that will increase PAB spending. Kingston Hydro intends to overspend in 2013 and 2014 as savings become harder and costlier to achieve, and as effective programs are identified and focused on based on evaluation results.

Kingston Hydro believes that its targets can be achieved by 2014 if all OPA programs promised in 2012 are in market by Q3 2012. If not, Kingston Hydro will need to apply for OEB programs. There is considerable cost and risk involved in applying for OEB programs. Kingston Hydro notes that as of Q3 2012, no OEB programs are in market in Ontario. Applications by large distributors have been rejected or modified significantly by the OEB. 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 believe it has 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 can achieve 105% of its net peak demand reduction target and 100% of its cumulative kWh savings target. Kingston Hydro predicts that it will achieve 10% of its net peak demand target in each of 2012, 2013 and 2014. 30% of cumulative kWh savings will be achieved in 2012, 20% in 2013, and 15% in 2014.

As mentioned in s. 2.6, Kingston Hydro intends to continue to invest heavily in customer service. Once appropriate levels of customer service can be reached for a given program, PAB expenditures in marketing and communications must increase significantly if targets are to be achieved.