

PowerStream Response To VECC Written Technical Conference Questions

ISSUE #3: OPERATING REVENUE

3.2 Are the proposed customers/connections and class specific load forecasts (both kWh and kW) for Test Year 2013 appropriate, including the impact of CDM and weather normalization? (C1)

53.Reference: OEB #22

Question:

- a) What does PowerStream mean by the statement – “The model should also be theoretically strong”?

Response:

- a) A theoretically strong model is one that is representative of reality where selection of independent factors is justified by a reasonable theoretical relationship between selected factors and an outcome. It should be reasonable to conclude that changes in a set of independent factors would explain variation in the outcome. These factors should be fundamental to the problem and they must be measurable.

For example, the Ontario GDP growth index was chosen as a predictor variable for two reasons: it was advocated as a predictor of energy use in previous rate applications and it is a commonly used/popular predictor variable in load forecasting modeling in general. The intuition behind using GDP as a predictor variable is clear: continued economic growth will lead to higher consumption, all other things being equal.

Weather conditions are the most influential factors affecting consumption. The number of heating degree-days influences energy use for space and water heating, while the number of cooling degree-days accounts for the cooling load.

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The regression analyses can only show that a statistical relationship exists between variables and the strength of this relationship. Based on the statistical analysis alone one cannot infer cause and effect. Overlaying a theoretical approach establishes this connection.

54. Reference: VECC #18 a)

Question:

- a) With respect to the 3rd Tranche programs implemented in 2005-2008 just reflecting annual savings with no persistence, please clarify what is meant by the statement that “savings were not developed or verified in this manner”. Does this mean that::
- The programs were known to have no persistence beyond one year, or
 - There may be persistence but no formal evaluation was performed.

Response:

- a) With respect to the 3rd Tranche program there may be persistence but no formal evaluation was performed.

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55. Reference: VECC #18 d), e) & g)

Preamble: In response to VECC #18 g) PowerStream states that it has allocated CDM savings evenly over all twelve months of the year.

Question:

- a) Please use a similar approach and estimate the first year's savings of each program based on the month the program started (e.g. If the program started July 1st, the first year savings would be 6/12's of the annualized value. If the program started September 1st, the first year savings would be 4/12s of the annualized value).
- b) Please revise the data used in the regression analysis, re-estimate the load forecast model and provide an alternate forecast of purchased sales (both before and after CDM) for 2013.

Response:

- a) PowerStream has provided the prorated savings for the 2011 OPA programs shown in the table below. PowerStream is unable to provide prorated CDM savings for 3rd Tranche and OPA programs that predated 2011. Details regarding 3rd Tranche program start dates are not available and information regarding OPA programs prior to 2011 is not readily available. Since the impacts of past CDM savings are small in relation to the actual total load (less than 2%), prorating by program start date will very likely have minimal affects on the overall CDM offset and load forecast. Based on the prorated result identified in Table VECC#55-1 below, the variance from prorated savings in 2011 is 2,453,629 kWhs, which is a 0.007% decrease in the total load forecast for 2013.

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Table VECC#55-1: Prorated Savings for the 2011 OPA Programs

Month	Appliance Retirement	Exchange Events	HVAC	Instant Rebates	PeakSaver	ERII	DIL	HPNC	Total 2011
Jan	0	0	0	0	2,083	0	0	0	2,083
Feb	0	0	0	0	2,083	0	0	0	2,083
Mar	143,403	0	174,966	382,872	2,083	317,968	126,811	62,499	1,210,603
Apr	143,403	0	174,966	382,872	2,083	317,968	126,811	62,499	1,210,603
May	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Jun	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Jul	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Aug	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Sep	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Oct	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Nov	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Dec	143,403	9,147	174,966	382,872	2,083	317,968	126,811	62,499	1,219,750
Total 2011 YTD	1,434,033	73,179	1,749,659	3,828,721	24,996	3,179,680	1,268,115	624,989	12,183,372
Annualized Savings	1,720,840	109,768	2,099,591	4,594,465	24,996	3,815,616	1,521,738	749,987	14,637,000
								Variance	(2,453,629)

b) Please refer to the tables below.

Table VECC#55-2: Re-Estimated Load Forecast

Dependent Variable: Monthly Energy Purchases grossed up by CDM			
Form: Multiple Regression			
Sample: 01/2002 - 12/2011			
Included observations: 120			
Degree of Freedom for Error: 110			
Variable	Coefficient	t-Statistics	Sig.
(Constant)	548,524,564	127.04	0.00%
Real GDP	33,375,298	27.22	0.00%
CDD18	1,058,569	42.09	0.00%
HDD10	191,008	26.02	0.00%
Feb	(48,485,949)	(11.97)	0.00%
Apr	(21,394,249)	(5.55)	0.00%
Adjusted R-squared	96.4%	MAD	8,315,770
Standard Error of regression	11,030,510	MAPE	1.2%
F-test	356.3	Durbin-Watson statistics	1.9

Year	Actual Gross	CDM Reduction	Actuals	WN Actual Gross	WN Actual Net	Growth, %
2002	7,866,379,972	0	7,866,379,970	7,750,533,520	7,750,533,520	
2003	7,916,829,431	0	7,916,829,430	7,929,981,440	7,929,981,440	2.3%
2004	8,134,619,559	0	8,134,619,560	8,274,774,840	8,274,774,840	4.3%
2005	8,613,124,001	3,130,721	8,609,993,280	8,425,026,710	8,421,895,989	1.8%
2006	8,554,533,739	47,826,399	8,506,707,340	8,613,158,070	8,565,331,671	1.7%
2007	8,781,190,983	71,202,083	8,709,988,900	8,689,539,600	8,618,337,517	0.6%
2008	8,672,944,378	108,479,768	8,564,464,610	8,773,763,680	8,665,283,912	0.5%
2009	8,406,357,788	118,966,978	8,287,390,810	8,584,942,530	8,465,975,552	-2.3%
2010	8,773,591,029	125,158,169	8,648,432,860	8,739,503,920	8,614,345,751	1.8%
2011	8,824,165,930	126,858,266	8,697,307,660	8,772,228,270	8,645,370,004	0.4%
2012 Bridge		175,947,483		8,889,575,270	8,713,627,787	0.8%
2013 Test		253,527,536		8,988,789,860	8,735,262,324	0.2%

2012 Bridge - as per original evidence	8,714,187,901	0.8%
2013 Test - as per original evidence	8,735,895,637	0.2%

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56. Reference: VECC #18 h)

Question:

- a) If the 2011 OPA Report is not available, what is the basis for the 2011 CDM savings shown in Exhibit C1, Tab 1, Schedule 2, page 4 – Table 3?
- b) In response to a similar question, other distributors have filed a preliminary version of the OPA's 2011 annual CDM report. Please provide PowerStream's.

Response:

- a) PowerStream used its CDM strategic plan to develop the 2011 CDM savings identified in Table 3.
- b) The OPA's 2011 Final Annual Report regarding PowerStream's 2011 program is attached as Appendix A.

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57. Reference: VECC #22 b) & c)

Question:

- c) Please provide the OPA's most recent 2012 Quarterly Report regarding PowerStream's CDM programs.

Response:

- a) The most recent 2012 Quarterly Report is attached as Appendix B.
Please note that the 2011 final report results supersedes the information that has been provided herein regarding 2011 results.

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58. Reference: VECC #23 c)

Question:

- a. The question asked for total number of in-suite Residential metered customers in each year. The referenced interrogatory response (VECC #15) only provides the additions for each year. Please provide the totals as requested.

Response:

- a) Please refer to the table below.

Table VECC#58: In-suite Residential Customers

Year	In-Suite Residential
2008	2,406
2009	3,733
2010	5,840
2011	7,440

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ISSUE #7: COST ALLOCATION

7.1 Is PowerStream's proposed cost allocation methodology for 2013 appropriate?

59.Reference: VECC #44 b)

Question:

- a. Please confirm that Sheet I7.1 of the Cost Allocation will need to be updated to incorporate the additional costs associated with some of the GS<50 customer meters.

Response:

- a) PowerStream confirms that Sheet I7.1 needs to be updated for these additional meter costs as identified in the response to VECC IR #44 b.

The change in the cost to revenue ratios is very small and has no impact on cost allocation adjustments. PowerStream proposes to update the cost allocation study as part of the draft rate order.

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ISSUE #9: RATE DESIGN

9.2 Is the derivation of the proposed base distribution rates appropriate?

60.Reference: VECC #48 a), Appendix A

Question:

- a. Please reconcile the total revenue at current rate reported in Appendix A (\$158,968,177) with that shown at Exhibit C1, Tab 1, Schedule 1, page 1 (\$162,044,558).
- b. Please reconcile the total revenue at current rate reported in Appendix A (\$158,968,177) with that shown at Tab I6.1 of the Cost Allocation Model (\$154,832,425).
- c. Please explain the difference between the % of Revenue by Class in Appendix A and that show in Exhibit H, Tab 3 Schedule 1, page 2, Table 1 under "as per 2013 CAS".

Response:

- a) The amount of \$158,968,177 in Appendix A is calculated using the average kWhs or kWbs billed per customer over the period 2009 to 2013 times the projected number of customers for 2013 and applying 2012 current base distribution rates. The result is used to perform the initial allocation of revenue requirement to the rate classes. This method was used in the OEB's 2006 EDR model. These percentages were used for the determination of the harmonized monthly service charge rates only.

The amount of \$162,044,558 is the forecast 2013 distribution revenue at current 2012 rates based on the customer and billing determinants forecast for 2013 and is summarized in the table below.

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Table VECC#60: Total Distribution Revenue

Description	Amount
Revenue at 2012 base rates	\$ 157,268,080
Plus SMIRR rate riders	\$ 7,212,135
Less Transformer Allowance	\$ (2,435,656)
Total Distribution Revenue	\$ 162,044,559

In the table above, revenue at current rates of \$157,268,080 is based on the 2013 test year forecasted customer numbers and billing determinants. The 2013 load forecast is weather normalized and adjusted for the impact of conservation and demand initiatives.

These numbers are derived differently and used for different purposes and as such are not directly comparable.

- b) The amount of \$154,832,425 in the cost allocation model on sheet I6.1 consists of the 2013 revenue at current base distribution rates of \$157,268,080 less the transformer allowance of \$2,425,656. The difference between the \$158,968,177 and the \$157,268,080 is explained in part (a) above.

PowerStream excludes the transformer allowance amount from cost allocation and then separately factors the cost of the transformer allowance amount into the rates for the classes that receive the transformer allowance.

- c) The percentages in Appendix A were determined as described in part (a) above and this allocation was used to determine the base rates before application of any cost adjustments. This was used for the determination of the harmonized monthly service charge rates only.

The revenue amounts entered into the cost allocation model on I6.1 were determined by applying current 2012 base distribution rates to the 2013 forecast billing determinants for each rate class. The total allocation of revenue requirement to rate class was determined from the cost allocation model including adjustments to bring revenue- cost ratios within the Board's approved ranges.

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The small differences in the percentages compared to Appendix A are due to the different quantities used as described in part (a).

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Issue #1 GENERAL

1.4 Is the proposed Green Energy Act Plan appropriate?

61.Reference: VECC #2

Question:

- a. Was a **financial** analysis of the alternatives to the WiMAX communications system undertaken? If so please provide this analysis

Response:

- a) Please see the analysis of the WiMax communications system attached as Appendix C. Financial costs were a consideration in the analysis.

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Issue # 2 RATE BASE

2.3 Is the Capital Expenditures forecast for Test Year 2013 appropriate?

62. Reference: VECC #6

Question:

- a. It is clear from the evidence that PowerStream does not expect the increase in sustainment capital to impact unscheduled replacement of equipment. The question was to find out why this is so. Why would an increase in expenditures not have an impact on budget for unscheduled repairs?

RESPONSE:

- a) PowerStream does not expect the increase in sustainment capital to impact unscheduled replacement of equipment in the near term. First, the planned projects being undertaken will be in-service at various times during the year. For those that will be in-service towards the end of the year there will be no impact on the unscheduled replacements in those areas and assets until they come into service. Second, although there will be an improvement in the specific areas, where planned replacement of assets are being carried out, PowerStream anticipates that there will be an increase in unscheduled replacements in other areas. The increases in these areas will offset the reductions expected from the replaced assets.

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Issue #4 OPERATING COSTS

4.1 Is the overall Test Year 2013 OM&A forecast appropriate?

63. Reference VECC IR #30

Question

- a. From the response to this interrogatory it appears that \$235,000 in remaining environmental costs is built into the ongoing budget (2013 and beyond). The response also states that no assessment of remediation beyond 2013 has been made. Why does PowerStream believe the amount of \$235,000 is a reasonable ongoing cost for this item?

Response:

- a) Sites are reviewed on an annual basis. Prioritization of sites to be completed in 2013 will be determined upon completion of 2012 work, and similarly for subsequent years.

The amount of \$235,000 is estimated for both testing as well as remediation which has been based on annual average cost incurred from previously tested and remediated sites.



Message from the Vice President:

The OPA is pleased to provide you with the enclosed Final 2011 Results Report.

Despite some of the inertial challenges in 2011 with program start up, on average, year one province-wide forecasts were met and the year finished out with strong momentum which continues to build 2012. There are still challenges for LDCs of all sizes and we are committed to ensuring LDCs are successful in meeting their objectives. We look forward to further dialogue to discover opportunities to improve the current program suite with local program opportunities, best practices and successes to better reach our customers in the years to come.

This report was developed in collaboration with the OPA-LDC Reporting and Evaluation Working Group and is designed to help populate LDC annual report templates that will be submitted to the OEB in late September. Between the draft and final reports several improvements were made to improve clarity and transparency based on feedback provided by LDCs, such as: the addition of a glossary tab, total adjustments to savings are now broken out into both the realization rate and net-to-gross ratio for both peak demand and energy savings and modifications were made to the methodology tab. We invite you to continue to provide your feedback.

All results are now considered final for 2011. Any additional 2011 program activity not captured will be reported in the Final 2012 Results Report. Please continue to monitor saveONenergy E-blasts for any further updates and should you have any other questions or comments please contact LDC.Support@powerauthority.on.ca.

We appreciate your collaboration and cooperation throughout the reporting and evaluation process. We look forward to another successful year in 2012.

Sincerely,
Andrew Pride

Table of Contents

<u>Summary</u>	Provides a "snapshot" of your LDC's OPA-Contracted Province-Wide Program performance in 2011: progress to target using 2 scenarios, sector breakdown and progress against the LDC community.
LDC-Specific Data: table formats, section references and table numbers align with the OEB Reporting Template	
<u>2.3 Results Participation - LDC</u>	Breakdown of initiative-level participation in 2011 for your LDC.
<u>2.5.1 Evaluation Findings</u>	Provides a summary of the province-wide evaluation findings for each initiative and highlights which initiatives were not evaluated.
<u>2.5.2 Results - LDC</u>	Provides LDC-specific initiative-level results (net and gross peak demand and energy savings, realization rates, net-to-gross ratios and how each initiative contributes to target)
<u>3.1.1 Summary - LDC</u>	Provides a portfolio level view of achievement towards your OEB targets in 2011. Contains space to input LDC-specific progress to milestones set out in your CDM Strategy.
Province-Wide Data: LDC performance in aggregate (province-wide results)	
<u>Provincial - Participation</u>	Breakdown of initiative-level participation in 2011 for the province.
<u>Provincial - Results</u>	Provides province-wide initiative-level results (net and gross peak demand and energy savings, realization rates, net-to-gross ratios and how each initiative contributes to target)
<u>Provincial - Progress Summary</u>	Provides a portfolio level view of provincial achievement towards province-wide OEB targets in 2011.
<u>Methodology</u>	Provides key equations, notes and an initiative-level breakdown of: how savings are attributed to LDCs, when the savings are considered to 'start' (i.e. what period the savings are attributed to) and how the savings are calculated.
<u>Reference Tables</u>	Provides the sector mapping used for Retrofit and the allocation methodology table used in the consumer program when customer
<u>Glossary</u>	Contains definitions for terms used throughout the report.

OPA-Contracted Province-Wide CDM Programs FINAL 2011 Results

LDC: PowerStream Inc.

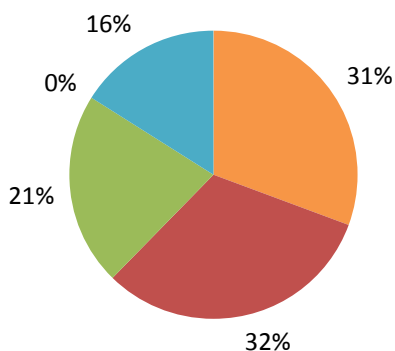
FINAL 2011 Progress to Targets	Incremental 2011	Scenario 1: % of Target Achieved	Scenario 2: % of Target Achieved
Net Annual Peak Demand Savings (MW)	14.5	9.2%	15.2%
Net Cumulative Energy Savings (GWh)	37.3	36.0%	36.1%

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

Scenario 2 = Assumes that demand response resources remain in your territory until 2014

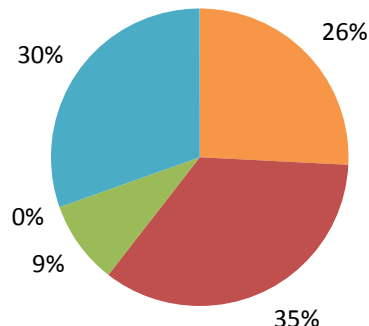
Achievement by Sector

2011 Incremental Peak Demand Savings (MW)



■ Consumer Program Total
■ Industrial Program Total
■ Pre-2011 Programs completed in 2011 Total

2011 Incremental Energy Savings (GWh)

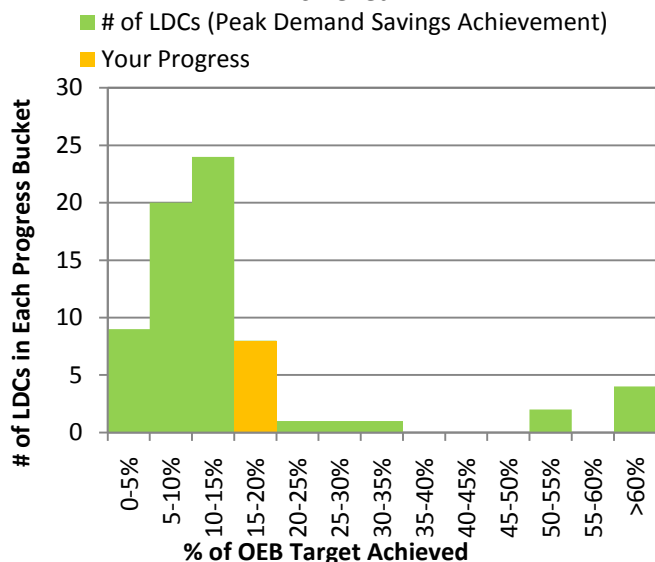


■ Business Program Total
■ Home Assistance Program Total

Comparison: Your Achievement vs. LDC Community Achievement

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

% of OEB Peak Demand Savings Target Achieved



% of OEB Energy Savings Target Achieved

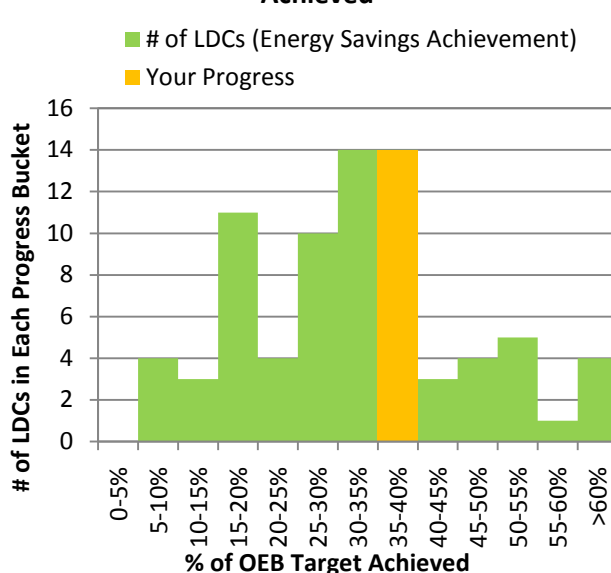


Table 1: Participation¹

#	Initiative	Unit	Uptake/ Participation Units
Consumer Program			
1	Appliance Retirement	Appliances	2,986
2	Appliance Exchange	Appliances	152
3	HVAC Incentives	Equipment	10,174
4	Conservation Instant Coupon Booklet	Products	34,625
5	Bi-Annual Retailer Event	Products	57,776
6	Retailer Co-op	Products	134
7	Residential Demand Response	Devices	2,234
8	Residential New Construction	Houses	0
Business Program			
9	Efficiency: Equipment Replacement	Projects	148
10	Direct Install Lighting	Projects	1,943
11	Existing Building Commissioning Incentive	Buildings	0
12	New Construction and Major Renovation Incentive	Buildings	2
13	Energy Audit	Audits	6
14	Commercial Demand Response (part of the Residential program schedule)	Devices	0
15	Demand Response 3 (part of the Industrial program schedule)	Facilities	12
Industrial Program			
16	Process & System Upgrades	Projects ²	0
17	Monitoring & Targeting	Projects ³	0
18	Energy Manager	Managers ^{2,3}	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Projects	34
20	Demand Response 3	Facilities	11
Home Assistance Program			
21	Home Assistance Program	Homes	0
Pre 2011 Programs Completed in 2011			
22	Electricity Retrofit Incentive Program	Projects	195
23	High Performance New Construction	Projects	8
24	Toronto Comprehensive	Projects	0
25	Multifamily Energy Efficiency Rebates	Projects	1
26	Data Centre Incentive Program	Projects	5
27	EnWin Green Suites	Projects	0

¹ Please see "Methodology" tab for more information regarding attributing savings to LDCs

² Results are based on completed incentive projects (see "Methodology" tab for more information)

³ Includes: Roving Energy Managers, Key Account Managers and Embedded Energy Managers if projects are completed in 2011

Table 3: OPA Province-Wide Evaluation Findings

#	Initiative	OPA Province-Wide Key Evaluation Findings
Consumer Program		
1	Appliance Retirement	<ul style="list-style-type: none"> * Overall participation continues to decline year over year * Participation declined 17% from 2010 (from over 67,000 units in 2010 to over 56,000 units in 2011) * 97% of net resource savings achieved through the home pick-up stream * Measure Breakdown: 66% refrigerators, 30% freezers, 4% Dehumidifiers and window air conditioners * 3% of net resource savings achieved through the Retailer pick-up stream * Measure Breakdown: 90% refrigerators, 10% freezers * Net-to-Gross ratio for the initiative was 50% * Measure-level free ridership ranges from 82% for the retailer pick-up stream to 49% for the home pick-up stream * Measure-level spillover ranges from 3.7% for the retailer pick-up stream to 1.7% for the home pick-up stream
2	Appliance Exchange	<ul style="list-style-type: none"> * Overall eligible units exchanged declined by 36% from 2010 (from over 5,700 units in 2010 to * Measure Breakdown: 75% window air conditioners, 25% dehumidifiers * Dehumidifiers and window air conditioners contributed almost equally to the net energy * Dehumidifiers provide more than three times the energy savings per unit than window air conditioners * Window air conditioners contributed to 64% of the net peak demand savings achieved * Approximately 96% of consumers reported having replaced their exchanged units (as opposed to retiring the unit) * Net-to-Gross ratio for the initiative is consistent with previous evaluations (51.5%)
3	HVAC Incentives	<ul style="list-style-type: none"> * Total air conditioner and furnace installations increased by 14% (from over 95,800 units in 2010 to over 111,500 units in 2011) * Measure Breakdown: 64% furnaces, 10% tier 1 air conditioners (SEER 14.5) and 26% tier 2 air conditioners (SEER 15) * Measure breakdown did not change from 2010 to 2011 * The HVAC Incentives initiative continues to deliver the majority of both the energy (45%) and demand (83%) savings in the consumer program * Furnaces accounted for over 91% of energy savings achieved for this initiative * Net-to-Gross ratio for the initiative was 17% higher than 2010 (from 43% in 2010 to 60% in * Increase due in part to the removal of programmable thermostats from the program, and an increase in the net-to-gross ratio for both Furnaces and Tier 2 air conditioners (SEER 15)
4	Conservation Instant Coupon Booklet	<ul style="list-style-type: none"> * Customers redeemed nearly 210,000 coupons, translating to nearly 560,000 products * Majority of coupons redeemed were downloadable (~40%) or LDC-branded (~35%) * Majority of coupons redeemed were for multi-packs of standard spiral CFLs (37%), followed by multi-packs of specialty CFLs (17%) * Per unit savings estimates and net-to-gross ratios for 2011 are based on a weighted average of 2009 and 2010 evaluation findings * Careful attention in the 2012 evaluation will be made for standard CFLs since it is believed that the market has largely been transformed
		<ul style="list-style-type: none"> * Customers redeemed nearly 370,000 coupons, translating to over 870,000 products * Majority of coupons redeemed were for multi-packs of standard spiral CFLs (49%), followed by multi-packs of specialty CFLs (16%)

#	Initiative	OPA Province-Wide Key Evaluation Findings
5	Bi-Annual Retailer Event	<ul style="list-style-type: none"> * Per unit savings estimates and net-to-gross ratios for 2011 are based on a weighted average of 2009 and 2010 evaluation findings * Standard CFLs and heavy duty outdoor timers were reintroduced to the initiative in 2011 and contributed more than 64% of the initiative's 2011 net annual energy savings * While the volume of coupons redeemed for heavy duty outdoor timers was relatively small (less than 1%), the measure accounted for 10% of net annual savings due to high per unit savings * Careful attention in the 2012 evaluation will be made for standard CFLs since it is believed that the market has largely been transformed.
6	Retailer Co-op	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake. Verified Bi-Annual Retailer Event per unit assumptions and free-ridership rates were used to calculate net resource savings
7	Residential Demand Response	<ul style="list-style-type: none"> * Approximately 20,000 new devices were installed in 2011 * 99% of the new devices enrolled controlled residential central AC (CAC) * 2011 only saw 1 atypical event (in both weather and timing) that had limited participation * The ex ante impact developed through the 2009/2010 evaluations was maintained for 2011; residential CAC: 0.56 kW/device, commercial CAC: 0.64 kW/device, and Electric Water Heaters: 0.30 kW/device
8	Residential New Construction	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to limited uptake * Business case assumptions were used to calculate savings
Business Program		
9	Efficiency: Equipment Replacement	<ul style="list-style-type: none"> * Gross verified energy savings were boosted by lighting projects in the prescriptive and * Lighting projects overall were determined to have a realization rate of 112%; 116% when including interactive energy changes * On average, the evaluation found high realization rates as a result of both longer operating hours and larger wattage reductions than initial assumptions * Low realization rates for engineered lighting projects due to overstated operating hour assumptions * Custom non-lighting projects suffered from process issues such as: the absence of required M&V plans, the use of inappropriate assumptions, and the lack of adherence to the M&V plan * The final realization rate for summer peak demand was 94% * 84% was a result of different methodologies used to calculate peak demand savings * 10% due to the benefits from reduced air conditioning load in lighting retrofits * Overall net-to-gross ratios in the low 70's represent an improvement over the 2009 and Strict eligibility requirements and improvements in the pre-approval process contributed to the improvement in net-to-gross ratios
10	Direct Install Lighting	<ul style="list-style-type: none"> * Though overall performance is above expectations, participation continues to decline year over year as the initiative reaches maturity * 70% of province-wide resource savings persist to 2014 * Over 35% of the projects for 2011 included at least one CFL measure * Resource savings from CFLs in the commercial sector only persist for the industry standard of 3 years * Since 2009 the overall realization rate for this program has improved * 2011 evaluation recorded the highest energy realization rate to date at 89.5%

#	Initiative	OPA Province-Wide Key Evaluation Findings
		<ul style="list-style-type: none"> * The hours of use values were held constant from the 2010 evaluation and continue to be the main driver of energy realization rate * Lights installed in "as needed" areas (e.g., bathrooms, storage areas) were determined to have very low realization rates due to the difference in actual energy saved vs. reported savings
11	Existing Building Commissioning Incentive	* Initiative was not evaluated in 2011, no completed projects in 2011
12	New Construction and Major Renovation Incentive	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake * Assumptions used are consistent with preliminary reporting based on the 2010 Evaluation findings and consultation with the C&I Work Group (100% realization rate and 50% net-to-gross ratio)
13	Energy Audit	* The evaluation is ongoing. The sample size for 2011 was too small to draw reliable conclusions.
14	Commercial Demand Response (part of the Residential program schedule)	* See residential demand response (#7)
15	Demand Response 3 (part of the Industrial program schedule)	* See Demand Response 3 (#20)
Industrial Program		
16	Process & System Upgrades	* Initiative was not evaluated in 2011, no completed projects in 2011
17	Monitoring & Targeting	* Initiative was not evaluated in 2011, no completed projects in 2011
18	Energy Manager	* Initiative was not evaluated in 2011, no completed projects in 2011
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	* See Efficiency: Equipment Replacement (#9)
20	Demand Response 3	<ul style="list-style-type: none"> * Program performance for Tier 1 customers increased with DR-3 participants providing 75% * Industrial customers outperform commercial customers by provide 84% and 76% of contracted MW, respectively * Program continues to diversify but still remains heavily concentrated with less than 5% of * By increasing the number of contributors in each settlement account and implementation of the new baseline methodology the performance of the program is expected to increase
Home Assistance Program		
21	Home Assistance Program	<ul style="list-style-type: none"> * Initiative was not evaluated in 2011 due to low uptake * Business Case assumptions were used to calculate savings
Pre-2011 Programs completed in 2011		

#	Initiative	OPA Province-Wide Key Evaluation Findings
22	Electricity Retrofit Incentive Program	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings (multifamily buildings 99% realization rate and 62% net-to-gross ratio and C&I buildings 77% realization rate and 52% net-to-gross ratio)
23	High Performance New Construction	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings (realization rate of 100% and net-to-gross ratio of 50%)
24	Toronto Comprehensive	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings
25	Multifamily Energy Efficiency Rebates	<ul style="list-style-type: none"> * Initiative was not evaluated * Net-to-Gross ratios used are consistent with the 2010 evaluation findings
26	Data Centre Incentive Program	<ul style="list-style-type: none"> * Initiative was not evaluated
27	EnWin Green Suites	<ul style="list-style-type: none"> * Initiative was not evaluated

Table 5: Summarized Program Results

Program				Gross Savings				Net Savings	
				Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)			Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program Total				6,490	14,154,589			4,445	9,623,565
Business Program Total				5,312	15,873,798			4,586	12,927,578
Industrial Program Total				3,809	4,324,359			3,135	3,368,348
Home Assistance Program Total				0	0			0	0
Pre-2011 Programs completed in 2011 Total				4,366	21,228,175			2,325	11,350,493
Total OPA Contracted Province-Wide CDM Programs				19,977	55,580,920			14,492	37,269,983

#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program									
1	Appliance Retirement	100%	100%	339	2,465,802	50%	50%	159	1,160,946
2	Appliance Exchange	100%	100%	30	36,794	52%	52%	15	18,962
3	HVAC Incentives	100%	100%	4,700	8,684,756	60%	60%	2,829	5,192,089
4	Conservation Instant Coupon Booklet	100%	100%	70	1,174,884	114%	111%	80	1,295,153
5	Bi-Annual Retailer Event	100%	100%	100	1,785,664	113%	110%	112	1,950,839
6	Retailer Co-op	100%	100%	0	3,450	68%	68%	0	2,335
7	Residential Demand Response	0%	0%	1,251	3,239	-	-	1,251	3,239
8	Residential New Construction	-	-	0	0	-	-	0	0
Business Program									
9	Efficiency: Equipment Replacement	93%	123%	1,673	9,981,644	73%	75%	1,225	7,512,897
10	Direct Install Lighting	108%	90%	1,967	5,703,882	93%	93%	2,106	5,296,278
11	Existing Building Commissioning Incentive	-	-	0	0	-	-	0	0
12	New Construction and Major Renovation Incentive	-	-	33	139,736	50%	50%	16	69,868
13	Energy Audit	-	-	0	0	-	-	0	0
14	Commercial Demand Response (part of the Residential program schedule)	0%	0%	0	0	-	-	0	0
15	Demand Response 3 (part of the Industrial program schedule)	76%	100%	1,639	48,536	n/a	n/a	1,239	48,536
Industrial Program									
16	Process & System Upgrades	-	-	0	0	-	-	0	0
17	Monitoring & Targeting	-	-	0	0	-	-	0	0
18	Energy Manager	-	-	0	0	-	-	0	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	92%	116%	684	4,169,768	73%	77%	502	3,213,757
20	Demand Response 3	84%	100%	3,125	154,591	n/a	n/a	2,634	154,591
Home Assistance Program									
21	Home Assistance Program	-	-	0	0	-	-	0	0
Pre-2011 Programs completed in 2011									
22	Electricity Retrofit Incentive Program	77%	78%	3,752	18,243,264	52%	52%	1,958	9,540,024
23	High Performance New Construction	100%	100%	422	2,165,793	50%	50%	211	1,082,896
24	Toronto Comprehensive	-	-	0	0	-	-	0	0
25	Multifamily Energy Efficiency Rebates	96%	96%	110	286,080	68%	68%	75	194,534
26	Data Centre Incentive Program	100%	100%	81	533,038	100%	100%	81	533,038
27	EnWin Green Suites	-	-	0	0	-	-	0	0

Assumes demand response resources have a persistence of 1 year

Program	Contribution to Targets	
	Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program Total	3,183	38,474,150
Business Program Total	2,771	49,667,192
Industrial Program Total	501	13,007,518
Home Assistance Program Total	0	0
Pre-2011 Programs completed in 2011 Total	2,325	45,401,970
Total OPA Contracted Province-Wide CDM Programs	8,781	146,550,830

#	Initiative	Contribution to Targets	
		Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program			
1	Appliance Retirement	157	4,641,956
2	Appliance Exchange	6	67,288
3	HVAC Incentives	2,829	20,768,356
4	Conservation Instant Coupon Booklet	80	5,180,613
5	Bi-Annual Retailer Event	112	7,803,358
6	Retailer Co-op	0	9,339
7	Residential Demand Response	0	3,239
8	Residential New Construction	0	0
Business Program			
9	Efficiency: Equipment Replacement	1,223	30,042,498
10	Direct Install Lighting	1,531	19,296,686
11	Existing Building Commissioning Incentive	0	0
12	New Construction and Major Renovation Incentive	16	279,472
13	Energy Audit	0	0
14	Commercial Demand Response (part of the Residential program schedule)	0	0
15	Demand Response 3 (part of the Industrial program schedule)	0	48,536
Industrial Program			
16	Process & System Upgrades	0	0
17	Monitoring & Targeting	0	0
18	Energy Manager	0	0
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	501	12,852,927
20	Demand Response 3	0	154,591
Home Assistance Program			
21	Home Assistance Program	0	0
Pre-2011 Programs completed in 2011			
22	Electricity Retrofit Incentive Program	1,958	38,160,095
23	High Performance New Construction	211	4,331,586
24	Toronto Comprehensive	0	0
25	Multifamily Energy Efficiency Rebates	75	778,138
26	Data Centre Incentive Program	81	2,132,152
27	EnWin Green Suites	0	0

Assumes demand response resources have a persistence of 1 year

Progress Towards CDM Targets

Results are attributed to target using current OPA reporting policies. Energy efficiency resources persist for the duration of the effective useful life. Any upcoming code changes are taken into account. Demand response resources persist for 1 year. Please see methodology tab for more detailed information.

Yellow cells are intended for the LDC to input information to complete their OEB Reporting Template.

Table 6: Net Peak Demand Savings at the End User Level (MW)

Implementation Period	Annual			
	2011	2012	2013	2014
2011 - Verified	14.49	9.37	9.28	8.78
2012				
2013				
2014				0.00
Verified Net Annual Peak Demand Savings Persisting in 2014:				8.78
PowerStream Inc. 2014 Annual CDM Capacity Target:				95.57
Verified Portion of Peak Demand Savings Target Achieved in 2014(%):				9.19%
LDC Milestone submitted for 2011				-%
Variance				

Table 7: Net Energy Savings at the End User Level (GWh)

Implementation Period	Annual				Cumulative 2011-2014
	2011	2012	2013	2014	
2011 - Verified	37.27	37.06	36.82	35.41	146.55
2012					
2013					
2014					
Verified Net Cumulative Energy Savings 2011-2014:					146.55
PowerStream Inc. 2011-2014 Cumulative CDM Energy Target:					407.34
Verified Portion of Cumulative Energy Target Achieved (%):					35.98%
LDC Milestone submitted for 2011					-%
Variance					

Table P1: Province-Wide Participation

#	Initiative	Activity Unit	Uptake/ Participation Units
Consumer Program			
1	Appliance Retirement	Appliances	56,110
2	Appliance Exchange	Appliances	3,688
3	HVAC Incentives	Equipment	111,587
4	Conservation Instant Coupon Booklet	Products ⁴	559,462
5	Bi-Annual Retailer Event	Products ⁵	870,332
6	Retailer Co-op	Products	152
7	Residential Demand Response	Devices	19,577
8	Residential New Construction	Houses	7
Business Program			
9	Efficiency: Equipment Replacement	Projects	2,516
10	Direct Installed Lighting	Projects	20,297
11	Existing Building Commissioning Incentive	Buildings	-
12	New Construction and Major Renovation Incentive	Buildings	10
13	Energy Audit	Audits	103
14	Commercial Demand Response (part of the Residential program schedule)	Devices	264
15	Demand Response 3 (part of the Industrial program schedule)	Facilities	148
Industrial Program			
16	Process & System Upgrades ²	Projects	-
17	Monitoring & Targeting ²	Projects	-
18	Energy Manager ^{2 3}	Managers	-
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule) ¹	Projects	433
20	Demand Response 3	Facilities	134
Home Assistance Program			
21	Home Assistance Program	Homes	46
Pre 2011 Programs Completed in 2011			
22	Electricity Retrofit Incentive Program	Projects	2,023
23	High Performance New Construction	Projects	145
24	Toronto Comprehensive	Projects	553
25	Multifamily Energy Efficiency Rebates	Projects	110
26	Data Centre Incentive Program	Projects	5
27	EnWin Green Suites	Projects	3

² Results are based on completed incentive projects (see "Methodology" tab for more information)

³ Includes: Roving Energy Managers, Key Account Managers and Embedded Energy Managers with completed projects

⁴ 209,693 valid coupons redeemed

⁵ 369,446 valid coupons redeemed

Table P2: Province-Wide Results

Program				Gross Savings				Net Savings	
				Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)			Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program Total				73,757	192,379,633			49,123	133,519,668
Business Program Total				78,048	251,304,448			64,594	198,124,227
Industrial Program Total				68,648	41,493,145			57,099	31,947,577
Home Assistance Program Total				4	56,119			2	39,283
Pre-2011 Programs completed in 2011 Total				87,169	460,822,079			44,833	241,853,020
Total OPA Contracted Province-Wide CDM Programs				307,626	946,055,425			215,651	605,483,775

#	Initiative	Realization Rate		Gross Savings		Net-to-Gross Ratio		Net Savings	
		Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)	Peak Demand Savings	Energy Savings	Incremental Peak Demand Savings (kW)	Incremental Energy Savings (kWh)
Consumer Program									
1	Appliance Retirement	100%	100%	6,750	45,971,627	51%	51%	3,299	23,005,812
2	Appliance Exchange	100%	100%	719	873,531	51%	51%	371	450,187
3	HVAC Incentives	100%	100%	53,209	99,413,430	60%	60%	32,037	59,437,670
4	Conservation Instant Coupon Booklet	100%	100%	1,184	19,192,453	114%	111%	1,344	21,211,537
5	Bi-Annual Retailer Event	100%	100%	1,504	26,899,265	112%	110%	1,681	29,387,468
6	Retailer Co-op	100%	100%	0	3,917	68%	68%	0	2,652
7	Residential Demand Response	n/a	n/a	10,390	23,597	n/a	n/a	10,390	23,597
8	Residential New Construction	100%	100%	0	1,813	41%	41%	0	743
Business Program									
9	Efficiency: Equipment Replacement	106%	91%	34,201	184,070,265	72%	74%	24,467	136,002,258
10	Direct Installed Lighting	108%	93%	22,155	65,777,197	108%	93%	23,724	61,076,701
11	Existing Building Commissioning Incentive	-	-	-	-	-	-	-	-
12	New Construction and Major Renovation Incentive	50%	50%	247	823,434	50%	50%	123	411,717
13	Energy Audit	-	-	-	-	-	-	-	-
14	Commercial Demand Response (part of the Residential program schedule)	n/a	n/a	55	131	n/a	n/a	55	131
15	Demand Response 3 (part of the Industrial program schedule)	76%	n/a	21,390	633,421	n/a	n/a	16,224	633,421
Industrial Program									
16	Process & System Upgrades	-	-	-	-	-	-	-	-
17	Monitoring & Targeting	-	-	-	-	-	-	-	-
18	Energy Manager	-	-	-	-	-	-	-	-
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	111%	91%	6,372	38,412,408	72%	75%	4,615	28,866,840
20	Demand Response 3	84%	n/a	62,276	3,080,737	n/a	n/a	52,484	3,080,737
Home Assistance Program									
21	Home Assistance Program	100%	100%	4	56,119	70%	70%	2	39,283
Pre-2011 Programs completed in 2011									
22	Electricity Retrofit Incentive Program	80%	80%	40,418	223,956,390	54%	54%	21,550	120,492,549
23	High Performance New Construction	100%	100%	10,197	52,371,183	49%	49%	5,098	26,185,591
24	Toronto Comprehensive	113%	113%	33,467	174,070,574	50%	52%	15,805	86,964,886
25	Multifamily Energy Efficiency Rebates	93%	93%	2,553	9,774,792	78%	78%	1,981	7,595,683
26	Data Centre Incentive Program	100%	100%	81	533,038	100%	100%	81	533,038
27	EnWin Green Suites	100%	100%	453	116,102	70%	70%	317	81,272

Assumes demand response resources have a persistence of 1 year

Program	Contribution to Targets	
	Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program Total	38,405	534,017,835
Business Program Total	41,048	767,657,790
Industrial Program Total	4,613	118,543,019
Home Assistance Program Total	2	157,134
Pre-2011 Programs completed in 2011 Total	44,833	967,412,079
Total OPA Contracted Province-Wide CDM Programs	128,901	2,387,787,856

#	Initiative	Contribution to Targets	
		Program-to-Date: Net Annual Peak Demand Savings (kW) in 2014	Program-to-Date: 2011-2014 Net Cumulative Energy Savings (kWh)
Consumer Program			
1	Appliance Retirement	3,160	91,903,303
2	Appliance Exchange	181	1,930,651
3	HVAC Incentives	32,037	237,750,681
4	Conservation Instant Coupon Booklet	1,344	84,846,148
5	Bi-Annual Retailer Event	1,681	117,549,874
6	Retailer Co-op	0	10,607
7	Residential Demand Response	0	23,597
8	Residential New Construction	0	2,973
Business Program			
9	Efficiency: Equipment Replacement	24,438	543,856,392
10	Direct Installed Lighting	16,486	221,520,977
11	Existing Building Commissioning Incentive	-	-
12	New Construction and Major Renovation Incentive	123	1,646,869
13	Energy Audit	-	-
14	Commercial Demand Response (part of the Residential program schedule)	0	131
15	Demand Response 3 (part of the Industrial program schedule)	0	633,421
Industrial Program			
16	Process & System Upgrades	-	-
17	Monitoring & Targeting	-	-
18	Energy Manager	-	-
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	4,613	115,462,282
20	Demand Response 3	0	3,080,737
Home Assistance Program			
21	Home Assistance Program	2	157,134
Pre-2011 Programs completed in 2011			
22	Electricity Retrofit Incentive Program	21,550	481,970,197
23	High Performance New Construction	5,098	104,742,366
24	Toronto Comprehensive	15,805	347,859,545
25	Multifamily Energy Efficiency Rebates	1,981	30,382,733
26	Data Centre Incentive Program	81	2,132,152
27	EnWin Green Suites	317	325,086

Assumes demand response resources have a persistence of 1 year

Summary - Provincial Progress

Table P3: Province-Wide Net Peak Demand Savings at the End User Level (MW)

Implementation Period	Annual			
	2011	2012	2013	2014
2011	215.7	136.4	135.7	128.9
2012				
2013				
2014				
Verified Net Annual Peak Demand Savings in 2014:				128.9
2014 Annual CDM Capacity Target				1,330
Verified Peak Demand Savings Target Achieved - 2011 (%):				9.69%

Table P4: Province-Wide Net Energy Savings at the End-User Level (GWh)

Implementation Period	Annual				Cumulative 2011-2014
	2011	2012	2013	2014	
2011	605.5	601.6	599.6	580.9	2,388
2012					0
2013					0
2014					0
Verified Net Cumulative Energy Savings 2011-2014:					2,388
2011-2014 Cumulative CDM Energy Target:					6,000
Verified Portion of Energy Target Achieved - 2011 (%):					39.79%

METHODOLOGY

All results are at the end-user level (not including transmission and distribution losses)

EQUATIONS:

PRESCRIPTIVE MEASURES/PROJECTS:

Gross Savings = Activity * Per Unit Assumption

Net Savings = Gross Savings * Net-to-Gross Ratio

All savings are annualized (i.e. the savings are the same regardless of time of year a project was completed or measure installed)

ENGINEERED/CUSTOM PROJECTS:

Gross Savings = Reported Savings * Realization Rate

Net Savings = Gross Savings * Net-to-Gross Ratio

All savings are annualized (i.e. the savings are the same regardless of time of year a project was completed or measure installed)

DEMAND RESPONSE:

Peak Demand: Gross Savings = Net Savings = contracted MW at contributor level * Provincial contracted to ex ante ratio

Energy: Gross Savings = Net Savings = provincial ex post energy savings * LDC proportion of total provincial contracted MW

All savings are annualized (i.e. the savings are the same regardless of the time of year a participant began offering DR)

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
Consumer Program				
1	Appliance Retirement	Includes both retail and home pickup stream; Retail stream allocated based on average of 2008 & 2009 residential throughput; Home pickup stream directly attributed by postal code or customer selection	Savings are considered to begin in the year the appliance is picked up.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
2	Appliance Exchange	When postal code information is provided by customer, results are directly attributed to the LDC. When postal code is not available, results allocated based on average of 2008 & 2009 residential throughput	Savings are considered to begin in the year that the exchange event occurred	
3	HVAC Incentives	Results directly attributed to LDC based on customer postal code	Savings are considered to begin in the year that the installation occurred	

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
4	Conservation Instant Coupon Booklet	LDC-coded coupons directly attributed to LDC; Otherwise results are allocated based on average of 2008 & 2009 residential throughput	Savings are considered to begin in the year in which the coupon was redeemed.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level. Initiative was not evaluated in 2011, reported results are presented with verified per unit assumptions and net-to-gross ratio from Bi-Annual Retailer Event and Conservation Instant Coupon Booklet initiatives.
5	Bi-Annual Retailer Event	Results are allocated based on average of 2008 & 2009 residential throughput	Savings are considered to begin in the year in which the event occurs.	
6	Retailer Co-op	When postal code information is provided by the customer, results are directly attributed. If postal code information is not available, results are allocated based on average of 2008 & 2009 residential throughput.	Savings are considered to begin in the year of the home visit and installation date.	Peak demand and energy savings are determined using the verified measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level. Initiative was not evaluated in 2011, reported results are presented with verified per unit assumptions and net-to-gross ratio from Bi-Annual Retailer Event and Conservation Instant Coupon Booklet initiatives.

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
7	Residential Demand Response	Results are directly attributed to LDC based on data provided to OPA through project completion reports and continuing participant lists	Savings are considered to begin in the year the device was installed and/or when a customer signed a peaksaver PLUS™ participant agreement.	Peak demand savings are based on an ex ante estimate assuming a 1 in 10 weather year and represents the "insurance value" of the initiative. Energy savings are based on an ex post estimate which reflects the savings that occurred as a result of activations in the year and accounts for any "snapback" in energy consumption experienced after the event. Savings are assumed to persist for only 1 year, reflecting that savings will only occur if the resource is activated.
8	Residential New Construction	Results are directly attributed to LDC based on LDC identified in application in the saveONenergy CRM system; Initiative was not evaluated in 2011, reported results are presented with forecast assumptions as per the business case.	Savings are considered to begin in the year of the project completion date.	Peak demand and energy savings are determined using a measure level per unit assumption multiplied by the uptake in the market (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
Business Program				

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
9	Efficiency: Equipment Replacement	Results are directly attributed to LDC based on LDC identified at the facility level in the saveONenergy CRM; Projects in the Application Status: "Post-Stage Submission" are included (excluding "Payment denied by LDC"); Please see "Reference Tables" tab for Building type to Sector mapping	Savings are considered to begin in the year of the actual project completion date on the iCON CRM system.	Peak demand and energy savings are determined by the total savings for a given project as reported in the iCON CRM system (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). Both realization rate and net-to-gross ratios can differ for energy and demand savings and depend on the mix of projects within an LDC territory (i.e. lighting or non-lighting project, engineered/custom/prescriptive track).
		Additional Note: project counts were derived by filtering out "Application Status" = "Post-Project Submission - Payment denied by LDC" and only including projects with an "Actual Project Completion Date" in 2011 and pulling both the "Application Name" field followed by the "Building Address 1" field from the Post Stage Retrofit Report and finally performing a count of the Building Addresses.		
10	Direct Installed Lighting	Results are directly attributed to LDC based on the LDC specified on the work order	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined using the verified measure level per unit assumptions multiplied by the uptake of each measure accounting for the realization rate for both peak demand and energy to reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings take into account net-to-gross factors such as free-ridership and spillover for both peak demand and energy savings at the program level (net).

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
11	Existing Building Commissioning Incentive	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated, no completed projects in 2011.	Savings are considered to begin in the year of the actual project completion date.	Peak demand and energy savings are determined by the total savings for a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
12	New Construction and Major Renovation Incentive	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated, reported results are presented with reported assumptions (as per evaluated results in 2010 and consultation with OPA-LDC Work Groups)	Savings are considered to begin in the year of the actual project completion date.	
13	Energy Audit	No resource savings results determined in 2011; Projects are directly attributed to LDC based on LDC identified in the application	Savings are considered to begin in the year of the audit date.	Peak demand and energy savings are determined by the total savings resulting from an audit as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
14	Commercial Demand Response (part of the Residential program schedule)	Results are directly attributed to LDC based on data provided to OPA through project completion reports and continuing participant lists	Savings are considered to begin in the year the device was installed and/or when a customer signed a peaksaver PLUS™ participant agreement.	Peak demand savings are based on an ex ante estimate assuming a 1 in 10 weather year and represents the "insurance value" of the initiative. Energy savings are based on an ex post estimate which reflects the savings that occurred as a result of activations in the year. Savings are assumed to persist for only 1 year, reflecting that savings will only occur if the resource is activated.

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
15	Demand Response 3 (part of the Industrial program schedule)	Results are attributed to LDCs based on the total contracted megawatts at the contributor level as of December 31st, applying the provincial ex ante to contracted ratio (ex ante estimate/contracted megawatts); Ex post energy savings are attributed to the LDC based on their proportion of the total contracted megawatts at the contributor level.	Savings are considered to begin in the year in which the contributor signed up to participate in demand response.	Peak demand savings are ex ante estimates based on the load reduction capability that can be expected for the purposes of planning. The ex ante estimates factor in both scheduled non-performances (i.e. maintenance) and historical performance. Energy savings are based on an ex post estimate which reflects the savings that actually occurred as a results of activations in the year. Savings are assumed to persist for 1 year, reflecting that savings will not occur if the resource is not activated and additional costs are incurred to activate the resource.
Industrial Program				
16	Process & System Upgrades	Results are directly attributed to LDC based on LDC identified in application in the saveONenergy CRM system; Initiative was not evaluated, no completed projects in 2011.	Savings are considered to begin in the year in which the incentive project was completed.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
17	Monitoring & Targeting	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated, no completed projects in 2011.	Savings are considered to begin in the year in which the incentive project was completed.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).
18	Energy Manager	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated, no completed projects in 2011.	Savings are considered to begin in the year in which the project was completed by the energy manager. If no date is specified the savings will begin the year of the Quarterly Report submitted by the energy manager.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net).

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
19	Efficiency: Equipment Replacement Incentive (part of the C&I program schedule)	Results are directly attributed to LDC based on LDC identified at the facility level in the saveONenergy CRM; Projects in the Application Status: "Post-Stage Submission" are included (excluding "Payment denied by LDC"); Please see "Reference Tables" tab for Building type to Sector mapping	Savings are considered to begin in the year of the actual project completion date on the iCON CRM system.	Peak demand and energy savings are determined by the total savings for a given project as reported in the iCON CRM system (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). Both realization rate and net-to-gross ratios can differ for energy and demand savings and depend on the mix of projects within an LDC territory (i.e. lighting or non-lighting project, engineered/custom/prescriptive track).
20	Demand Response 3	Results are attributed to LDCs based on the total contracted megawatts at the contributor level as of December 31st, applying the provincial ex ante to contracted ratio (ex ante estimate/contracted megawatts); Ex post energy savings are attributed to the LDC based on their proportion of the total contracted megawatts at the contributor level.	Savings are considered to begin in the year in which the contributor signed up to participate in demand response.	Peak demand savings are ex ante estimates based on the load reduction capability that can be expected for the purposes of planning. The ex ante estimates factor in both scheduled non-performances (i.e. maintenance) and historical performance. Energy savings are based on an ex post estimate which reflects the savings that actually occurred as a results of activations in the year. Savings are assumed to persist for 1 year, reflecting that savings will not occur if the resource is not activated and additional costs are incurred to activate the resource.

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
Home Assistance Program				
21	Home Assistance Program	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated in 2011, reported results are presented with forecast assumptions as per the business case.	Savings are considered to begin in the year in which the measures were installed.	Peak demand and energy savings are determined using the measure level per unit assumption multiplied by the uptake of each measure (gross) taking into account net-to-gross factors such as free-ridership and spillover (net) at the measure level.
Pre-2011 Programs completed in 2011				
22	Electricity Retrofit Incentive Program	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated in 2011, assumptions as per 2010 evaluation	Savings are considered to begin in the year in which a project was completed.	Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). If energy savings are not available , an estimate is made based on the kWh to kW ratio in the provincial results from the 2010 evaluated results (http://www.powerauthority.on.ca/evaluation-measurement-and-verification/evaluation-reports).
23	High Performance New Construction	Results are directly attributed to LDC based on customer data provided to the OPA from Enbridge; Initiative was not evaluated in 2011, assumptions as per 2010 evaluation	Savings are considered to begin in the year in which a project was completed.	
24	Toronto Comprehensive	Program run exclusively in Toronto Hydro-Electric System Limited service territory; Initiative was not evaluated in 2011, assumptions as per 2010 evaluation		

#	Initiative	Attributing Savings to LDCs	Savings 'start' Date	Calculating Resource Savings
25	Multifamily Energy Efficiency Rebates	Results are directly attributed to LDC based on LDC identified in the application; Initiative was not evaluated in 2011, assumptions as per 2010 evaluation	Savings are considered to begin in the year in which a project was completed.	<p>Peak demand and energy savings are determined by the total savings from a given project as reported (reported). A realization rate is applied to the reported savings to ensure that these savings align with EM&V protocols and reflect the savings that were actually realized (i.e. how many light bulbs were actually installed vs. what was reported) (gross). Net savings takes into account net-to-gross factors such as free-ridership and spillover (net). If energy savings are not available, an estimate is made based on the kWh to kW ratio in the provincial results from the 2010 evaluated results (http://www.powerauthority.on.ca/evaluation-measurement-and-verification/evaluation-reports).</p>
26	Data Centre Incentive Program	Program run exclusively in PowerStream Inc. service territory; Initiative was not evaluated in 2011, assumptions as per 2009 evaluation		
27	EnWin Green Suites	Program run exclusively in ENWIN Utilities Ltd. service territory; Initiative was not evaluated in 2011, assumptions as per 2010 evaluation		

ERII Sector (C&I vs. Industrial Mapping)	
Building Type	Sector
Agribusiness - Cattle Farm	C&I
Agribusiness - Dairy Farm	C&I
Agribusiness - Greenhouse	C&I
Agribusiness - Other	C&I
Agribusiness - Other,Mixed-Use - Office/Retail	C&I
Agribusiness - Other,Office,Retail,Warehouse	C&I
Agribusiness - Other,Office,Warehouse	C&I
Agribusiness - Poultry	C&I
Agribusiness - Poultry,Hospitality - Motel	C&I
Agribusiness - Swine	C&I
Convenience Store	C&I
Education - College / Trade School	C&I
Education - College / Trade School,Multi-Residential - Condominium	C&I
Education - College / Trade School,Multi-Residential - Rental Apartment	C&I
Education - College / Trade School,Retail	C&I
Education - Primary School	C&I
Education - Primary School,Education - Secondary School	C&I
Education - Primary School,Multi-Residential - Rental Apartment	C&I
Education - Primary School,Not-for-Profit	C&I
Education - Secondary School	C&I
Education - University	C&I
Education - University,Office	C&I
Hospital/Healthcare - Clinic	C&I
Hospital/Healthcare - Clinic,Hospital/Healthcare - Long-term Care,Hospital/Healthcare - Medical Building	C&I
Hospital/Healthcare - Clinic,Industrial	C&I
Hospital/Healthcare - Clinic,Retail	C&I
Hospital/Healthcare - Long-term Care	C&I
Hospital/Healthcare - Long-term Care,Hospital/Healthcare - Medical Building	C&I
Hospital/Healthcare - Medical Building	C&I
Hospital/Healthcare - Medical Building,Mixed-Use - Office/Retail	C&I
Hospital/Healthcare - Medical Building,Mixed-Use - Office/Retail,Office	C&I
Hospitality - Hotel	C&I
Hospitality - Hotel,Restaurant - Dining	C&I
Hospitality - Motel	C&I
Industrial	Industrial
Mixed-Use - Office/Retail	C&I
Mixed-Use - Office/Retail,Industrial	Industrial
Mixed-Use - Office/Retail,Mixed-Use - Other	C&I
Mixed-Use - Office/Retail,Mixed-Use - Other,Not-for-Profit,Warehouse	C&I
Mixed-Use - Office/Retail,Mixed-Use - Residential/Retail	C&I
Mixed-Use - Office/Retail,Office,Restaurant - Dining,Restaurant - Quick Serve,Retail,Warehouse	C&I

Mixed-Use - Office/Retail,Office,Warehouse	C&I
Mixed-Use - Office/Retail,Retail	C&I
Mixed-Use - Office/Retail,Warehouse	C&I
Mixed-Use - Office/Retail,Warehouse,Industrial	Industrial
Mixed-Use - Other	C&I
Mixed-Use - Other,Industrial	Industrial
Mixed-Use - Other,Not-for-Profit,Office	C&I
Mixed-Use - Other,Office	C&I
Mixed-Use - Other,Other: Please specify	C&I
Mixed-Use - Other,Retail,Warehouse	C&I
Mixed-Use - Other,Warehouse	C&I
Mixed-Use - Residential/Retail	C&I
Mixed-Use - Residential/Retail,Multi-Residential - Condominium	C&I
Mixed-Use - Residential/Retail,Multi-Residential - Rental Apartment	C&I
Mixed-Use - Residential/Retail,Retail	C&I
Multi-Residential - Condominium	C&I
Multi-Residential - Condominium,Multi-Residential - Rental Apartment	C&I
Multi-Residential - Condominium,Other: Please specify	C&I
Multi-Residential - Rental Apartment	C&I
Multi-Residential - Rental Apartment,Multi-Residential - Social Housing Provider,Not-for-Profit	C&I
Multi-Residential - Rental Apartment,Not-for-Profit	C&I
Multi-Residential - Rental Apartment,Warehouse	C&I
Multi-Residential - Social Housing Provider	C&I
Multi-Residential - Social Housing Provider,Industrial	C&I
Multi-Residential - Social Housing Provider,Not-for-Profit	C&I
Not-for-Profit	C&I
Not-for-Profit,Office	C&I
Not-for-Profit,Other: Please specify	C&I
Not-for-Profit,Warehouse	C&I
Office	C&I
Office,Industrial	Industrial
Office,Other: Please specify	C&I
Office,Other: Please specify,Warehouse	C&I
Office,Restaurant - Dining	C&I
Office,Restaurant - Dining,Industrial	Industrial
Office,Retail	C&I
Office,Retail,Industrial	C&I
Office,Retail,Warehouse	C&I
Office,Warehouse	C&I
Office,Warehouse,Industrial	Industrial
Other: Please specify	C&I
Other: Please specify,Industrial	Industrial
Other: Please specify,Retail	C&I
Other: Please specify,Warehouse	C&I
Restaurant - Dining	C&I
Restaurant - Dining,Retail	C&I

Restaurant - Quick Serve	C&I
Restaurant - Quick Serve,Retail	C&I
Retail	C&I
Retail,Industrial	Industrial
Retail,Warehouse	C&I
Warehouse	C&I
Warehouse,Industrial	Industrial

Consumer Program Allocation Methodology

Results can be allocated based on average of 2008 & 2009 residential throughput for each LDC (below) when additional information is not available. Source: OEB Yearbook Data 2008 & 2009

Local Distribution Company	Allocation
Algoma Power Inc.	0.2%
Atikokan Hydro Inc.	0.0%
Attawapiskat Power Corporation	0.0%
Bluewater Power Distribution Corporation	0.6%
Brant County Power Inc.	0.2%
Brantford Power Inc.	0.7%
Burlington Hydro Inc.	1.4%
Cambridge and North Dumfries Hydro Inc.	1.0%
Canadian Niagara Power Inc.	0.5%
Centre Wellington Hydro Ltd.	0.1%
Chapleau Public Utilities Corporation	0.0%
COLLUS Power Corporation	0.3%
Cooperative Hydro Embrun Inc.	0.0%
E.L.K. Energy Inc.	0.2%
Enersource Hydro Mississauga Inc.	3.9%
ENTEGRUS	0.6%
ENWIN Utilities Ltd.	1.6%
Erie Thames Powerlines Corporation	0.4%
Espanola Regional Hydro Distribution Corporation	0.1%
Essex Powerlines Corporation	0.7%
Festival Hydro Inc.	0.3%
Fort Albany Power Corporation	0.0%
Fort Frances Power Corporation	0.1%
Greater Sudbury Hydro Inc.	1.0%
Grimsby Power Inc.	0.2%
Guelph Hydro Electric Systems Inc.	0.9%
Haldimand County Hydro Inc.	0.4%
Halton Hills Hydro Inc.	0.5%
Hearst Power Distribution Company Limited	0.1%
Horizon Utilities Corporation	4.0%
Hydro 2000 Inc.	0.0%
Hydro Hawkesbury Inc.	0.1%
Hydro One Brampton Networks Inc.	2.8%
Hydro One Networks Inc.	30.0%

Hydro Ottawa Limited	5.6%
Innisfil Hydro Distribution Systems Limited	0.4%
Kashechewan Power Corporation	0.0%
Kenora Hydro Electric Corporation Ltd.	0.1%
Kingston Hydro Corporation	0.5%
Kitchener-Wilmot Hydro Inc.	1.6%
Lakefront Utilities Inc.	0.2%
Lakeland Power Distribution Ltd.	0.2%
London Hydro Inc.	2.7%
Middlesex Power Distribution Corporation	0.1%
Midland Power Utility Corporation	0.1%
Milton Hydro Distribution Inc.	0.6%
Newmarket - Tay Power Distribution Ltd.	0.7%
Niagara Peninsula Energy Inc.	1.0%
Niagara-on-the-Lake Hydro Inc.	0.2%
Norfolk Power Distribution Inc.	0.3%
North Bay Hydro Distribution Limited	0.5%
Northern Ontario Wires Inc.	0.1%
Oakville Hydro Electricity Distribution Inc.	1.5%
Orangeville Hydro Limited	0.2%
Orillia Power Distribution Corporation	0.3%
Oshawa PUC Networks Inc.	1.2%
Ottawa River Power Corporation	0.2%
Parry Sound Power Corporation	0.1%
Peterborough Distribution Incorporated	0.7%
PowerStream Inc.	6.6%
PUC Distribution Inc.	0.9%
Renfrew Hydro Inc.	0.1%
Rideau St. Lawrence Distribution Inc.	0.1%
Sioux Lookout Hydro Inc.	0.1%
St. Thomas Energy Inc.	0.3%
Thunder Bay Hydro Electricity Distribution Inc.	0.9%
Tillsonburg Hydro Inc.	0.1%
Toronto Hydro-Electric System Limited	12.8%
Veridian Connections Inc.	2.4%
Wasaga Distribution Inc.	0.2%
Waterloo North Hydro Inc.	1.0%
Welland Hydro-Electric System Corp.	0.4%
Wellington North Power Inc.	0.1%
West Coast Huron Energy Inc.	0.1%
Westario Power Inc.	0.5%
Whitby Hydro Electric Corporation	0.9%
Woodstock Hydro Services Inc.	0.3%

Reporting Glossary

Annual: the peak demand or energy savings that occur in a given year (includes resource savings from new program activity in a given year and resource savings persisting from previous years).

Cumulative Energy Savings: represents the sum of the annual energy savings that accrue over a defined period (in the context of this report the defined period is 2011 - 2014). This concept does not apply to peak demand savings.

End-User Level: resource savings in this report are measured at the customer level as opposed to the generator level (the difference being line losses).

Free-ridership: the percentage of participants who would have implemented the program measure or practice in the absence of the program.

Incremental: the new resource savings attributable to activity procured in a particular reporting period based on when the savings are considered to 'start' (please see table 5).

Initiative: a Conservation & Demand Management offering focusing on a particular opportunity or customer end-use (i.e. Retrofit, Fridge & Freezer Pickup).

Net-to-Gross Ratio: The ratio of net savings to gross savings, which takes into account factors such as free-ridership and spillover

Net Energy Savings (MWh): energy savings attributable to conservation and demand management activities net of free-riders, etc.

Net Peak Demand Savings (MW): peak demand savings attributable to conservation and demand management activities net of free-riders, etc.

Program: a group of initiatives that target a particular market sector (i.e. Consumer, Industrial).

Realization Rate: A comparison of observed or measured (evaluated) information to original reported savings which is used to adjust the gross savings estimates.

Settlement Account: the grouping of demand response facilities (contributors) into one contractual agreement

Spillover: Reductions in energy consumption and/or demand caused by the presence of the energy efficiency program, beyond the program-related gross savings of the participants. There can be participant and/or non-participant spillover.

Unit: for a specific initiative the relevant type of activity acquired in the market place (i.e. appliances picked up, projects completed, coupons redeemed).



saveONenergy™

Ontario Power Authority Conservation & Demand Management Status Report

Q1 2012 Preliminary Results Update to March 31, 2012

PowerStream Inc.

Unverified LDC Tier 1 Progress Performance at a Glance

Table 1 shows unverified progress to target using two scenarios:

Scenario 1: Aggregation of LDC achievement in energy efficiency (EE) and demand response (DR) initiatives using the current DR reporting policy of 1 year persistence. This scenario is used on pages 4 - 7.

Scenario 2: Aggregation of LDC achievement in EE and DR initiatives using alternate assumption that DR customers contribute to the program until 2014, including participant achievement to date. Scenario 2 is used on this page only.

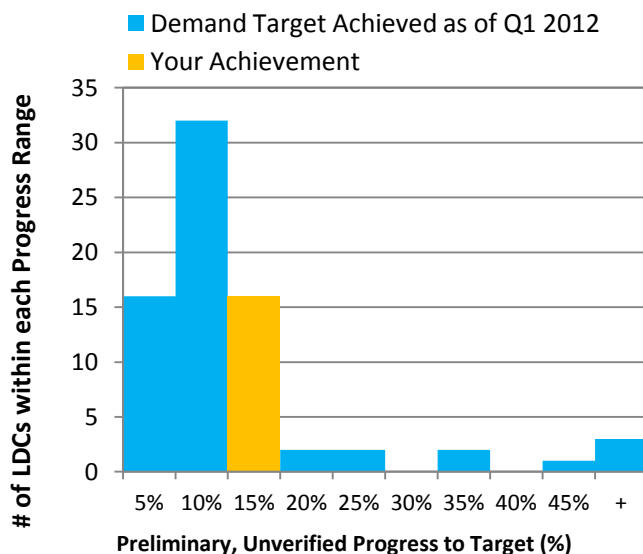
Table 1: Unverified Progress to Targets

Unverified Progress to Targets	Scenario 1	Scenario 2	
	% of Target Achieved	% of Target Achieved	Rank (of 77)
Net Annual Peak Demand Savings in 2014	8.4%	12.3%	19
2011-2014 Net Cumulative Energy Savings	32.0%	32.0%	15

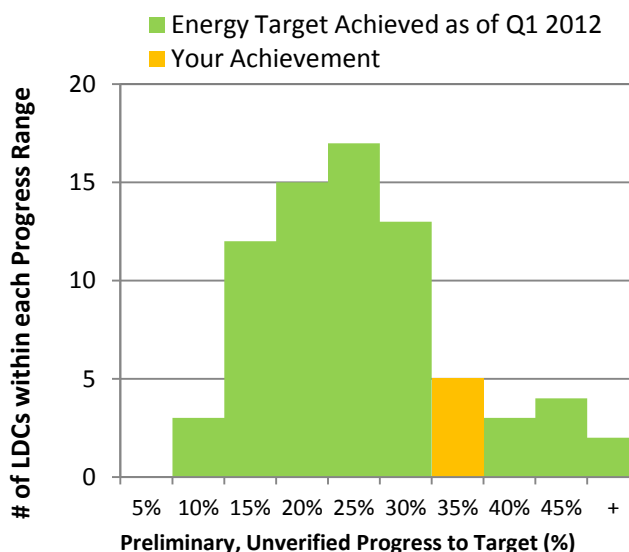
Figures 1 & 2 shows a histogram with all LDCs' unverified performance towards their OEB targets and where your LDC performance is in relation to the LDC community. The golden lines show your progress towards peak demand and energy targets, respectively.

Figures 1 & 2: LDC Position in Relation to Entire LDC Community

Demand Target Achieved as of Q1 2012



Energy Target Achieved as of Q1 2012



For Example: there are 3 LDCs that have achieved between 5 and 10% of their OEB cumulative energy target using scenario 2.

Message from the Vice President

Q1 2012 was an exciting quarter for the OPA and LDCs. Customer participation in the saveONenergy programs continues to gain momentum. 25 LDCs have achieved over 25% of their cumulative energy target in Q1 2012 compared to only 9 in Q4 2011! To further build the capability of the LDC community and innovative program delivery, please share your success stories so others can learn and build from your best practices.

Through the effective collaboration continuing into Q1 2012 the OPA and LDCs have begun to incorporate additional tools and greater flexibility to deliver more customer centric programs. We anticipate the resulting improvements will further drive customer participation - encouraging a culture of conservation across the province. We look forward to continuing to work with the LDCs to bring these customized program ideas forward.

Congratulations on another successful quarter. We invite you to contact the OPA Conservation Business Development team at ldc.support@powerauthority.on.ca with any questions or potential opportunities regarding this report.

Sincerely,

- Andrew Pride
Vice President, Conservation
Ontario Power Authority

About this Report

This report contains:

- Peak demand and energy savings for OPA-Contracted Province-Wide programs (does not incl. Ontario Energy Board (OEB) approved CDM programs or other LDC conservation efforts).
- Unverified quarterly results discounted using forecasted net-to-gross ratios. Once full Evaluation, Measurement & Verification (EM&V) occurs in the following year, results will be identified as final (verified).
- Program activity data (i.e. projects completed, appliances picked up) completed on or before March 31, 2011 and received and entered into the OPA processing systems as per the dates specified in Table 6.
- Updates to the previous quarter's participation due to more data availability.
- *Assumption of 1 year persistence used to inform the remainder of this report

Future reports will contain:

- More data for the Home Assistance Program
- Preliminary results for **peaksaver PLUS™** representing participants that have signed a Participant Agreement will appear

New this quarter based on LDC feedback:

- Demand response is now reported in both the "YTD Incremental" and "YTD Incremental (2012-to-Date)" columns. These values represent the total demand response under contract in your LDC territory as of the end of the current reporting period.
- Assumptions have been updated to reflect findings from 2010 Evaluations and consultation with the Consumer, Business, and Industrial Work Groups. A document containing the net-to-gross ratio assumptions that will be used in 2012 preliminary, unverified reporting is available on the iCON Portal under "Other Program Materials." The item is called: "Reporting tools." OPA will continue to populate this folder with information to help LDCs understand reporting assumptions and policies.

2011-2014 Summary: Net Peak Demand Savings Achieved (MW)

This section provides a portfolio level view of net peak demand savings procured through Tier 1 programs to date.

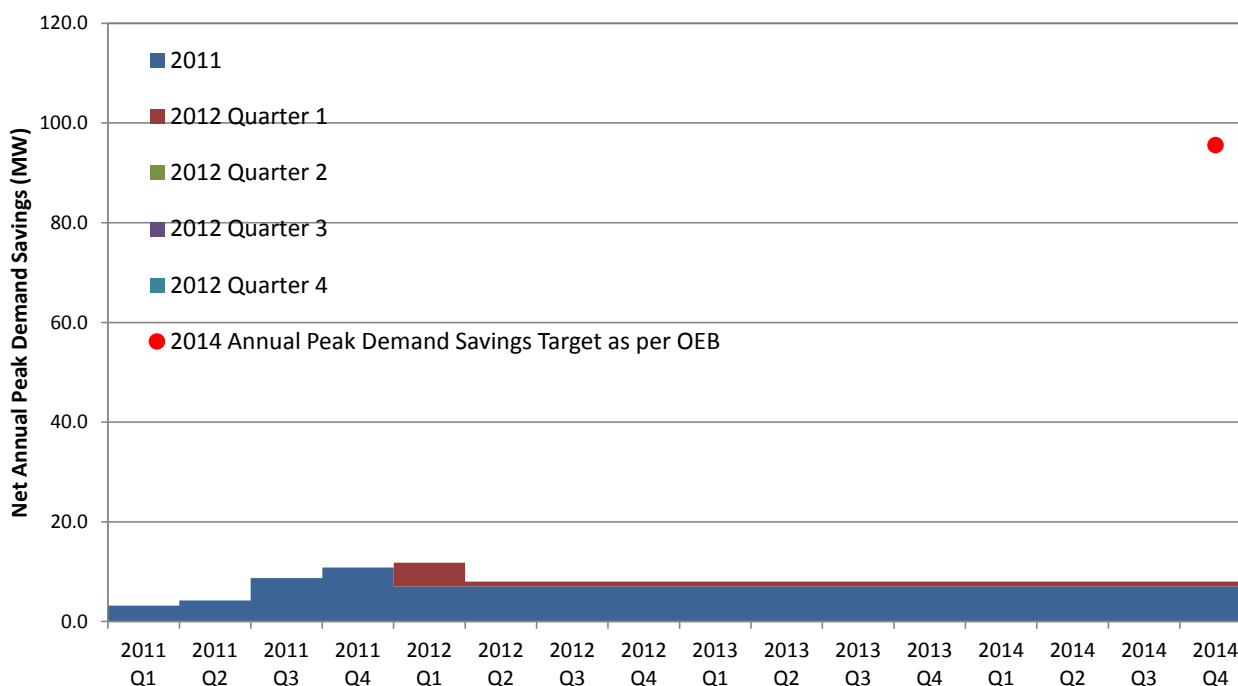
Table 2 presents preliminary net peak demand savings results from 2011 to date listed by implementation period. This table also presents the net annual peak demand savings that are expected to persist through to 2014 from program activity completed to date. Please note that Demand Response 1 and 3 have a persistence of 1 year in the table and figure below.

Table 2: Net Peak Demand Savings at the End-User Level (MW)

#	Implementation Period	Annual			
		2011	2012	2013	2014
1	2011 - Reported	10.85	7.04	7.04	7.04
2	2012 - Reported - Quarter 1		4.76	0.94	0.94
3	2012 - Reported - Quarter 2				
4	2012 - Reported - Quarter 3				
5	2012 - Reported - Quarter 4				
6	2013				
7	2014				
Annual Reported (Unverified)		10.85	11.81		
Annual Final (Verified)		n/a	n/a		
Unverified Net Annual Peak Demand Savings in 2014:					7.98
2014 Annual Peak Demand Savings Target as per OEB:					95.57
Unverified 2014 Peak Demand Savings Target Achieved (%):					8.4%

Figure 3 presents a visual summary of the information contained in Table 2.

Figure 3: Net Peak Demand Savings (MW)



2011-2014 Summary: Net Energy Savings Achieved (GWh)

This section provides a portfolio level view of net energy savings procured through Tier 1 programs to date.

Table 3 presents preliminary net annual energy savings results from 2011 to date by implementation period. This table also presents 2011-2014 net cumulative energy savings expected in 2014 from program activity completed to date.

Table 3: Net Energy Savings at the End-User Level (GWh)

#	Implementation Period	Annual				Cumulative
		2011	2012	2013	2014	2011-2014
1	2011 - Reported	29.31	29.24	29.24	29.24	117.03
2	2012 - Reported - Quarter 1		4.47	4.40	4.40	13.27
3	2012 - Reported - Quarter 2					
4	2012 - Reported - Quarter 3					
5	2012 - Reported - Quarter 4					
6	2013					
7	2014					
Annual Reported (Unverified)		29.31	33.71			
Annual Final (Verified)		n/a	n/a			
Unverified Net Cumulative Energy Savings 2011-2014:						130.30
2011-2014 Cumulative Energy Savings Target as per OEB:						407.34
Unverified 2011-2014 Cumulative Energy Target Achieved (%):						32.0%

Figure 4 presents a visual summary of the information contained in Table 3.

Figure 4: Net Cumulative Energy Savings (GWh)

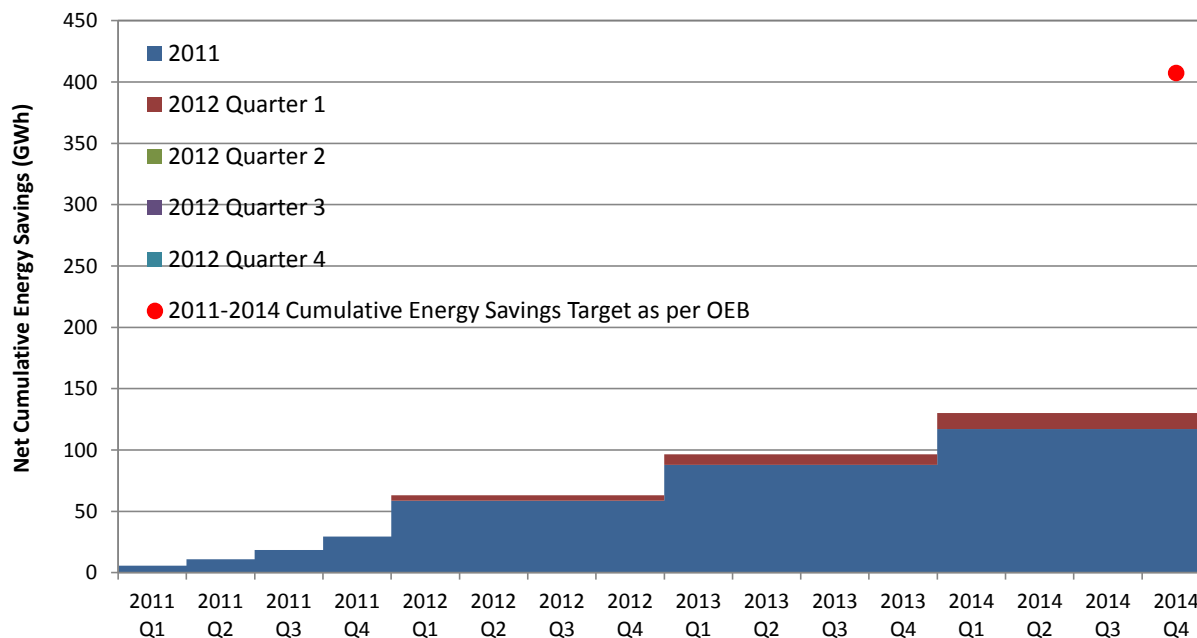


Table 4: **PowerStream Inc.** Initiative and Program Level Savings

All results are NET and presented at the end-user level

Table 4: Powerstream Inc. Initiative and Program Level Savings										
#	Initiative	Activity			Net Peak Demand Savings (kW)			Net Energy Savings (kWh)		
		Unit	Incremental (Current Quarter)	Program-to- Date (2011-to- Date):	Incremental (Current Quarter)	YTD Incremental (2012-to-Date)	Program-to-Date: unverified annual savings in 2014	Incremental (Current Quarter)	YTD Incremental (2012-to-Date)	Program-to-Date: unverified cumulative savings in 2014
Consumer Program										
1	Appliance Retirement	Appliances	348	2,944	30	30	250	202,065	202,065	6,507,223
2	Appliance Exchange	Appliances	0	136	0	0	6	0	0	39,062
3	HVAC Incentives	Equipment	1,088	9,343	237	237	1,897	373,443	373,443	11,202,673
4	Conservation Instant Coupon Booklet	Coupons	0	12,453	0	0	24	0	0	3,080,198
5	Bi-Annual Retailer Event	Coupons	0	26,399	0	0	42	0	0	5,216,886
6	Retailer Co-op	Items	0	134	0	0	0	0	0	85
7	peaksaver® extension	Devices	0	1,943	0	0	1,088	0	0	170,984
8	Midstream Electronics	Items			not in market					
9	Midstream Pool Equipment	Items			not in market					
10	Residential New Construction	Houses	0	0	0.00	0.00	0	0	0	0
Consumer Program Total					266	266	3,308	575,508	575,508	26,217,111
Business Program										
11	Equipment Replacement Incentive	Projects	28	183	283	283	917	1,477,991	1,477,991	16,951,781
12	Direct Installed Lighting	Projects	373	1,830	189	189	797	1,386,698	1,386,698	22,041,113
13	Direct Service Space Cooling	Equipment			not in market					
14	Building Commissioning	Buildings	0	0	0	0	0	0	0	0
15	New Construction	Buildings	0	381	0	0	20	0	0	319,108
16	peaksaver® extension	Devices	0	0	0	0	0	0	0	0
17	Demand Response 1	Facilities	0	0	0	0	0	0	0	0
18	Demand Response 3	Facilities	12	12	1,275	1,275	0	39,786	39,786	80,696
Business Program Total					1,747	1,747	1,734	2,904,475	2,904,475	39,392,698
Industrial Program										
19	Process & System Upgrades	Projects	0	0	0	0	0	0	0	0
20	Monitoring & Targeting	Projects	0	0	0	0	0	0	0	0
21	Energy Manager	Managers	0	0	0	0	0	0	0	0
22	Equipment Replacement Incentive	Projects	6	77	53	53	501	190,763	190,763	10,307,015
23	Demand Response 1	Facilities	0	0	0	0	0	0	0	0
24	Demand Response 3	Facilities	11	11	2,548	2,548	0	26,499	26,499	52,499
Industrial Program Total					2,601	2,601	501	217,263	217,263	10,359,514
Home Assistance Program										
25	Home Assistance Program	Units	0	0	0	0	0	0	0	0
Home Assistance Program Total					0	0	0	0	0	0
Pre-2011 Programs completed in 2011										
25	Electricity Retrofit Incentive Program	Projects	0	161	0	0	1,721	0	0	40,319,778
26	High Performance New Construction	Projects	4	23	150	150	719	771,215	771,215	14,008,385
27	Toronto Comprehensive	Projects	0	0	0	0	0	0	0	0
28	Multifamily Energy Efficiency Rebates	Projects	0	1	0	0	0	0	0	1,397
Pre-2011 Programs completed in 2011 Total					150	150	2,440	771,215	771,215	54,329,561
OPA-Contracted Province-Wide Portfolio Total					4,765	4,765	7,983	4,468,461	4,468,461	130,298,884
Unverified Savings Target Achieved:							8.4%			32.0%

Table 5: Province-Wide Initiative and Program Level Savings

All results are NET and presented at the end-user level

Table 3: Province-Wide Initiative and Program Level Savings										
#	Initiative	Activity			Net Peak Demand Savings (kW)			Net Energy Savings (kWh)		
		Unit	Incremental (Current Quarter)	Program-to- Date (2011-to- Date):	Incremental (Current Quarter)	YTD Incremental (2011-to-Date)	Program-to-Date: unverified annual savings in 2014	Incremental (Current Quarter)	YTD Incremental (2011-to-Date)	Program-to-Date: unverified cumulative savings in 2014
Consumer Program										
1	Appliance Retirement	Appliances	7,188	63,258	662	662	5,618	4,073,618	4,073,618	138,629,181
2	Appliance Exchange	Appliances	0	4,152	0	0	185	0	0	1,179,214
3	HVAC Incentives	Equipment	12,353	102,735	2,702	2,702	21,342	4,261,812	4,261,812	127,297,206
4	Conservation Instant Coupon Booklet	Coupons	0	201,500	0	0	388	0	0	49,225,347
5	Bi-Annual Retailer Event	Coupons	0	397,676	0	0	637	0	0	78,587,230
6	Retailer Co-op	Items	0	152	0	0	0	0	0	98
7	peaksaver® extension	Devices	0	17,825	0	0	9,982	0	0	1,568,600
8	Midstream Electronics	Items			not in market					
9	Midstream Pool Equipment	Items			not in market					
10	Residential New Construction	Houses	1	6	0.01	0.01	0.05	123	123	2,597
Consumer Program Total					3,364	3,364	38,151	8,335,553	8,335,553	396,489,473
Business Program										
11	Equipment Replacement Incentive	Projects	426	3,644	2,071	2,071	12,095	7,999,750	7,999,750	233,373,113
12	Direct Installed Lighting	Projects	3,283	19,053	1,701	1,701	7,794	12,503,959	12,503,959	266,707,290
13	Direct Service Space Cooling	Equipment			not in market					
14	Building Commissioning	Buildings	0	0	0	0	0	0	0	0
15	New Construction	Buildings	0	381	0	0	20	0	0	319,108
16	peaksaver® extension	Devices	0	112	0	0	72	0	0	2,903
17	Demand Response 1	Facilities	0	0	0	0	0	0	0	0
18	Demand Response 3	Facilities	149	145	17,253	17,253	0	536,415	536,415	1,070,310
Business Program Total					21,024	21,024	19,981	21,040,124	21,040,124	501,472,725
Industrial Program										
19	Process & System Upgrades	Projects	0	0	0	0	0	0	0	0
20	Monitoring & Targeting	Projects	0	0	0	0	0	0	0	0
21	Energy Manager	Managers	0	0	0	0	0	0	0	0
22	Equipment Replacement Incentive	Projects	82	785	733	733	4,832	3,508,356	3,508,356	91,723,489
23	Demand Response 1	Facilities	0	0	0	0	0	0	0	0
24	Demand Response 3	Facilities	132	125	53,447	53,447	0	555,851	555,851	1,115,587
Industrial Program Total					54,180	54,180	4,832	4,064,207	4,064,207	92,839,076
Home Assistance Program										
25	Home Assistance Program	Units	166	671	0	0	1	39,667	39,667	258,809
Home Assistance Program Total					0	0	1	39,667	39,667	258,809
Pre-2011 Programs completed in 2011										
25	Electricity Retrofit Incentive Program	Projects	0	953	0	0	9,962	0	0	235,219,415
26	High Performance New Construction	Projects	57	317	2,108	2,108	10,100	10,827,160	10,827,160	196,665,067
27	Toronto Comprehensive	Projects	0	735	0	0	12,651	0	0	300,325,644
28	Multifamily Energy Efficiency Rebates	Projects	0	110	0	0	1,798	0	0	27,506,630
Pre-2011 Programs completed in 2011 Total					2,108	2,108	34,510	10,827,160	10,827,160	759,716,757
OPA-Contracted Province-Wide Portfolio Total					80,676	80,676	97,475	44,306,711	44,306,711	1,750,776,840
Unverified Savings Target Achieved:							7.3%			29.2%

Table 6: Data Qualifiers for Initiatives Currently In-Market & Likelihood of Additional Data

Initiative	Savings 'start' Date	Data Available	As Of:	Additional Data
Consumer Program				
Conservation Instant Coupon Booklet	Invoice date from coupon clearinghouse	Once data is submitted to the OPA by retailers	Apr. 13, 2012	High
Bi-Annual Retailer Event				
Appliance exchange initiative	Event date		Apr. 19, 2012	Low
Retailer co-op activities	Will vary by specific project	Varies by specific project	Apr. 15, 2012	Low
Appliance Retirement	Pick-up date	When database is queried	Apr. 26, 2012	Moderate
HVAC Incentives	Installation date	Customers submit rebate and invoices are processed	Apr. 16, 2012	Moderate
<i>peaksaver</i> extension	Device installation date	Project Completion Report uploaded to the iCON Portal	Apr. 23, 2012	Moderate
New construction	Project completion	Preliminary Billing Report issued to LDC	Apr. 19, 2012	Low
Business (Commercial & Institutional) Program				
Direct Installed Lighting	Project Completion Date	Work-order: invoiced, approved and paid to LDC	Feb. 29, 2012	High
Equipment Replacement Incentive		"Approved for Payment by LDC" or "Released for Payment" status on iCON	Apr. 18, 2012	High
Process & Systems Upgrades			Apr. 20, 2012	Low
Building Commissioning		Upon payment to LDC	Apr. 23, 2012	Moderate
New Construction		Upon payment to LDC	Apr. 23, 2013	Moderate
<i>peaksaver</i> extension	Device installation Date	Upon payment to LDC	Apr. 23, 2012	Moderate
Demand Response (DR1, DR3)	Facility is available under contract	Facility under contract with aggregator	Apr. 11, 2012	Low
Industrial Program				
Equipment Replacement Incentive	Project Completion Date	"Approved for Payment by LDC" or "Released for Payment" status on iCON	Apr. 18, 2012	High
Process & System Upgrades	In Service Date		Apr. 20, 2012	Low
Monitoring & Targeting	2nd year Report	Report submitted	Apr. 20, 2012	Low
Demand Response (DR1, DR3)	Facility is available under contract	Facility available under contract	Apr. 11, 2012	Low
Energy Manager	Quarterly Report Date	Report submitted quarterly	Apr. 20, 2012	Low
Home Assistance Program				
Home Assistance Program	Project Completion Date	Data sent to OPA by LDC	Apr. 19, 2012	High
Pre-2011 Projects Completed in 2011				
High Performance New Construction	Project Completion Date	From delivery agent, quarterly (results currently allocated)	Apr. 20, 2012	High
Electricity Retrofit Incentive Program		Upon payment to LDC	Apr. 15, 2012	High
Multifamily Energy Efficiency Rebates			Nov. 2011	Low
Toronto Comprehensive			Apr. 15, 2012	High

For Example: Preliminary results for Retrofit are reported in this quarter if a project is completed on or before Dec. 31, 2011 and had the iCON status "Approved for payment by LDC" or "Released for Payment" as of Jan. 18, 2012. There is a high probability that there are more results coming in for this initiative.

Reporting Methodology (Quarterly, Unverified results)

Over the last quarter, LDC and OPA members of the Reporting Work Group have been working on communicating reporting policies and procedures to the LDC community. There are now several resources for your use including: Reporting Policy & FAQ Document, LDC Consumer Program Tracking Tool (both of which available on the iCON Portal in "Other Program Materials" in the "Reporting Tools" folder), and several webinars available at the following link:

http://www.snwebcastcenter.com/custom_events/opa-20111781/site/index.php

Notes:

- Table 6 is intended to assist the LDC in reconciling internal data sources with the data contained in this report by communicating:
 - 1 The date in which savings are considered to 'start';
 - 2 At what point the data becomes available to the OPA;
 - 3 The date in which the data was collected for reporting purposes; and
 - 4 The expected probability and magnitude of updates to the data as more information becomes available.
- OPA will query iCON CRM for Retrofit data on the Wednesday, 2 weeks following the end of the calendar quarter. If you would like to have the ability to align the projects included in quarterly reports with your records, please run a query on the same day.

Reporting Glossary

Annual: the peak demand or energy savings that occur in a given year (includes resource savings from new program activity in a given year and resource savings persisting from previous years).

Cumulative Energy Savings: represents the sum of the annual energy savings that accrue over a defined period (in the context of this report the defined period is 2011 - 2014). This concept does not apply to peak demand savings.

Current Reporting Period: the calendar quarter specified on page 1 of this report.

End-User Level: resource savings in this report are measured at the customer level as opposed to the generator level (the difference being line losses).

Final Savings: savings achieved that have undergone annual Evaluation, Measurement & Verification (EM&V) and thus have had activity audited and savings assumptions measured and verified.

Implementation Period: the particular calendar quarter or calendar year that conservation activity is achieved based on when the savings are considered to 'start' (please see table 5).

Incremental: the new resource savings attributable to activity procured in a particular reporting period based on when the savings are considered to 'start' (please see table 5).

Initiative: a Conservation & Demand Management offering focusing on a particular opportunity or customer end-use (i.e. Retrofit, Fridge & Freezer Pickup).

Net Energy Savings (MWh): energy savings attributable to conservation and demand management activities net of free-riders, etc.

Net Peak Demand Savings (MW): peak demand savings attributable to conservation and demand management activities net of free-riders, etc.

Program-to-Date: the reporting period from January 1, 2011 until the end of the Current Reporting Period.

Program: a group of initiatives that target a particular market sector (i.e. Consumer, Industrial).

Reported Savings: savings achieved that are based on reported activity and forecasted savings assumptions. These savings are not verified, i.e. have not undergone the Evaluation, Measurement & Verification processes.

Unit: for a specific initiative the relevant type of activity acquired in the market place (i.e. appliances picked up, projects completed, coupons redeemed).

FIT Generator Communication Options Analysis

Introduction

The Feed-In-Tariff (FIT) Generator Communication Network is required to provide communications for the remote trip and monitoring of FIT generators 250kW and larger in the PowerStream service area.

This report documents the alternatives considered when selecting a communications technology to provide FIT Generator communications.

FIT Generator Communications Requirements

The following requirements for communications with FIT generators were considered when analyzing the available options:

- a) Capability of each base station to communicate with many FIT generators:
When PowerStream's Green Energy Act (GEA) Plan was submitted in May of 2012, 54 FIT generators required communications for remote trip and monitoring. The number of FIT generators requiring communications is expected to increase as FIT 2.0 and subsequent FIT programs are released.
- b) Secure communications: Communication signals need to be encrypted so that they cannot be intercepted
- c) Freedom of Interference from other radio spectrum users: A licensed frequency is required to avoid interference from other users
- d) Low Message Latency – messages need to be transmitted in 100's of milliseconds for the remote trip function.
- e) Relatively Long Radio Signal Range: Sufficient range that a few base stations can reach all the generators in the PowerStream service area.
- f) Low Cost: The option selected must be a cost effective solution.

Analysis of Communications Options

The following options were analyzed using the above requirements as criteria for selection:

- a) *Audio Leased Circuit*
- b) *Cellular Communications*
- c) *Narrow Band Point-to-Point Radio*
- d) *Narrow Band Point-to-Multipoint Radio*
- e) *Broadband Point-to-Multipoint Radio*

A summary of the ability of each of the options to meet the FIT Generator communications requirements is shown below in Table 1.

Communication Requirements Option	Communicate with up to 50 Generators	Secure Communications	Interference Free	Low Latency	Signal Range \geq 25kM	Cost Effective Solution
Audio Leased Circuit	✗	✓	✓	✓	✓	✗
Cellular Communications	✓	✓	✓	✗	✓	✗
Narrow Band Point-to-Point Radio	✗	✗	✗	✓	✓	✗
Narrow Band Point-to-Multipoint Radio	✗	✗	✗	✓	✓	✓
Wide Band Point-to-Multipoint Radio	✓	✓	✓	✓	✓	✓

Table 1. – Ability of Communication Technologies to Meet Communication Requirements

An analysis of the each of the options considered follows:

a) *Audio Leased Circuit Option*

A typical audio leased circuit scheme is shown below in Figure 1. One node would be at a PowerStream station and the other node would be at the FIT generator site.

Communication signals would be transmitted across leased communication circuits.



Figure 1 – Audio Leased Circuit

The Pros and Cons of the audio leased circuit option are discussed below.

Pros:

- High speed: Signals can be transmitted from one end to the other in 10-15 milliseconds.

Cons:

- Prohibitively high leased circuit costs: Monthly dedicated leased circuit charges would be hundreds of dollars per month.
- Too many communication pairs: There would be too many communication pairs to bring into each station through the station's neutralizing transformer.

b) Cellular Communications Option

A typical cellular communications scheme is illustrated below in Figure 2. A cellular modem would be installed at each FIT generator site. PowerStream would communicate with the cellular modem via the public switched network and a cellular base station.



Figure 2 – Cellular Communications

The Pros and Cons of the cellular communications option are discussed below.

Pros:

- Less expensive than leased circuits: Monthly cell charges were determined to be approximately 50 dollars per month per generator, as opposed to hundreds of dollars per month for the audio leased circuit option.

Cons:

- Too much latency for transfer trip function: It was determined that the remote trip signal would take too long to reach the FIT generator through the cellular network.
- Relatively high monthly cost: The ongoing monthly cost to the FIT generator would be lower than for the audio leased circuit option, but the approximately \$50/month would still be relatively high.

c) Narrow Band Point-to-Point Radio Option

A typical narrow band point-to-point radio scheme is illustrated below in Figure 3. A point-to-point radio receiver would be installed at each FIT generator site. PowerStream would communicate with the radio via another radio located at the appropriate station.

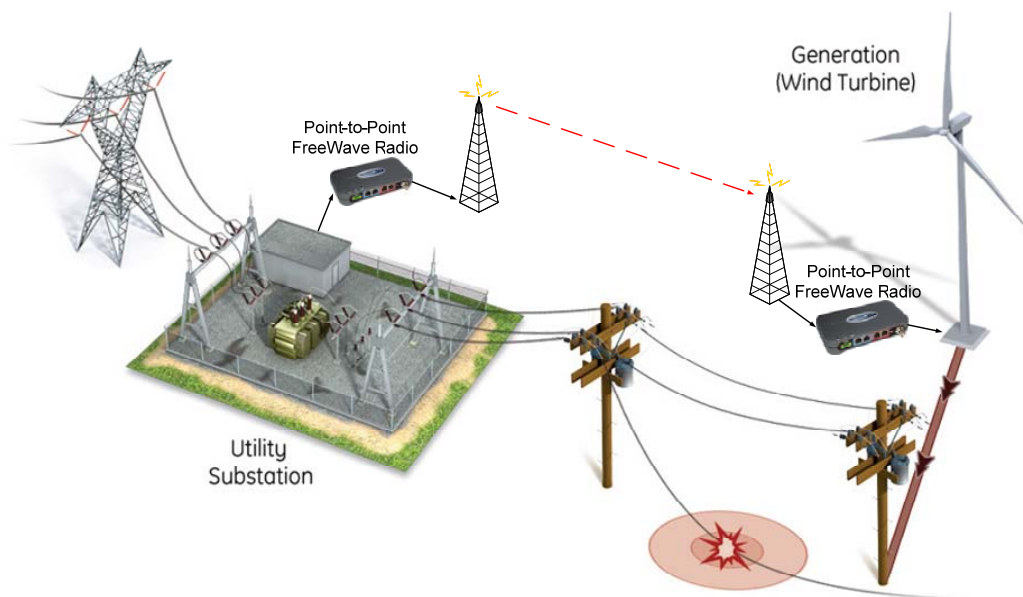


Figure 3 – Narrow Band Point-to-Point Radio

The Pros and Cons of the narrow band point-to-point radio option are discussed below.

Pros:

- Cost effective for single generator: The point-to-point radios considered were relatively inexpensive and there was no monthly cost for unlicensed frequency or about \$10/month fee for licensed frequency.
- Sufficient Bandwidth: The point-to-point radios had enough bandwidth to support both monitoring and transfer trip functions.

Cons:

- Cannot accommodate more than one generator: The point-to-point radios can only communicate with one generator. An additional radio and antenna are required to communicate with each additional FIT generator.
- Inefficient use of bandwidth: Each radio must be on its own frequency to avoid interference. So, each additional FIT generator would require a dedicated frequency, driving up cost.

d) Narrow Band Point-to-Multipoint Radio Option

A typical narrow band point-to-multipoint radio scheme is illustrated below in Figure 4. A point-to-multipoint radio receiver would be installed at each FIT generator site. PowerStream would communicate with the radios via point-to-multipoint radio located at the appropriate station.

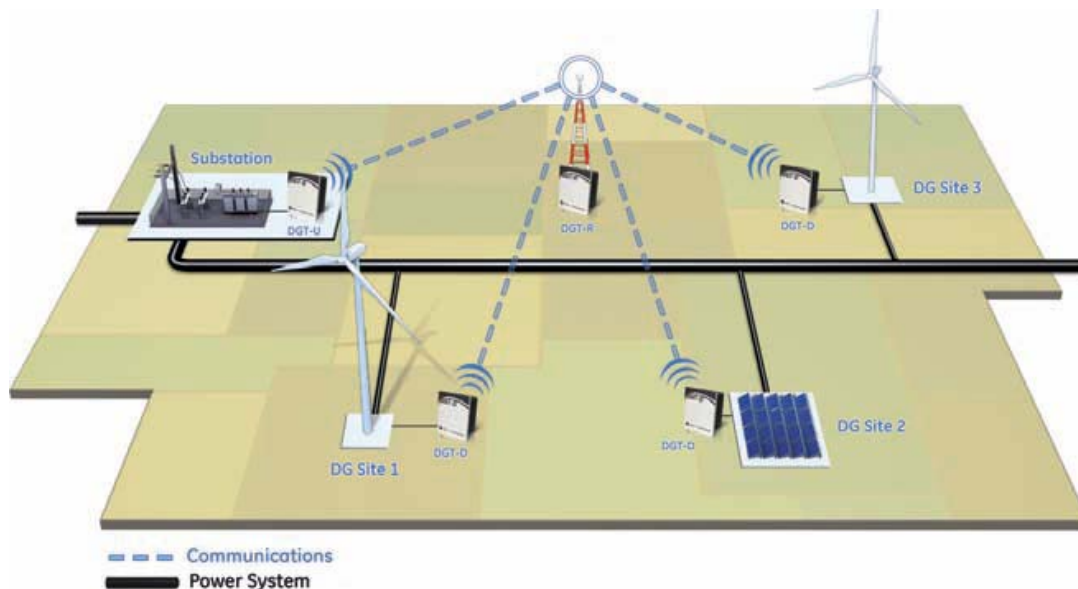


Figure 4 - Narrow Band Point-to-Multipoint Radio

The Pros and Cons of the narrow band point-to-multipoint radio option are discussed below.

Pros:

- Individual remote trips to several generators: The technology we investigated could support high speed remote trips for up to seven FIT generators at each station.
- Low cost: Radios and antennas were relatively inexpensive. There was no ongoing monthly cost, because the radios used an unlicensed frequency.

Cons:

- Not enough bandwidth to transmit monitoring data: There was enough bandwidth to transmit remote trip signals, but separate communications would be required for monitoring data.
- Not enough bandwidth for more than seven generators: If remote trips were required for more than seven generators at any station, a different solution would be required.
- Subject to radio interference: The technology investigated used an unlicensed frequency in the 900MHz band and relied on a frequency hopping technology to avoid interference from other unlicensed radios. The approach was not considered to be secure in urban areas where the 900MHz band is heavily utilized.

e) Broadband Point-to-Multipoint Radio Option

A typical broadband point-to-multipoint radio scheme is illustrated below in Figure 5. A point-to-multipoint radio receiver would be installed at each FIT generator site.

PowerStream would communicate with the radios via a point-to-multipoint base station radio located at one of five base stations. The WiMax broadband radio scheme adopted by PowerStream uses frequencies in the 1.8GHz band. This licensed frequency band was established by Industry Canada for use by utilities for this type of application.

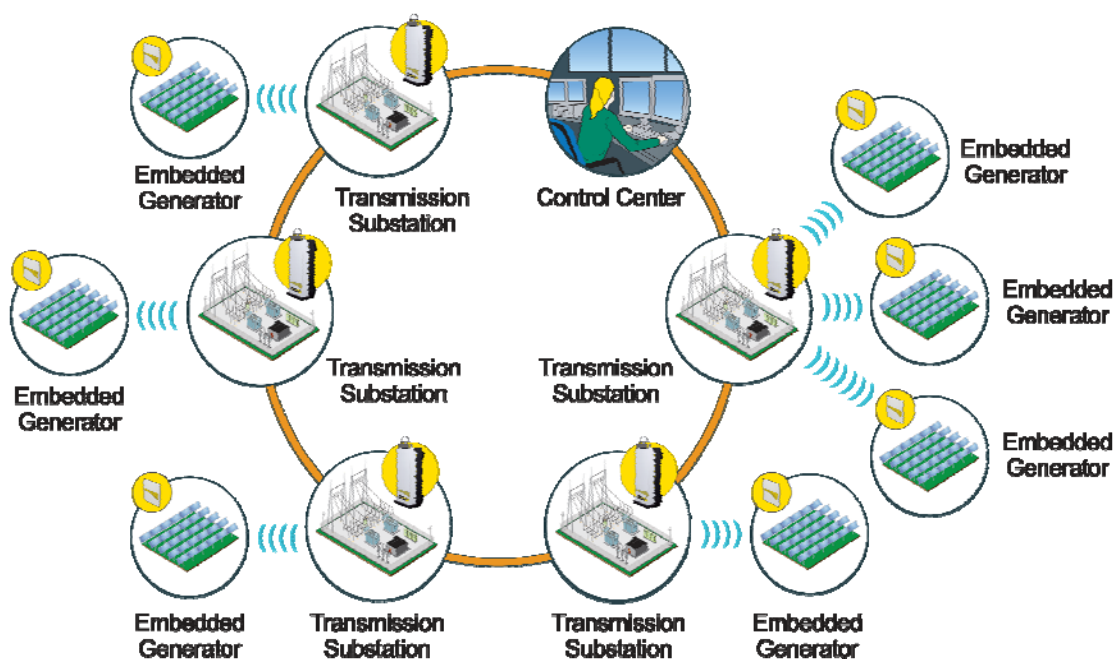


Figure 5 - Broadband Point-to-Multipoint Radio

The Pros and Cons of the broad band point-to-multipoint radio option are discussed below.

Pros:

- Remote trips to hundreds of generators: The technology selected provides 15MHz bandwidth at each base station, more than enough bandwidth for remote trips and monitoring of hundreds of FIT generators.
- Cost effective solution: Hardware cost for each FIT generator approximately \$5,000. The hardware cost is paid by the FIT generator. The ongoing cost for the radio license is less than \$10/month, which is included in the FIT generators' monthly bills.
- Encrypted messaging: The WiMax technology selected provides encrypted messaging so that data cannot be intercepted.
- Licensed frequency: Radio signals are not subject to interference even in urban areas
- Low latency: Remote trip signals reach the FIT generators in approximately 30 milliseconds.
- Sufficient Range: WiMax antennas mounted on 30 metre towers provide enough coverage for PowerStream to cover its service area with five base stations.

Conclusion

In conclusion; the WiMax technology was selected on the basis that it was the only option to meet all of PowerStream's FIT generator communications requirements.