



**Independent Electricity System Operator  
Conservation & Demand Management Status Report**  
Q4 2015 Preliminary Results Update  
**Oshawa PUC Networks Inc.**

**Unverified IESO-Contracted Province-Wide CDM Program Progress at a Glance**

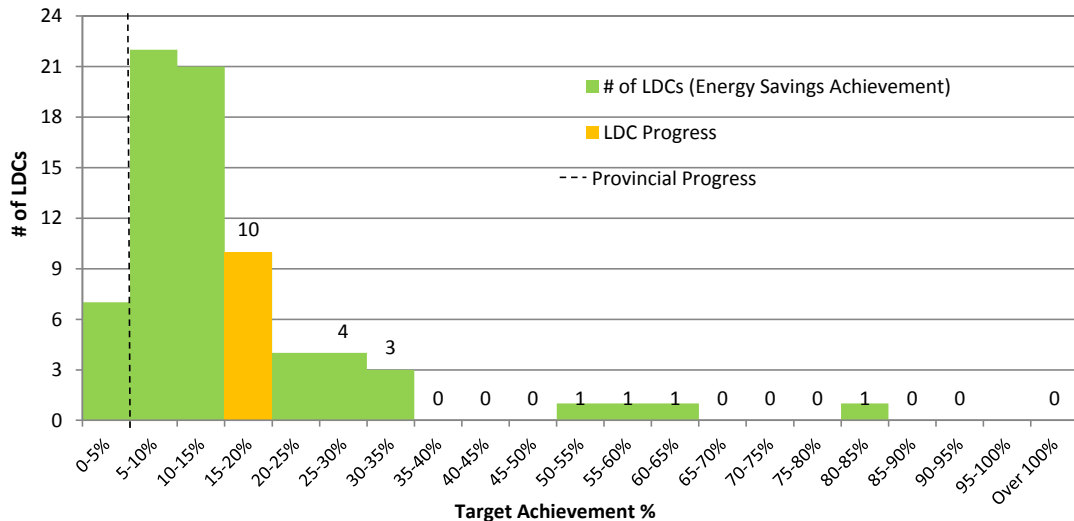
Progress to Targets	Verified Progress to Target 2011-2014 Conservation Framework		Unverified 2015 - 2020 Conservation First Framework Progress			
	Savings	%	Incremental Q4- 2015	2015 Year-to- Date Results	%	Rank (of 76)
<b>Net Peak Demand Savings (MW)</b>	<b>5.7</b>	<b>45%</b>	<b>1.2</b>	<b>1.7</b>		
<b>Net Energy Savings (GWh)</b>	<b>39.5</b>	<b>76%</b>	<b>10.6</b>	<b>13.0</b>	<b>18%</b>	<b>21</b>

*Program-to-Date Progress Towards Target: The 2015 Q4 report reflects the most up-to-date inputs from the 2014 program evaluations.*

*Rank: Sorts each LDC by % of energy target achieved in the 2015-2020 Framework. Results are preliminary and unverified*

**Comparison: LDC Achievement vs. LDC Community Achievement**

**2015-2020 LDC Energy Target (%) Achievement Comparison**



Questions? Please check the "About this Report" Section and "Reporting Methodology" section.  
More Questions? Please contact [LDC.Support@ieso.ca](mailto:LDC.Support@ieso.ca)

## Message from the Vice President

Collaboration between the IESO and LDCs has led to strong performance in the first year of the Conservation First Framework (CFF). Results indicate that 1.1 TWh in energy savings has been achieved, representing 108% of the annual target. Over 3,700 Retrofit projects were completed in Q4 2015 alone and 15 Process & Systems projects came in-service contributing to 203 GWh of savings.

The momentum is encouraging for 2016 and new programs and pilots are continuing to be developed to support customer needs. To date, six local or regional programs have been approved and over 14 LDC pilots are currently underway.

To provide LDCs with more frequent updates on the status of CDM efforts, the preliminary quarterly results update will be replaced by a monthly update.

### Highlights from 2015:

- LDCs have achieved 15% (over 1 TWh) toward the 7 TWh 2020 CFF energy savings target
- 4.4 million measures were redeemed across the province through the Save on Energy Coupons program, with over 99% of the redeemed measures focused on lighting
- In 2015, Save on Energy Business and Industrial programs saved over 1 TWh of energy savings which is the equivalent to powering over 100,000 homes
- The successful procurement of a vendor for the new Conservation Demand Management Information Solution in Q4 will provide the functionality necessary for the effective management and administration of CDM programs in CFF

Please continue to share your success stories and challenges with our team. If you have any questions regarding this report please contact your IESO Conservation Business Manager or email [LDC.Support@ieso.ca](mailto:LDC.Support@ieso.ca).

Sincerely,

Terry Young

## About this Report

### ***This report contains:***

- Peak demand and energy savings for IESO-Contracted Province-Wide programs (does not include Ontario Energy Board (OEB) approved CDM programs or other LDC conservation efforts)
- Progress as of the end of Q4 2015 using unverified quarterly results for 2015.
- Program activity data (i.e. projects completed, appliances picked up) completed on or before December 31st, 2015 and received and entered to the IESO processing systems per the dates specified in Table 5
- Updates to the previous Q1 2015, Q2 2015, Q3 2015 participation with additional data received
- Information to assist the LDC in reconciling internal data sources with the data contained in this report. Table 4 contains:
  - 1 The date in which savings are considered to 'start';
  - 2 The point at which the data becomes available to the IESO;
  - 3 The expected probability and magnitude of updates to the data as more information becomes available.
- iCON CRM Post Stage Retrofit Report data queried on January 14th, 2015

## 2015-2020 Summary: Net Energy Savings Achieved (GWh)

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

Table 1 below presents net annual energy savings results from 2015 to date listed by implementation period, status (i.e. final or reported). This table also presents the net annual energy savings expected to persist in each year between 2015 and 2020 based on program activity completed to date. At the bottom of the table a comparison is made between reported results (unverified) and final results (verified) for 2015-2020.

**Table 1: Net Energy Savings at the End-User Level (GWh)**

#	Implementation Period	Energy Savings (GWh)						2015-2020 Conservation Framework
		2015-2020 Conservation Framework						
		2015	2016	2017	2018	2019	2020	
1	2015	13.0	12.9	12.8	12.8	12.8	12.8	12.8
2	2016							
3	2017							
4	2018							
5	2019							
6	2020							
Net Energy Savings		13.0	12.9	12.8	12.8	12.8	12.8	12.8
<b>Unverified Net Annual Energy Savings:</b>								12.8
<b>2015-2020 Annual Energy Savings Target:</b>								73
<b>Unverified Net Annual Energy Savings Target Achieved (%):</b>								18%
Incremental Reported (Unverified)		13.0	12.9	12.8	12.8	12.8	12.8	
Incremental Final (Verified)		n/a	n/a	n/a	n/a	n/a	n/a	

Persisting savings noted in Table 1 above and in the 2015-2020 LDC Energy Target (%) Achievement graph below are estimated based on the methodology described in Table 4

### 2015-2020 LDC Energy Target (%) Achievement

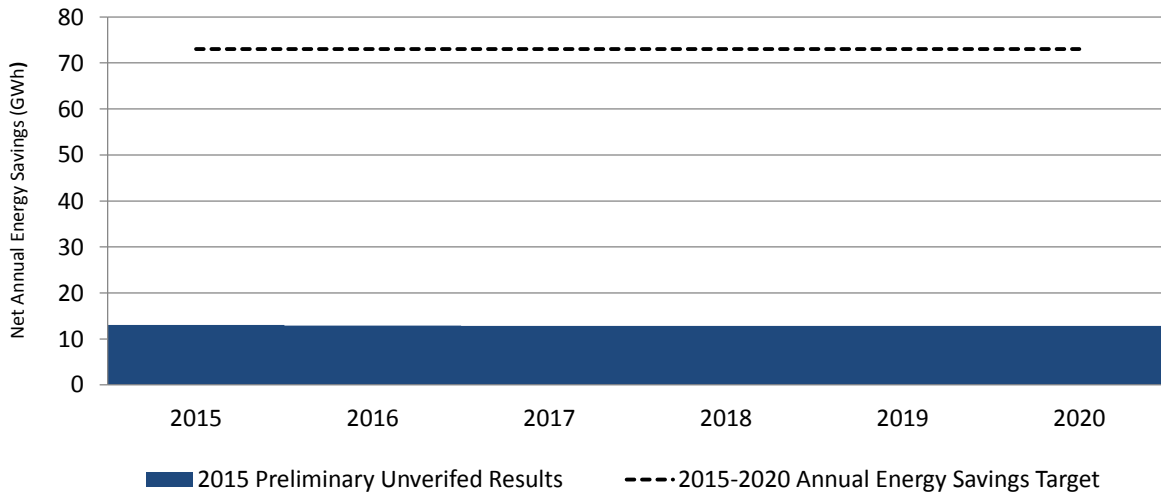


Table 2B: LDC Initiative and Program Level Savings towards 2015-2020 Conservation First Framework

#	Initiative	Unit	Incremental Activity (new program activity occurring within the specified reporting period)					Net Incremental Peak Demand Savings (kW) (new peak demand savings from activity within the specified reporting period)					Net Incremental Energy Savings (kWh) (new energy savings from activity within the specified reporting period)				
			Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total
<b>Consumer Program</b>																	
1	Appliance Retirement	Appliances	5	1	4	10	21	0	0	0	1	1	2,235	625	2,187	4,395	9,441
2	HVAC Incentives	Equipment	409	481	411	201	1,501	95	78	72	48	292	179,222	138,248	128,880	91,286	537,636
3	Conservation Instant Coupon Booklet	Measures	3,437	3,489	4,986	1,867	13,780	3	3	5	2	14	51,940	53,432	77,266	28,907	211,545
4	LDC Coded Coupons	Measures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Bi-Annual Retailer Event	Measures	53	19,461	1,176	16,982	37,671	0	23	2	17	41	777	295,154	19,138	268,604	583,672
6	Retailer Co-op	Items	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Residential New Construction	Homes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Consumer Program Total</b>								<b>98</b>	<b>104</b>	<b>79</b>	<b>67</b>	<b>349</b>	<b>234,174</b>	<b>487,458</b>	<b>227,471</b>	<b>393,191</b>	<b>1,342,294</b>
<b>Business Program</b>																	
8	Retrofit	Projects	29	19	20	26	94	60	66	68	53	248	522,279	427,635	394,702	352,121	1,696,736
9	Direct Install Lighting	Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Building Commissioning	Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	New Construction	Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Energy Audit	Audits	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Business Program Total</b>								<b>60</b>	<b>66</b>	<b>68</b>	<b>53</b>	<b>248</b>	<b>522,279</b>	<b>427,635</b>	<b>394,702</b>	<b>352,121</b>	<b>1,696,736</b>
<b>Industrial Program</b>																	
13	Process & System Upgrades	Projects	-	-	-	1	1	-	-	-	1,111	1,111	-	-	-	9,876,352	9,876,352
14	Monitoring & Targeting	Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Energy Manager	Projects	2	-	-	-	2	9	-	-	-	9	47,972	-	-	-	47,972
<b>Industrial Program Total</b>								<b>9</b>	<b>-</b>	<b>-</b>	<b>1,111</b>	<b>1,120</b>	<b>47,972</b>	<b>-</b>	<b>-</b>	<b>9,876,352</b>	<b>9,924,324</b>
<b>Home Assistance Program</b>																	
16	Home Assistance Program	Homes	51	10	9	15	85	2	1	1	1	4	17,546	8,906	7,705	12,052	46,209
<b>Home Assistance Program Total</b>								<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>17,546</b>	<b>8,906</b>	<b>7,705</b>	<b>12,052</b>	<b>46,209</b>
<b>Adjustment to Previous Year's Results</b>																	
<b>Energy Efficiency Total</b>								<b>168</b>	<b>171</b>	<b>148</b>	<b>1,233</b>	<b>1,721</b>	<b>821,971</b>	<b>923,999</b>	<b>629,878</b>	<b>10,633,716</b>	<b>13,009,564</b>
<b>Demand Response Total</b>								<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>IESO-Contracted LDC Portfolio Total</b>								<b>168</b>	<b>171</b>	<b>148</b>	<b>1,233</b>	<b>1,721</b>	<b>821,971</b>	<b>923,999</b>	<b>629,878</b>	<b>10,633,716</b>	<b>13,009,564</b>

Table 3: Province-Wide Initiative and Program Level Savings towards 2015-2020 Conservation First Framework

#	Initiative	Unit	Incremental Activity (new program activity occurring within the specified reporting period)					Net Incremental Peak Demand Savings (kW) (new peak demand savings from activity within the specified reporting period)					Net Incremental Energy Savings (kWh) (new energy savings from activity within the specified reporting period)				
			Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Total
<b>Consumer Program</b>																	
1	Appliance Retirement	Appliances	5,096	1,736	2,185	5,507	14,524	353	129	149	374	1,004	2,137,975	722,354	941,711	2,350,615	6,152,654
2	Appliance Exchange	Appliances					-										
3	HVAC Incentives	Equipment	21,143	32,832	29,385	16,669	100,029	4,955	5,408	5,103	3,847	19,312	9,392,009	9,616,784	9,174,618	7,269,589	35,453,001
4	Conservation Instant Coupon Booklet	Measures	279,833	284,068	405,954	152,022	1,121,877	271	283	412	151	1,118	4,228,613	4,350,052	6,290,496	2,353,419	17,222,580
5	LDC Coded Coupons	Measures	58,003	69,569	63,758	49,868	241,197	59	81	72	53	265	898,898	1,111,723	1,006,834	800,038	3,817,493
6	Bi-Annual Retailer Event	Measures	4,300	1,584,356	95,759	1,382,532	3,066,946	4	1,834	134	1,379	3,350	63,232	24,029,460	1,558,060	21,867,904	47,518,656
7	Retailer Co-op	Items					-										
8	Residential New Construction	Homes	942	237	1,113	542	2,834	191	26	279	77	573	1,190,620	254,128	1,672,548	1,057,748	4,175,044
<b>Consumer Program Total</b>								<b>5,832</b>	<b>7,761</b>	<b>6,148</b>	<b>5,881</b>	<b>25,622</b>	<b>17,911,347</b>	<b>40,084,501</b>	<b>20,644,267</b>	<b>35,699,313</b>	<b>114,339,427</b>
<b>Business Program</b>																	
9	Retrofit	Projects	3,611	3,667	3,648	3,731	14,657	19,740	18,483	21,220	26,370	85,813	154,629,701	131,669,001	163,192,033	186,145,085	635,635,821
10	Direct Install Lighting	Projects	3,925	4,206	4,760	4,462	17,353	3,743	3,866	4,317	4,242	16,168	13,611,299	14,034,030	15,646,628	15,241,710	58,533,667
11	Building Commissioning	Buildings	-	-	2	7	9	-	-	100	214	314	-	-	237,306	682,169	919,475
12	New Construction	Buildings	26	16	13	9	64	1,013	793	5,549	59	7,415	4,003,769	23,177,913	482,406	208,478	27,872,565
13	Energy Audit	Audits	65	91	68	21	245	869	1,217	909	281	3,276	4,242,782	5,939,895	4,438,603	1,370,745	15,992,025
<b>Business Program Total</b>								<b>25,365</b>	<b>24,359</b>	<b>32,095</b>	<b>31,166</b>	<b>112,985</b>	<b>176,487,551</b>	<b>174,820,839</b>	<b>183,996,975</b>	<b>203,648,187</b>	<b>738,953,552</b>
<b>Industrial Program</b>																	
13	Process & System Upgrades	Projects	5	1	2	15	23	1,164	3,160	2,593	25,524	32,442	10,278,920	25,135,621	22,639,696	202,862,919	260,917,156
14	Monitoring & Targeting	Projects	1	-	-	-	1	200	-	-	-	200	1,239,000	-	-	-	1,239,000
15	Energy Manager	Projects	166	54	78	26	324	1,462	2,337	363	264	4,426	7,466,006	8,692,205	2,203,547	2,435,986	20,797,744
<b>Industrial Program Total</b>								<b>2,826</b>	<b>5,498</b>	<b>2,957</b>	<b>25,788</b>	<b>37,068</b>	<b>18,983,927</b>	<b>33,827,826</b>	<b>24,843,242</b>	<b>205,298,905</b>	<b>282,953,900</b>
<b>Home Assistance Program</b>																	
16	Home Assistance Program	Homes	3,251	5,383	3,006	1,842	13,482	407	392	483	318	1,600	3,285,487	3,587,989	3,389,024	2,057,942	12,320,442
<b>Home Assistance Program Total</b>								<b>407</b>	<b>392</b>	<b>483</b>	<b>318</b>	<b>1,600</b>	<b>3,285,487</b>	<b>3,587,989</b>	<b>3,389,024</b>	<b>2,057,942</b>	<b>12,320,442</b>
<b>Adjustment to Previous Year's Results</b>								-	-	-	-	-	-	-	-	-	-
<b>Energy Efficiency Total</b>								<b>34,430</b>	<b>38,009</b>	<b>41,683</b>	<b>63,152</b>	<b>177,275</b>	<b>216,668,311</b>	<b>252,321,155</b>	<b>232,873,507</b>	<b>446,704,347</b>	<b>1,148,567,321</b>
<b>Demand Response Total</b>								-	-	-	-	-	-	-	-	-	-
<b>IESO-Contracted LDC Portfolio Total</b>								<b>34,430</b>	<b>38,009</b>	<b>41,683</b>	<b>63,152</b>	<b>177,275</b>	<b>216,668,311</b>	<b>252,321,155</b>	<b>232,873,507</b>	<b>446,704,347</b>	<b>1,148,567,321</b>

Table 4: Equations used to tabulate preliminary unverified results within this report. All results are at the end-user level (not including transmission and distribution losses)

Equations	
<b>Prescriptive, Engineered and Custom Projects</b>	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)
<b>Unverified 2015 - 2020 Conservation First Framework Progress</b>	Annualized Energy Savings*Average Program Persistence to 2020 Average program persistence to 2020 is derived by calculating the average persistence decay of each LDC and initiative based on the 2014 verified impact results. If LDC level average persistence decay is unavailable, province-wide initiative level persistence decay is substituted.

Table 5: Data Qualifiers for Initiatives Currently In-Market & Likelihood of Additional Data

Data included in the Q4 2015 report includes all program activity completed (as per the savings 'start' date) on or before December 31st, 2015.

Initiative	Savings 'start' Date	Data Available	Additional Data Likely
<b>Consumer Program</b>			
Appliance Retirement	Pick-up date	When database is queried. Up to date information is available.	Moderate
HVAC Incentives	Installation date	Rebate Status = Approved, Cheque Issued and Cheque Cashied; Typically 1 - 4 months	High
Conservation Instant Coupon Booklet	Coupon redemption year	Once data is submitted to the IESO by retailers and undergoes QA/QC by IESO staff. Typically 3 - 6 months to receive and process all data.	High
Bi-Annual Retailer Event	Year and quarter of the event		High
Residential New Construction	Project completion	Preliminary Billing Report submitted to IESO	Low
<b>Business (Commercial &amp; Institutional) Program</b>			
Retrofit	Actual project completion date	In the "Post Project Submission" Stage (excluding "Payment Denied by LDC", "Returned for Edit(s) by Participant" and "Participant Incentive Not Approved by LDC" ) within iCON CRM as of January 14th, 2015	Low
Direct Installed Lighting	Retrofit date	Work-order: invoiced, approved and paid to LDC. Typically 1.5 - 2 months delay. Any projects that are flagged as duplicates will not appear in reports until duplicates have been resolved.	High
Building Commissioning	Hand off date	Preliminary Billing Report submitted to IESO and reviewed	Moderate
New Construction	Actual project completion date	Preliminary Billing Report submitted to IESO and reviewed	Moderate
Energy Audit	Audit completion date	Preliminary Billing Report submitted to IESO and reviewed	Moderate
<b>Industrial Program</b>			
Process & System Upgrades	In-service date	Preliminary Billing Report submitted to IESO and reviewed	Low
Monitoring & Targeting	Project completion date	Preliminary Billing Report submitted to IESO and reviewed	Low
Energy Manager (EEM or REM)	Project completion date	Completed, non-incented projects submitted quarterly by Energy Manager.	High
<b>Home Assistance Program</b>			
Home Assistance Program	Project completion date	Preliminary Billing Report submitted to IESO and reviewed	High

## 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.

**Effective Useful Life:** determines the persistence of savings for a given technology or initiative. Factors that may effect the useful life of a technology are typical use and operating hours, upcoming code changes, etc. Demand response resources are assumed to have a persistence of 1 year.

**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). All savings presented in this report are at the end-user level.

**Final or Verified 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). Incremental savings for Demand Response resources represent the savings from all active facilities contracted since January 1, 2011 (i.e. Incremental = Annual for demand response only).

**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. Please refer to the webinars in the "Reporting Methodology" section for more information.

**Net Peak Demand Savings (MW):** peak demand savings attributable to conservation and demand management activities net of free-riders, etc. Please refer to the webinars in the "Reporting Methodology" section for more information.

**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 or Unverified Savings:** savings achieved that are based on reported activity and forecasted or best available 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).

## Reporting Methodology (Quarterly, Unverified results):

There are several resources on reporting that are available to LDCs:

- Reporting Policy & FAQ Document found on the iCON Portal in the "Other Program Materials" under "Reporting Tools"
- LDC Consumer Program Tracking Tool found on the iCON Portal in "Other Program Materials" under "Reporting Tools"
- Webinars (available at the following link: [http://www.snwebcastcenter.com/custom\\_events/opa-20111781/site/index.php](http://www.snwebcastcenter.com/custom_events/opa-20111781/site/index.php))