

# 2015 Demand Side Management Annual Report

December 18<sup>th</sup>, 2017



## Preface

In preparation of Enbridge's Application for the Clearance of 2015 DSM Deferral and Variance Accounts, EB-2017-0324, the 2015 Demand Side Management Annual Report has been updated from its original draft, following the release of the Evaluation Contractor's (DNV-GL) final 2015 Natural Gas Demand Side Management Annual Verification.

In accordance with details provided in Enbridge's Application for Clearance of 2015 DSM Deferral and Variance Accounts, Enbridge's 2015 Demand Side Management Annual Report reflects all 2015 verified program results as presented in the Evaluation Contractor's Annual Verification report with the exception of the Net-to-Gross ("NTG") Study findings.



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## Executive Summary

Enbridge Gas Distribution (Enbridge, or the Company) summarized its 2015 DSM Plan in the 2015-2020 Multi-Year DSM Plan (EB-2015-0049), filed on April 1<sup>st</sup>, 2015. The Company's 2015 DSM plan was outlined consistent with the transitional provisions set out by the Board in the Report of the Board: Demand Side Management Framework for Natural Gas Distributors (2015-2020), published December 22<sup>nd</sup>, 2014 (EB-2014-0134).

In its Decision and Order, published January 20<sup>th</sup>, 2016, the Board agreed and determined that Enbridge reasonably interpreted the DSM Framework and subsequently approved the Company's 2015 budget, metrics and targets for all scorecards, shareholder incentive amounts, and incremental budget as filed.

The Company is pleased to report that in the 2015 DSM program year, the portfolio generated total net annual natural gas savings of 49.0 million cubic meters (m<sup>3</sup>) or 826.2 million net lifetime (cumulative) cubic meters (CCM). These savings are a direct result of the Company's ongoing efforts delivering the Resource Acquisition and Low Income programs. Natural gas savings attributable to Market Transformation program delivery are not captured in these totals since results for this program are not measured on the basis of cubic meters (m<sup>3</sup>) or lifetime (cumulative) cubic meters (CCM) saved.

As outlined in the Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), submitted by the Board on December 22<sup>nd</sup>, 2014 (EB-2014-0134), the Board calls for application of a Total Resource Cost (the TRC-Plus) test as well as the introduction of the Program Administrator Cost (PAC) test to screen for cost-effectiveness of programs. In 2015, the portfolio demonstrated cost-effective program delivery based on positive results from both the TRC-Plus and PAC screening tests. The TRC-Plus ratio for the Resource Acquisition program was 3.12, while the TRC-Plus ratio for the Low Income program was 1.88 – both well above cost-effectiveness screening thresholds. Overall the 2015 portfolio had a TRC-Plus ratio of 2.95. The PAC ratio for the Resource Acquisition program was 5.21, while the PAC ratio for the Low Income program was 2.00. The 2015 portfolio had an overall PAC ratio of 4.47.

The Company continues to be proud of its accomplishments in DSM and is pleased it was able to demonstrate successful results relative to 2015 Board approved targets across the range of the various offers.

**Table ES.0 2015 DSM Portfolio Results**

Program	Annual Net Gas Savings (m3)	Cumulative Net Gas Savings (m3)	Budget	2015 Spending	TRC-Plus Ratio	PAC Ratio
<b>Resource Acquisition</b>			\$14,443,790			
Residential	6,762,791	102,415,214		\$9,362,295	2.24	1.94
Commercial	25,646,715	450,722,741		\$6,221,724	3.39	10.78
Industrial	12,289,466	180,990,879		\$2,166,706	6.15	15.45
Overheads			\$4,731,485	\$5,639,080		
<b>Total Resource Acquisition</b>	<b>44,698,972</b>	<b>734,128,834</b>	<b>\$19,175,275</b>	<b>\$23,389,805</b>	<b>3.12</b>	<b>5.21</b>
<b>Low Income</b>			\$6,864,090			
Part 9 (Single Family)	1,129,070	28,067,264		\$4,444,616	1.06	0.96
Part 3 (Multi Family)	3,143,515	63,969,353		\$2,111,746	3.20	4.76
Overheads			\$517,988	\$617,349		
<b>Total Low Income</b>	<b>4,272,585</b>	<b>92,036,617</b>	<b>\$7,382,078</b>	<b>\$7,173,710</b>	<b>1.88</b>	<b>2.00</b>
<b>Market Transformation</b>			\$4,890,900			
SBD Residential	n/a	n/a		\$2,032,022	n/a	n/a
SBD Commercial	n/a	n/a		\$890,464	n/a	n/a
Home Labelling	n/a	n/a		\$121,241	n/a	n/a
Overheads			\$1,353,687	\$1,613,352		
<b>Total Market Transformation</b>	<b>n/a</b>	<b>n/a</b>	<b>\$6,244,587</b>	<b>\$4,657,079</b>	<b>n/a</b>	<b>n/a</b>
<b>Grand Total *</b>	<b>48,971,556</b>	<b>826,165,451</b>	<b>\$32,801,939</b>	<b>\$35,220,594</b>	<b>2.95</b>	<b>4.47</b>

\* Budget and Spendings amounts do not include the \$4.92 million incremental budget nor the spending in 2015 against that budget. Incremental budget/spending is detailed in section 10.3 of this report

Overall the Resource Acquisition program contributed 734.1 million net CCM in natural gas savings. Resource Acquisition offers targeted to the Commercial and Industrial sectors achieved net gas savings of 450.7 million and 181.0 million CCM respectively. The Residential home retrofit offer which has seen excellent growth since its launch in mid-2012 contributed 102.4 million net CCM savings and reached 5,646 households.

The Low Income program delivered 92.0 million net CCM gas savings in 2015. Results for both the Single Family (Part 9) offers, which provided 28.1 million net CCM and for the Multi-Residential (Part 3) offers which contributed 64.0 million net CCM exceeded targets set out in the 2015 scorecard for the Low Income program.



Market Transformation offers continued to demonstrate substantial results in 2015, reaching or exceeding weighted scorecard upper targets for all three of the Savings by Design Residential, Savings by Design Commercial and Home Labelling offers.

DSM results for 2015 were achieved with total spending of \$35,220,594 million. The OEB approved budget for 2015 as per the Board's January 20<sup>th</sup>, 2016 Decision was \$32,801,939. In addition, the Board approved an incremental budget of \$4,920,291 as outlined in the Company's 2015 DSM Plan. Incremental spending totalled \$559,378 in 2015; this spending is detailed in Section 10.3 of this report.

The maximum DSM shareholder incentive available for the 2015 program year is \$11,089,624. The determination of the Company's incentive is based on 2015 DSM performance in relation to the weighted scoring approach. The resulting DSM Shareholder Incentive earned by the Company for 2015 is \$10,077,695.

The Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) is utilized to true-up the lost distribution revenues associated with DSM activity relative to what was included in the forecast for rate-setting purposes. The LRAM amount calculated for 2015 is \$72,589 to be refunded to ratepayers.

The DSM Variance Account (DSMVA) is utilized to track the difference between DSM spending in 2015 and the amount already built into rates. This amount totalled \$825,460 to be recovered from ratepayers.

**Table ES.1 2015 DSM Results Summary**

<b>2015 DSM Results Summary</b>	
<b>Net CCM Savings</b>	<b>826,165,451 m<sup>3</sup></b>
<b>DSMIDA amount recoverable from Ratepayers</b>	<b>\$10,077,695</b>
<b>LRAMVA amount to be paid back to Ratepayers</b>	<b>(\$72,589)</b>
<b>DSMVA amount recoverable from Ratepayers</b>	<b>\$825,460</b>

\* The DSMVA represents the difference between the 2015 budget already built into rates and the 2015 spending including incremental spending.

## 1. Introduction

Following a directive from the Ontario Energy Board, (EBO 169-III) in 1995, Enbridge launched a suite of Demand Side Management (DSM) programs and activities to help its customers reduce their demand for natural gas. Demand Side Management is defined as "...actions taken by the utility or other agencies which are expected to influence the amount or timing of a customer's energy consumption."<sup>1</sup>

Enbridge's DSM programs are developed with stakeholder consultation and are funded through Board approved Enbridge Gas Distribution rates. In 1999, Enbridge was granted Board approval to receive a financial incentive for DSM activities by way of the Shared Savings Mechanism (SSM), which was replaced by the Demand Side Management Shareholder Incentive in 2011.

The continuing need for DSM efforts in the province of Ontario was outlined by the Board in the Demand Side Management Guidelines for Natural Gas Utilities (the Guidelines), published June 30<sup>th</sup>, 2011, and again in the Report of the Board: Demand Side Management Framework for Natural Gas Distributors (2015-2020), published December 22<sup>nd</sup>, 2014 (the Framework).

The Framework sets out three primary goals to guide the utilities' DSM portfolios:

- Assist consumers in managing their energy bills
- Promote energy efficiency and create a culture of conservation
- Avoid costs related to future natural gas infrastructure investment

The Framework also provides direction for DSM programs and outlines the proposed weighted scorecard approach to measuring DSM performance.

The Company has had significant achievement in results since Demand Side Management was introduced to its customers. From 1995 to 2014,<sup>2</sup> Enbridge's DSM programs have collectively reduced customer consumption by 9.6 billion cubic metres of natural gas, which is roughly enough natural gas savings to serve nearly four million homes<sup>3</sup> for one full year. In emissions, this translates to a reduction of 18 million

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1 EBO 169 Appendix B, Glossary of terms, pg. 4

2 Subject to 2014 Clearance of Accounts proceeding (EB-2015-0267) before the Ontario Energy Board

3 Assumes a residential customer using 2,400 m3 per year to heat their home and water



tonnes<sup>4</sup> of carbon dioxide emissions, which is the equivalent of removing 3.5 million<sup>5</sup> cars from the road for one year.

Enbridge is pleased to continue to offer DSM programming through the Board approved 2015-2020 Multi-Year DSM Plan to help its customers reduce their energy bills, and to provide support for the Province's greenhouse gas reductions emissions targets.

The 2015 Annual Report on Enbridge's Demand Side Management programs provides a summary of the results achieved over the program year as demonstrated by each program's scorecard performance. The report provides a comparison of actual and target results for each program and also provides information in support of the Company's 2015 Demand Side Management Incentive Deferral Account (DSMIDA), Demand Side Management Variance Account (DSMVA), and the Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) claims. Enbridge and Union Gas consulted to align on the general format of the Annual Report and as noted in the Guidelines, the draft version of the report was used by the third party auditor, and updated and finalized by the utilities to reflect the verification of the auditor.

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4 Assumes 1.875kg of CO<sub>2</sub> are emitted for each m<sup>3</sup> gas that is consumed

5 Assuming the average automobile produces 5.1 tonnes of CO<sub>2</sub> per year

## 2. Demand Side Management Framework

### 2.1 2015 DSM Plan

On June 30<sup>th</sup>, 2011, the Board issued DSM Guidelines for the next Multi-Year Plan period titled the “2012 Demand Side Management Guidelines for Natural Gas Utilities” (“2012-2014 DSM Guidelines”). In response, Enbridge undertook an extensive consultation process during the plan development phase and worked with stakeholders on the 2012 DSM Plan budget allocation, scorecards, metrics and targets. On November 4<sup>th</sup>, 2011, Enbridge submitted its plan outlining proposed DSM activities for the 2012 to 2014 period (EB-2011-0295). On February 28, 2013, and in accordance with the Board Guidelines, Enbridge filed a 2013-2014 DSM Plan Update. Both of the filings were submitted with full Settlement Agreement and were approved by the Board.

On March 31<sup>st</sup>, 2014 the Minister of Energy issued a Directive to the Board calling for the development of a new DSM policy framework. This new framework was to span a period of six years beginning January 1<sup>st</sup>, 2015 and, among other things, enable the achievement of all cost-effective DSM.

On September 15<sup>th</sup>, 2014 the Board issued a Draft Report of the Board outlining its proposed 2015-2020 DSM Framework for Natural Gas Distributors (EB-2014-0134) and called upon all interested parties to provide comment.

On October 15<sup>th</sup>, 2014 Enbridge, Union Gas, and a wide variety of stakeholders provided comment on the Board’s proposed 2015-2020 DSM Framework. An important element of Enbridge’s submission was a request that 2015 be treated as a Transition Year, as 2015 is the first year of the 2015-2020 DSM Framework. Among other reasons, Enbridge made this request to satisfy the market’s need for certainty and demonstrate that the current DSM consultation process could continue to yield efficient and effective outcomes.

On December 22<sup>nd</sup>, 2014 the Board released a Report of the Board: Demand Side Management Framework for Natural Gas Distributors (2015-2020) (“Framework”) and an accompanying set of Filing Guidelines. Section 15.1 of that Framework set out the Board’s direction regarding activities in 2015, calling for 2014 DSM activities to be rolled



forward into 2015 in order to facilitate a smooth and measured evolution into the new DSM Framework. Section 15.1 has been included here in its entirety for convenience:

### **15.1 DSM Activities in 2015**

The gas utilities should roll-forward their 2014 DSM plans, including all programs and parameters (i.e., budget, targets, incentive structure) into 2015. Both Enbridge and Union requested that their 2014 activities be rolled-forward into 2015 to help facilitate a smooth evolution into the new DSM framework.

The Board agrees this is appropriate and will allow the gas utilities to fully consider the new DSM framework and appropriately develop their DSM portfolios and suite of programs that will make up their new multi-year plans. The gas utilities should increase their budgets, targets and shareholder incentive amounts in the same manner as they have done throughout the current DSM framework (i.e., 2013 updates to 2014 should now apply as 2014 updates to 2015). The Board expects the gas utilities' new multiyear DSM plans will fully address the guiding principles and key priorities outlined in the framework.

Currently, DSM amounts have already been approved and are included in rates for both Enbridge and Union<sup>25</sup>. If necessary, the gas utilities may modify their current suite of programs and re-allocate funds between approved programs up to a maximum of 30% of the approved annual DSM budget for an individual DSM program. Additionally, the gas utilities may increase overall spending by up to 15%, consistent with the Board's guidance as part of the gas utilities' current, approved DSM plans, and use these additional funds to begin to incorporate and address the guiding principles and key priorities outlined in the DSM framework. If a gas utility incurs DSM spending greater than that which has been previously approved, it should track these expenditures in the DSM variance account for clearance in a future proceeding.

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<sup>25</sup> 2015 DSM amounts were approved by the Board as part of EGD's 2014-2018 Custom IR Rate Application (EB2012-0459). EGD has subsequently updated its 2015 DSM budget amounts as part of its 2015 rate application (EB2014-0276). 2015 DSM amounts were approved by the Board as part of Union's 2014-2018 rate application, EB2013-0202. Union has subsequently updated its 2015 DSM budget amounts as part of its 2015 rate application (EB-2014-0271).

With the Framework being issued only a little more than one week prior to the commencement of the 2015 year, it was recognized that appropriate transitional provisions were required to provide the certainty that the gas utilities required in order to be able to effectively operate DSM programs in 2015. Rather than require the utilities to operate their DSM programs in a climate of uncertainty until a decision was issued in that proceeding, the Board ordered a rollover of the 2014 budgets and targets.



Specifically, the Board requested that the gas utilities increase their budgets, targets and shareholder incentive amounts in the same manner as they did to transition from 2013 to 2014.

It should be noted that Enbridge did work extensively with intervenors with a view to attempt to reach an agreement for the purposes of proposing budgets and targets that would have deviated from a strict rollover; however, these discussions did not result in a Settlement that was presented to the Board. As a result, the Company proceeded with its portfolio of DSM program offers relying upon the transitional provisions set out in Section 15.1 of the Framework.

For the purposes of the Update, which the Company filed with the Board for the years 2013 and 2014 (EB-2012-0394) and which was the subject of a complete settlement and acceptance by the Board, a 2% GDP-IPI figure was used to update the budget in both years. Accordingly, the Company updated its 2014 budget by the same 2%<sup>6</sup> consistent with Section 15.1 of the Framework. This 2% change resulted in an increase of the 2014 DSM budget of \$32.16 million to a budget of \$32.80 million for 2015. Section 15.1 of the Framework also called upon the utilities to increase their shareholder incentives in the same manner as was done for 2013 and 2014. As a result, Enbridge's maximum 2014 shareholder incentive of \$10.87 million was increased to a maximum 2015 shareholder incentive of \$11.09 million.

Additionally, Section 15.1 allowed the gas utilities to increase overall spending by up to 15% to incorporate the guiding principles and key priorities as outlined in the Framework resulting in an incremental budget of \$4.92 million. This 15% incremental budget was incremental to the additional program cost spending previously permitted through the DSMVA.

The Company's 2015 DSM year was delivered consistently with the transitional provisions as set out in the Framework. The Company used the 2014 budget and program targets and escalated these by the rate agreed to by the parties, and accepted by the Board, for the 2013 and 2014 DSM plan years. The Company's activities in 2015 were therefore, based on an expected DSM budget of \$32.80 million plus an additional budget of 15% to account for new activities in pursuit of the Board's guiding principles and key priorities of the Multi-Year Plan.

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6 EB-2012-0394, Exhibit B, Tab 2, Schedule 9, page 8

In the Decision and Order, published January 20<sup>th</sup>, 2016, the Board agreed and determined that Enbridge reasonably interpreted the DSM Framework and subsequently approved the Company's 2015 budget, metrics and targets for all scorecards, shareholder incentive amounts, and incremental budget as filed.

## 2.2 Program and Portfolio Design

Enbridge's 2015 DSM Plan includes three distinct programs; Resource Acquisition, Low Income and Market Transformation. Within each of these programs, Enbridge makes a variety of energy efficiency offers available in support of its customers and the province's GHG emission reduction efforts.

The Resource Acquisition program and its offers focus on achieving direct, measurable savings customer by customer and commonly involve the installation of energy efficient equipment or the implementation of operational improvements. These improvements are often supported by technical assistance and financial incentives among other approaches.

The activities undertaken and offers made available in the Low Income program are largely similar to those included within Resource Acquisition. However, delivering energy efficiency to the low income market presents a unique set of challenges and requires a tailored approach. While the Low Income program will often yield lower net TRC benefits relative to Resource Acquisition, delivery of energy efficiency to these consumers yields various benefits which are difficult to quantify, justifying a Board-approved threshold for cost-effectiveness which is lower than that of Resource Acquisition.

Lastly, Enbridge's Market Transformation program focuses on facilitating fundamental changes in the market, such as increased market shares of energy efficient products and services, or the influencing of consumer behavior and attitudes to reduce the consumption of natural gas. Enbridge's Market Transformation offers have a long-term and holistic view of the use of energy in Ontario and seek to operate where competitive forces are not expected to yield the results sought within an acceptable timeframe.



## 2.3 Cost-Effectiveness Screening

The utility is expected to assess their DSM portfolio through a method of calculating and testing the cost-effectiveness of its programs. As outlined in the Framework, beginning in 2015, the Board adopted “an enhanced TRC test, or the “TRC-Plus” test, which the gas utilities should use to screen all potential DSM programs when developing their multi-year DSM plans.”<sup>7</sup> The utilities were instructed to apply a 15% non-energy benefit adder to the benefit side of the TRC test calculation. Furthermore, the Board directed the utilities to also “incorporate the PAC test as a secondary cost-effectiveness reference tool to help better inform which programs should be proposed.”<sup>8</sup>

“The TRC-Plus test measures the benefits and costs of DSM programs for as long as those benefits and costs persist and applies a 15% non-energy benefit adder.”<sup>9</sup> The 15% non-energy benefit adder accounts for other benefits not related to the reduction in natural gas such as environmental, economic and social benefits.

In the case of the Resource Acquisition program, if the TRC-Plus ratio (which compares the present value of the natural gas, electricity and water savings and 15% non-energy benefits adder to the present value of the costs) exceeds 1.0, the program is considered cost-effective.

In recognition that the Low Income program may include additional benefits that are not reflected in the TRC-Plus test, the Low Income program is screened using a TRC-Plus threshold of 0.7.

As highlighted in the Guidelines, some programs, such as Market Transformation are not typically amenable to a screening approach (such as TRC-Plus) and instead are reviewed on a case-by-case basis.

The Company has also applied the Program Administrator Cost (“PAC”) test as a secondary reference tool in assessing the programs’ cost-effectiveness. As outlined in the Guidelines, “the costs included in the PAC test calculation include all expenditures

7 EB-2014-0134. Report of the Board. Demand Side Management Framework for Natural Gas Distributors (2015-2020), OEB, December 22, 2014, Page 33.

8 Ibid, Page 33.

9 EB-2014-0134. Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), OEB, December 22, 2014, Page 26.



by the utility to administer DSM programs (i.e., costs to design, plan, administer, deliver, monitor and evaluate).”<sup>10</sup>

The Annual Report provides an opportunity to report both TRC-Plus and PAC assessments for the 2015 DSM program results. Cost-effectiveness screening for 2015 programs is summarized in Section 4.3.

## 2.4 Program Evaluation

As outlined in the Framework, beginning in 2015, the Board introduced that it would be taking on the coordination function of the EM&V process. Additional clarity regarding the evaluation process was provided on August 21<sup>st</sup>, 2015, in the memo from the Board to the utilities and to participants in the EB-2014-0134 consultation (EB-2015-0245). The focus of the memo was the establishment of the OEB’s process to evaluate the results of Natural Gas Demand Side Management (DSM) programs from 2015 to 2020. This document included the following evaluation responsibilities:

- The Evaluation Contractor would draft an Evaluation, Measurement & Verification (EM&V) Plan for the natural gas utilities’ DSM programs for approval by the OEB.
- The Evaluation Advisory Committee (EAC), which includes representation from each of the utilities, would provide advice and input on the development of the plan as required.

The scope of work included in the Request for Proposal posted by the Board on February 8, 2016 for the purpose of selecting an Evaluation Contractor (EC) included further detail explaining the program evaluation process. The utilities’ Evaluation Plans that were included in its 2015-2020 Multi-Year DSM Plan, would be reviewed as part of the EC’s development of the EM&V Plan and guide the verification tasks, impact assessments and other evaluation studies undertaken in relation to DSM programs.

## 2.5 Audit of the 2015 DSM Results

The Board’s August 21<sup>st</sup>, 2014 memo (EB-2015-0245) specified that the OEB would be responsible for coordinating and overseeing the evaluation and audit process, including selecting a third party Evaluation Contractor (EC) and publishing the final evaluation

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<sup>10</sup> Ibid. Page 26

results on an annual basis. The EC will carry out the evaluation and audit processes of all DSM programs and provide an opinion on whether the claimed DSM Incentive (DSMI) amount, Lost Revenue Adjustment Mechanism Variance Account (LRAMVA), and Demand Side Management Variance Account (DSMVA) have been correctly calculated using reasonable assumptions. The Evaluation Advisory Committee (EAC) which includes utility representation as described in Section 2.6 will provide input and play an advisory role throughout the audit to facilitate the achievement of the audit objectives.

## 2.6 Evaluation Advisory Committee (EAC)

As detailed in the August 21<sup>st</sup>, 2015 memo from the Board (EB-2015-0245), the EAC provides input and advice as required throughout the DSM evaluation process. The EAC is comprised of:

- Experts representing non-utility stakeholders, with demonstrated experience and expertise in the evaluation of DSM technologies and programs, natural gas energy efficiency technologies, multi-year impact assessments, net-to-gross studies, free ridership analysis and natural gas energy efficiency persistence analysis;
- Expert(s) retained by the OEB;
- Representatives from the Independent Electricity System Operator (IESO);
- Representatives from each natural gas utility; and
- Representatives from the Ministry of Energy (MOE) and the Environmental Commissioner of Ontario (ECO), who will participate as observers.

The OEB has appointed the following non-utility stakeholders as members of the EAC:

- Chris Neme, Energy Futures Group
- Jay Shepherd, Jay Shepherd Professional Corporation
- Marion Fraser, Fraser & Company

Non-utility stakeholders are expected to provide input and advice based on their experience and technical expertise and not to advocate positions of parties they have represented before the OEB in various proceedings.

## 2.7 Transition Plan of TEC Activities to the OEB

As outlined in the letter from the Board dated March 4<sup>th</sup>, 2016 (EB-2015-0245), the TEC's evaluation activities will be transitioned to the OEB under the new DSM evaluation governance structure. Further discussion with OEB Staff and the TEC has provided additional clarity/direction on the following specific projects:

**Technical Reference Manual (TRM) Development.** Development of the TRM with updated measures and input assumptions is near completion and the TEC will continue to finalize the TRM. The management of the online portion of the TRM has been transitioned to OEB Staff, who will post the final TRM online when it is available. The utilities will continue to manage any remaining contractual obligations and payments related to the TRM.

**Custom Project Net-to-Gross Study.** Following input from the TEC on a draft work plan prepared by the project consultant currently under contract, this study will be transitioned to OEB Staff. The utilities will continue to manage contractual obligations and payments associated with this project. OEB Staff will assume oversight of the study with input from the EAC, and will confirm the completion of major milestones for the utilities to process payments of consultant's invoices.

**Boiler Baseline Study.** The TEC will select the Boiler Baseline proponent with input from Board Staff. This will be the last order of business for the TEC on this project. The utilities will take over administrative responsibility and accountability for the study following selection of proponent. The EAC will provide input to the utilities on the study as appropriate.

**Persistence Study.** OEB Staff will be responsible for the procurement process and management of the Persistence Study, including management of project deliverables and contractual obligations through to completion of the study, with input from the EAC.



### 3. OEB Data Reporting Requirements

The following tables summarize the annual reporting key elements outlined in Section 14.2 of the Guidelines.

**Table 3.0 Annual and Long-Term DSM Budgets**  
(\$/year and \$/6 years)

OEB Approved Budgets							
	2015	2016	2017	2018	2019	2020	Total
<b>Resource Acquisition (RA)</b>							
Residential	\$1,872,720	\$13,024,688	\$16,705,000	\$20,175,000	\$20,578,500	\$20,990,070	\$93,345,978
Commercial / Industrial	\$12,571,070	\$16,278,937	\$17,679,381	\$17,737,977	\$16,355,713	\$16,685,480	\$97,308,558
RA Program Costs	\$14,443,790	\$29,303,625	\$34,384,381	\$37,912,977	\$36,934,213	\$37,675,550	\$190,654,536
RA Overheads	\$4,731,485	\$5,033,048	\$5,104,327	\$5,249,479	\$5,122,057	\$5,232,967	\$30,473,363
<b>Total RA</b>	<b>\$19,175,275</b>	<b>\$34,336,673</b>	<b>\$39,488,708</b>	<b>\$43,162,456</b>	<b>\$42,056,270</b>	<b>\$42,908,517</b>	<b>\$411,782,435</b>
<b>Low Income (LI)</b>							
LI Program Costs	\$6,864,090	\$10,201,788	\$10,908,121	\$11,690,496	\$11,923,306	\$12,160,772	\$63,748,573
LI Overheads	\$517,988	\$1,743,622	\$1,619,299	\$1,618,681	\$1,653,531	\$1,689,078	\$8,842,199
<b>Total LI</b>	<b>\$7,382,078</b>	<b>\$11,945,410</b>	<b>\$12,527,420</b>	<b>\$13,309,177</b>	<b>\$13,576,837</b>	<b>\$13,849,850</b>	<b>\$72,590,772</b>
<b>Market Transformation (MT)</b>							
MT Program Costs	\$4,890,900	\$5,614,683	\$5,849,381	\$6,045,400	\$6,174,079	\$6,305,335	\$34,879,778
MT Overheads	\$1,353,687	\$964,351	\$868,335	\$837,054	\$856,225	\$875,783	\$5,755,435
<b>Total MT</b>	<b>\$6,244,587</b>	<b>\$6,579,034</b>	<b>\$6,717,716</b>	<b>\$6,882,454</b>	<b>\$7,030,304</b>	<b>\$7,181,118</b>	<b>\$40,635,213</b>
Total Program Costs (without overheads)	\$26,198,780	\$45,120,096	\$51,141,883	\$55,648,873	\$55,031,598	\$56,141,657	\$289,282,887
Total Program Overheads	\$6,603,160	\$7,741,021	\$7,591,961	\$7,705,214	\$7,631,813	\$7,797,828	\$45,070,997
Total Program Costs (with overheads)	<b>\$32,801,939</b>	<b>\$52,861,117</b>	<b>\$58,733,844</b>	<b>\$63,354,087</b>	<b>\$62,663,411</b>	<b>\$63,939,485</b>	<b>\$334,353,883</b>
<b>Portfolio Overheads</b>							
EM&V	n/a	\$1,500,000	\$1,700,000	\$1,700,000	\$1,736,746	\$1,774,228	\$8,410,974
Collaboration & Innovation	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,021,616	\$1,043,663	\$6,065,279
DSM IT	n/a	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,000,000
Energy Literacy	n/a	\$0	\$500,000	\$500,000	\$0	\$0	\$1,000,000
<b>Total Portfolio Overheads</b>	<b>n/a</b>	<b>\$3,500,000</b>	<b>\$4,200,000</b>	<b>\$4,200,000</b>	<b>\$3,758,362</b>	<b>\$3,817,891</b>	<b>\$19,476,253</b>
<b>2015 Incremental Budget</b>	<b>\$4,920,291</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
<b>Total Portfolio Budget</b>	<b>\$37,722,230</b>	<b>\$56,361,117</b>	<b>\$62,933,844</b>	<b>\$67,554,087</b>	<b>\$66,421,773</b>	<b>\$67,757,376</b>	<b>\$358,750,427</b>

1. In 2015 the Collaboration and Innovation amount of \$1M was included in the Incremental budget of \$4.92M

2. Total Collaboration & Innovation budget as approved by the Board is \$6M for 2015-2020



**Table 3.1 Actual Annual Total DSM Costs**  
(including DSM spending<sup>11</sup>, overheads, evaluation, shareholder incentive, lost revenues)  
for each rate class dating back to 2007

Annual Actual Total DSM Costs									
RATE CLASS	2007	2008	2009	2010	2011	2012	2013	2014	2015
RATE 1	\$11,894,135	\$12,545,981	\$14,794,795	\$12,467,796	\$14,214,627	\$17,935,484	\$13,881,901	\$23,507,037	\$26,855,974
RATE 6	\$2,848,384	\$7,519,262	\$7,486,577	\$10,713,308	\$15,103,141	\$17,127,050	\$15,172,590	\$13,901,251	\$15,646,361
RATE 9	\$0	\$0	\$0	\$0	\$0	\$1,425	\$1,420	\$1,712	\$1,839
RATE 100	\$8,949,764	\$3,201,527	\$2,667,170	\$86,297	\$17,677	\$0	\$0	\$0	\$0
RATE 110	\$3,658,449	\$1,041,758	\$1,943,819	\$1,470,858	\$1,048,222	\$783,904	\$937,258	\$1,189,687	\$1,906,631
RATE 115	\$643,144	\$1,716,735	\$1,314,146	\$545,382	\$602,386	\$1,329,072	\$1,420,390	\$567,271	\$660,873
RATE 125	\$0	\$0	\$0	\$0	\$0	\$53,449	\$53,268	\$64,223	\$68,967
RATE 135	\$1,762	\$79,757	\$11,685	\$59,163	\$121,756	\$441,318	\$320,401	\$123,739	\$58,953
RATE 145	\$855,487	\$901,590	\$676,730	\$729,534	\$655,237	\$495,925	\$369,074	\$253,864	\$153,518
RATE 170	\$294,508	\$1,860,562	\$1,843,628	\$2,040,735	\$2,195,089	\$536,445	\$149,399	\$457,841	\$403,456
RATE 200	\$0	\$0	\$0	\$0	\$0	\$18,529	\$18,466	\$22,264	\$23,909
RATE 300	\$0	\$0	\$0	\$0	\$0	\$3,563	\$3,551	\$4,281	\$4,598
<b>TOTAL</b>	<b>\$29,145,632</b>	<b>\$28,867,172</b>	<b>\$30,738,550</b>	<b>\$28,113,075</b>	<b>\$33,958,134</b>	<b>\$38,726,165</b>	<b>\$32,327,718</b>	<b>\$40,093,170</b>	<b>\$45,785,079</b>

**Table 3.2 Historic Actual Annual DSM Spending**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Total DSM Spending (\$ millions)<sup>1</sup></b>	<b>\$21.20</b>	<b>\$23.03</b>	<b>\$25.42</b>	<b>\$24.00</b>	<b>\$27.24</b>	<b>\$30.61</b>	<b>\$27.84</b>	<b>\$32.51</b>	<b>\$35.78</b>

1. Total DSM Spending includes variable costs, fixed costs and DSMVA where applicable

**Table 3.3 DSM Spending as a Percent (%) of Distribution Revenue**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Total DSM Spending (millions \$)<sup>1</sup></b>	<b>\$21.2</b>	<b>\$23.0</b>	<b>\$25.4</b>	<b>\$24.0</b>	<b>\$27.2</b>	<b>\$30.6</b>	<b>\$27.8</b>	<b>\$32.5</b>	<b>\$35.8</b>
<b>Total Distribution Revenue (millions \$)<sup>2 3 4 5</sup></b>	<b>\$980.9</b>	<b>\$995.9</b>	<b>\$1,012.1</b>	<b>\$960.4</b>	<b>\$978.8</b>	<b>\$972.0</b>	<b>\$1,055.0</b>	<b>\$1,044.0</b>	<b>\$1,055.4</b>
<b>DSM Spending as % of Distribution Revenue</b>	<b>2.2%</b>	<b>2.3%</b>	<b>2.5%</b>	<b>2.5%</b>	<b>2.8%</b>	<b>3.1%</b>	<b>2.6%</b>	<b>3.1%</b>	<b>3.4%</b>

1. Total DSM Spending includes variable costs, fixed costs and DSMVA where applicable

2. Distribution Revenue is equal to the gas distribution margin, and is the gas sales and distribution revenue less the cost of gas

3. Distribution Revenue includes gas sales and transportation of gas less gas commodity cost

4. Distribution Revenue excludes transmission, compression, and storage

5. Distribution Revenue is based on data unnormalized for weather

11 As the request is for actual costs, Enbridge interprets this to be 'DSM spending' rather than 'DSM budget' as written in Section 14.2 of the Guidelines.



**Table 3.4 Historic Shareholder Incentive Amounts Available and Earned**

	2007	2008	2009	2010	2011	2012 <sup>1</sup>	2013	2014	2015 <sup>2</sup>
	\$ millions								
Total Shareholder Incentive Earned	\$8.25	\$5.80	\$5.36	\$4.16	\$6.77	\$8.16	\$4.54	\$7.65	\$10.08
Maximum Shareholder Incentive Available	\$9.00	\$9.22	\$9.24	\$9.40	\$10.16	\$10.45	\$10.66	\$10.87	\$11.09

1. 2012 Shareholder Incentive includes reduction of -\$657,223 per Board's decision (EB-2013-0352)

2. 2015 Shareholder Incentive subject to Board approval

**Table 3.5 Shareholder Incentive Earned as a Percent (%) of DSM Spending <sup>12</sup>**

	2007	2008	2009	2010	2011	2012 <sup>2</sup>	2013	2014	2015 <sup>3 4</sup>
Total Shareholder Incentive (\$ million)	\$8.25	\$5.80	\$5.36	\$4.16	\$6.77	\$8.16	\$4.54	\$7.65	\$10.08
Total DSM Spending <sup>1</sup>	\$21.20	\$23.03	\$25.42	\$24.00	\$27.24	\$30.61	\$27.84	\$32.51	\$35.78
Total DSM Spending as a % of Shareholder Incentive Earned	39%	25%	21%	17%	25%	27%	16%	24%	28%

1. DSM spending includes variable costs, fixed costs, and overheads

2. 2012 Shareholder Incentive includes reduction of -\$657,223 per Board's decision (EB-2013-0352)

3. 2015 Shareholder Incentive subject to Board approval

4. 2015 DSM Spending includes incremental spending of \$559,378

**Table 3.6 Annual and Long-Term Natural Gas Savings Targets**

Annual Natural Gas Savings Targets						
Scorecard	2015	2016	2017	2018	2019	2020
Resource Acquisition (m <sup>3</sup> )	1,011,901,200	983,790,685	Targets are formulaic based on past year's performance			
Low-Income (m <sup>3</sup> )	92,800,000	96,690,000				

12 Enbridge interprets this request as requesting values as a percentage of 'DSM spending' rather than 'DSM budget' as written in Section 14.2 of the Guidelines.



**Table 3.7 2015 Total Annual & Cumulative Natural Gas Savings  
(Gross and Net)**

	2015 Annual Gas Savings <sup>1</sup>		2015 Cumulative Gas Savings <sup>1</sup>	
	Gross	Net	Gross	Net
Resource Acquisition	62,780,541	44,698,972	1,021,749,160	734,128,834
Low-Income	4,306,970	4,272,585	92,380,469	92,036,617
Total	67,087,511	48,971,556	1,114,129,629	826,165,451

1. 2015 DSM results subject to Board approval

**Table 3.8 Total Historic Annual Natural Gas Savings  
(Gross and Net)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015 <sup>1</sup>
Total Net Gas Savings (millions m3)	85.07	77.25	69.86	64.58	76.40	60.14	47.74	43.54	48.97
Total Gross Gas Savings (millions m3)	85.99	121.98	117.62	98.82	114.14	92.53	66.06	60.62	67.09

1. 2015 DSM results subject to Board approval

**Table 3.9 Total Historic Cumulative Natural Gas Savings  
(Gross and Net)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015 <sup>1</sup>
Total Net CCM (millions m3)	1,214.10	1,118.98	1,039.18	951.40	1,253.82	1,068.98	826.91	719.84	826.17
Total Gross CCM (millions m3)	1,233.54	1,809.65	1,801.77	1,455.74	1,811.35	1,593.05	1,148.12	993.62	1,114.13

1. 2015 DSM results subject to Board approval



**Table 3.10 Total Annual Natural Gas Savings as Percent (%) of Total Annual Natural Gas Sales (Gross and Net)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net Gas Savings Total (millions m3) <sup>1</sup>	85.1	77.3	69.9	64.6	76.4	60.1	47.7	43.5	49.0
Net Gas Savings as % of Total Gas Sales	0.7%	0.7%	0.6%	0.6%	0.7%	0.6%	0.4%	0.4%	0.4%
Gross Gas Savings Total (millions m3) <sup>1</sup>	86.0	122.0	117.6	98.8	114.1	92.5	66.1	60.6	67.1
Gross Gas Savings as % of Total Gas Sales	0.7%	1.0%	1.1%	0.9%	1.0%	0.9%	0.6%	0.5%	0.6%
Consumption (millions m3) <sup>2</sup>	11,862.9	11,686.5	11,114.9	10,742.3	11,303.2	10,304.4	11,338.3	12,434.3	11,728.3

1. 2015 DSM results are subject to Board approval

2. Annual consumption volumes include rate classes that are subject to DSM costs only. Rates 9, 125, 200 and 300 are excluded as they do not participate in DSM

**Table 3.11 Total Cumulative Natural Gas Savings as Percent (%) of Total Annual Natural Gas Sales (Gross and Net)**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net CCM Total (millions m3) <sup>1</sup>	1,214.1	1,119.0	1,039.2	951.4	1,253.8	1,069.0	826.9	719.8	826.2
Net Gas Savings as % of Total Gas Sales	10.2%	9.6%	9.3%	8.9%	11.1%	10.4%	7.3%	5.8%	7.0%
Gross CCM Total (millions m3) <sup>1</sup>	1,233.5	1,809.7	1,801.8	1,455.7	1,811.3	1,593.0	1,148.1	993.6	1,114.1
Gross Gas Savings as % of Total Gas Sales	10.4%	15.5%	16.2%	13.6%	16.0%	15.5%	10.1%	8.0%	9.5%
Consumption (millions m3) <sup>2</sup>	11,862.9	11,686.5	11,114.9	10,742.3	11,303.2	10,304.4	11,338.3	12,434.3	11,728.3

1. 2015 DSM results are subject to Board approval

2. Annual consumption volumes include rate classes that are subject to DSM costs only. Rates 9, 125, 200 and 300 are excluded as they do not participate in DSM

**Table 3.12 Actual Annual Gas Operating Revenue**

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Operating Revenue (millions \$) <sup>1</sup>	\$3,095.0	\$3,233.8	\$2,952.3	\$2,394.1	\$2,393.6	\$2,240.9	\$2,613.4	\$2,861.3	\$2,892.1
Less Total Gas Cost (millions \$) <sup>2</sup>	\$2,113.0	\$2,236.1	\$1,938.6	\$1,432.3	\$1,413.3	\$1,267.6	\$1,556.8	\$1,815.5	\$1,834.8
Total Distribution Revenue (millions \$) <sup>3</sup>	\$982.0	\$997.7	\$1,013.7	\$961.8	\$980.3	\$973.3	\$1,056.6	\$1,045.8	\$1,057.3

1. Operating Revenue includes gas sales and transportation, transmission, compression, and storage. All values are unnormalized for weather

2. Gas Cost is based on data unnormalized for weather

3. Distribution revenue is equal to the gas distribution margin and is the gas sales plus transportation less the cost of gas





**Table 3.13 Total Natural Gas Sales per Rate Class Subject to DSM Costs**

Rate Class	2015 Natural Gas Volumes (millions m3)
<b>General Service</b>	
Rate 1	4,997.0
Rate 6	5,006.6
<b>Total General Service</b>	<b>10,003.6</b>
<b>Contract Service</b>	
Rate 100	3.7
Rate 110	667.9
Rate 115	512.2
Rate 135	68.6
Rate 145	77.5
Rate 170	394.8
<b>Total Contract Service</b>	<b>1,724.7</b>
<b>Grand Total</b>	<b>11,728.3</b>

*\*Natural Gas Sales (Volumes) for rate classes that are subject to DSM only*

**Table 3.14 Number of Customers by Customer Type**

Customer Type	# of Customers 2015
Residential <sup>1</sup>	1,930,657
Commercial	157,762
Industrial	6,262
<b>Total</b>	<b>2,094,681</b>

1. Residential customers include Low Income, which cannot be differentiated



**Table 3.15 Number of Customers Broken Out by Rate Class**

Rate Class	# of Customers 2015
Rate 1	1,930,657
Rate 6	163,634
Rate 9	6
Rate 100	2
Rate 110	227
Rate 115	25
Rate 125	5
Rate 135	42
Rate 145	52
Rate 170	26
Rate 200	1
Rate 300	2
Rate 315	2
<b>Total</b>	<b>2,094,681</b>



## 4. 2015 DSM Program Results Summary

### 4.1 2015 DSM Scorecard Summary

The 2015 DSM program scorecard performance is presented in Table 4.0.

**Table 4.0 2015 DSM Program Scorecard Summary**

	Component	Metric	Weight	Targets			2015 Results
				Lower	Middle	Upper	
Resource Acquisition	Volumes	Cumulative Savings (million m <sup>3</sup> )	92%	758.9	1,011.9	1,264.9	734.13
	Residential Deep Savings	Number of Participants <sup>1</sup>	8%	571	762	952	5,646
Low Income	Single Family (Part 9)	Cumulative Savings (million m <sup>3</sup> )	50%	18.1	24.1	30.2	28.07
	Multi-residential (Part 3)	Cumulative Savings (million m <sup>3</sup> )	45%	51.6	68.7	86.0	63.97
	Multi-residential (Part 3) LIBPM <sup>2</sup>	% of Part 3 Participants Enrolled <sup>3</sup>	5%	30%	40%	50%	65%
Market Transformation	Residential Savings by Design	Completed Units	40%	833	1,111	1,389	1,987
		Builders Enrolled <sup>4</sup>	60%	13	18	22	19
	Commercial Savings by Design	New Developments Enrolled	100%	11	18	24	24
	Home Labelling	Realtor Commitments <sup>5</sup>	50%	N/A	5,001 <sup>6</sup>	10,001 <sup>6</sup>	41,650
		Ratings performed by buyers and/or sellers	50%	2,250	4,500	6,750	333

1. Number of participants (houses) with at least two major measures and where average annual gas savings across all participants is at least 25% of combined baseline usage.

2. LIBPM - Low Income Building Performance Management is the Low Income offer complement to the Commercial Run It Right (RIR) offer.

3. Low Income Building Performance Management (LIBPM) percentage of Part 3 buildings enrolled in the current year program =  $(x+y)/(x+y+z)$ :

x = # of new LIBPM buildings in the current year that have participated in another aspect of the Low Income program in a previous year of 2012-2014 plan; y = # of new LIBPM buildings participating in current year that have not previously participated in the Low Income program; z = # of buildings in the current year that have implemented custom projects other than LIBPM.

4. Eligible builders based on a minimum of 50 homes built in the prior year.

5. Commitments to make provision for a data field to show home energy ratings for all homes listed by participating realtors (industry-wide commitment to include such a field on MLS or similar listing service and/or realtors' commitment to do so with all the homes they list on their own websites, handouts and other consumer material).

6. Commitment from realtors collectively responsible for more than 5,000 (middle target) or 10,000 (upper target) listings/year.

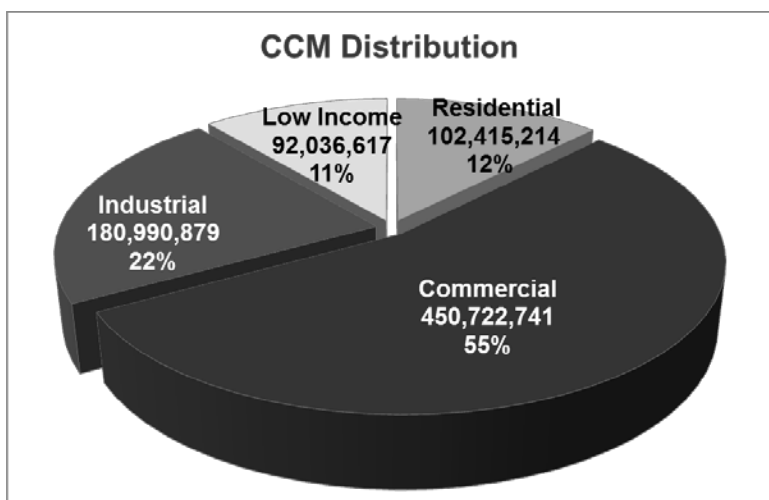
The 2015 weighted scorecard is the basis for the calculation of the Demand Side Management Shareholder Incentive. DSMI amounts for the 2015 program year are outlined in Section 9 of this report.

**Table 4.1 2015 CCM Savings Results by Sector**

Program/Sector	2015 Net CCM Results (m <sup>3</sup> )
<b>Resource Acquisition</b>	
<i>Residential</i>	102,415,214
<i>Commercial</i>	450,722,741
<i>Industrial</i>	180,990,879
<b>Resource Acquisition Total</b>	<b>734,128,834</b>
<b>Low Income</b>	<b>92,036,617</b>
<b>Combined Total</b>	<b>826,165,451</b>

As summarized in Table 4.1, in terms of Net CCM savings, 2015 results totalled 826,165,451 cumulative m<sup>3</sup> for all offers that include CCM as a metric. In 2015, the Commercial sector was the largest overall contributor to CCM savings, accounting for 450,722,741 CCM or 55% of the total net CCM results. Industrial sector offers contributed 22% of the total CCM savings followed by the Residential sector and the Low Income program responsible for 12% and 11% of CCM, respectively.

**Table 4.2 Distribution of 2015 Net CCM Results**



In 2015, Enbridge delivered three Market Transformation offers, all of which performed well in relation to performance targets. On a weighted scorecard basis, all three offers met or exceeded upper targets outlined in the scorecard. Results for the Market Transformation program offers are reviewed in Section 7 of this report.

## 4.2 Annual and Cumulative (Gross and Net) Results

As outlined in the Guidelines, the utilities “should provide the annual and cumulative resource savings attributable to each program, presented as both net and gross of the adjustment factors.”<sup>13</sup>

**Table 4.3 2015 Annual and Cumulative Natural Gas Savings**

	Program/Sector/Offer	Gross Annual Gas Savings (m <sup>3</sup> )	Net Annual Gas Savings (m <sup>3</sup> )	Gross CCM (m <sup>3</sup> )	Net CCM (m <sup>3</sup> )
Resource Acquisition	<b>Residential</b>				
	<i>Home Energy Conservation</i>	7,956,225	6,762,791	120,488,487	102,415,214
	<b>Total Residential</b>	<b>7,956,225</b>	<b>6,762,791</b>	<b>120,488,487</b>	<b>102,415,214</b>
	<b>Commercial</b>				
	<i>Commercial Custom</i>	23,293,072	19,434,966	426,012,146	350,622,209
	<i>Commercial Prescriptive</i>	6,774,554	5,674,927	116,504,921	97,416,428
	<i>Run It Right</i>	<u>536,821</u>	<u>536,821</u>	<u>2,684,105</u>	<u>2,684,105</u>
	<b>Total Commercial</b>	<b>30,604,447</b>	<b>25,646,715</b>	<b>545,201,172</b>	<b>450,722,741</b>
	<b>Industrial</b>				
	<i>Industrial Custom</i>	23,658,347	11,890,642	345,232,715	173,397,871
	<i>Industrial Prescriptive</i>	<u>561,521</u>	<u>398,824</u>	<u>10,826,785</u>	<u>7,593,008</u>
	<b>Total Industrial</b>	<b>24,219,869</b>	<b>12,289,466</b>	<b>356,059,500</b>	<b>180,990,879</b>
Low Income	<b>Low Income</b>				
	<i>Single Family (Part 9)</i>	1,135,609	1,129,070	28,132,657	28,067,264
	<i>Multi-Residential (Part 3)</i>	3,171,361	3,143,515	64,247,812	63,969,353
	<b>Total Low Income</b>	<b>4,306,970</b>	<b>4,272,585</b>	<b>92,380,469</b>	<b>92,036,617</b>
	<b>Grand Total</b>	<b>67,087,511</b>	<b>48,971,556</b>	<b>1,114,129,629</b>	<b>826,165,451</b>

13 EB-2014-0134. Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), OEB, December 22, 2014, Page 18 .



Table 4.3 details the annual gas savings and cumulative lifetime natural gas savings results (in cubic meters) for each of the program components that have CCM as a performance metric. Savings results are summarized for both gross and net savings (net of applicable adjustment factors).

### 4.3 2015 Program Cost-Effectiveness Screening

Table 4.4 summarizes the TRC-Plus screening calculations for the 2015 Enbridge DSM Portfolio for illustrative purposes. The portfolio as a whole was cost-effective with an overall TRC-Plus ratio of 2.95. Further, the two programs to which this screening applies, Resource Acquisition (3.12 TRC-Plus Ratio) and Low Income (1.88 TRC-Plus Ratio) were also cost-effective to deliver as individual programs.

**Table 4.4 2015 TRC-Plus Screening Summary**

Sector/Offer	NPV TRC Plus Benefits	Total TRC Costs	Net TRC Plus Benefits	TRC Plus Ratio
<b>Residential</b>				
<i>Home Energy Conservation</i>	19,724,692	8,812,469	10,912,223	2.24
<b>All Residential Total</b>	<b>19,724,692</b>	<b>8,812,469</b>	<b>10,912,223</b>	<b>2.24</b>
<b>Commercial</b>				
<i>Commercial Custom</i>	86,028,559	26,433,133	59,595,426	3.25
<i>Commercial Prescriptive</i>	20,777,419	3,640,863	17,136,556	5.71
<i>Run It Right</i>	523,655	1,591,860	-1,068,205	0.33
<b>All Commercial</b>	<b>107,329,633</b>	<b>31,665,856</b>	<b>75,663,777</b>	<b>3.39</b>
<b>Industrial</b>				
<i>Industrial Custom</i>	32,178,775	5,179,632	26,999,143	6.21
<i>Industrial Prescriptive</i>	1,530,447	304,562	1,225,885	5.03
<b>All Industrial</b>	<b>33,709,221</b>	<b>5,484,194</b>	<b>28,225,028</b>	<b>6.15</b>
<i>Overheads</i>		5,639,080	-5,639,080	
<b>Overall Resource Acquisition</b>	<b>160,763,547</b>	<b>51,601,598</b>	<b>109,161,948</b>	<b>3.12</b>
<b>Low Income</b>				
<i>Single Family (Part 9)</i>	4,309,787	4,077,752	232,036	1.06
<i>Multi-Residential (Part 3)</i>	10,978,840	3,426,793	7,552,047	3.20
<i>Overheads</i>		617,349	-617,349	
<b>Overall Low Income</b>	<b>15,288,628</b>	<b>8,121,893</b>	<b>7,166,734</b>	<b>1.88</b>
<b>Combined RA/Low Income *</b>	<b>176,052,174</b>	<b>59,723,491</b>	<b>116,328,683</b>	<b>2.95</b>

\*This summary does not include calculations for the Market Transformation program.



As proposed in the Guidelines, the Company is expected to use the Program Administrator Cost (PAC) test as a secondary reference tool in assessing the programs' cost-effectiveness. Table 4.5 below summarizes the PAC screening calculations for the 2015 Enbridge DSM Portfolio. The portfolio as a whole was cost-effective with an overall PAC ratio of 4.47.

**Table 4.5 2015 PAC Screening Summary**

Sector/Offer	NPV PAC Benefits	Total PAC Costs	Net PAC Benefit	PAC Ratio
<b>Residential</b>				
<i>Home Energy Conservation</i>	18,205,398	9,362,295	8,843,103	1.94
<b>All Residential Total</b>	<b>18,205,398</b>	<b>9,362,295</b>	<b>8,843,103</b>	<b>1.94</b>
<b>Commercial</b>				
<i>Commercial Custom</i>	56,548,553	4,577,666	51,970,887	12.35
<i>Commercial Prescriptive</i>	16,207,128	759,387	15,447,741	21.34
<i>Run It Right</i>	<u>523,655</u>	<u>1,458,896</u>	<u>-935,241</u>	<u>0.36</u>
<b>All Commercial</b>	<b>73,279,336</b>	<b>6,795,949</b>	<b>66,483,387</b>	<b>10.78</b>
<b>Industrial</b>				
<i>Industrial Custom</i>	32,084,579	2,139,556	29,945,023	15.00
<i>Industrial Prescriptive</i>	<u>1,385,792</u>	<u>27,150</u>	<u>1,358,642</u>	<u>51.04</u>
<b>All Industrial</b>	<b>33,470,371</b>	<b>2,166,706</b>	<b>31,303,665</b>	<b>15.45</b>
<i>Overheads</i>		<u>5,639,080</u>	<u>-5,639,080</u>	
<b>Overall Resource Acquisition</b>	<b>124,955,105</b>	<b>23,964,031</b>	<b>100,991,074</b>	<b>5.21</b>
<b>Low Income</b>				
<i>Single Family (Part 9)</i>	4,288,990	4,444,616	-155,626	0.96
<i>Multi-Residential (Part 3)</i>	<u>10,058,221</u>	2,111,746	7,946,475	<u>4.76</u>
<i>Overheads</i>		<u>617,349</u>	<u>-617,349</u>	
<b>Overall Low Income</b>	<b>14,347,211</b>	<b>7,173,710</b>	<b>7,173,501</b>	<b>2.00</b>
<b>Combined RA/Low Income *</b>	<b>139,302,316</b>	<b>31,137,741</b>	<b>108,164,575</b>	<b>4.47</b>

\*This summary does not include calculations for the Market Transformation program.





## 5. Resource Acquisition Scorecard

There are two performance metrics in Enbridge's Resource Acquisition scorecard encompassing results attributable to offers which are geared to the Residential, Commercial and Industrial market segments. Performance for the Resource Acquisition program is measured primarily in terms of net CCM of natural gas savings but also includes a residential deep savings metric.

Resource Acquisition offers focus on achieving direct, measureable savings customer by customer and commonly involve the installation of energy efficient equipment or the implementation of operational improvements.

In the residential sector, the Home Energy Conservation (HEC) offer comprises upgrades to space and water heating equipment and home building envelope upgrades. The deep savings metric measures the number of participants in HEC that achieve an average annual gas savings across all participants of at least 25% of combined baseline usage.

For commercial customers, prescriptive and custom project offers are available for new and existing commercial building customers and include the installation of efficient heating, ventilating and air conditioning (HVAC) systems, and custom solutions specific to the customers' needs.

Industrial customers tend to have differing and unique considerations. In addition to selected prescriptive measures, projects for industrial customers are most often customized solutions, engineered to meet the specific needs of a customer's manufacturing process and facility.

Enbridge works across the entire marketplace to build awareness of the energy efficiency opportunities supported through its program. The ongoing education, customer support and technical assistance provided by DSM consultants continue to be a key driver in delivering results for the Resource Acquisition program.

Results for CCM (natural gas savings volumes) in Enbridge's 2015 Resource Acquisition (RA) program were 734.1 million CCM. The Resource Acquisition program scorecard also includes a deep savings metric specific to the Residential sector. There





were 5,646 participants counted towards this metric. This result exceeded the upper scorecard target.

**Table 5.0 2015 Resource Acquisition Scorecard**

Component	Metric	Weight	Targets			2015 Result
			Lower	Middle	Upper	
Volumes	Cumulative Savings (million m <sup>3</sup> )	92%	758.9	1,011.9	1,264.9	734.13
Residential Deep Savings	Number of Participants <sup>1</sup>	8%	571	762	952	5,646

1. Number of participants (houses) with at least two major measures (average annual gas savings across all participants must be at least 25% of combined baseline usage).

Within the RA program, each of the Residential, Commercial and Industrial sectors contributed to the CCM savings target as detailed below in Table 5.1. Further detail on the offers within each of these sectors is provided in the following pages.

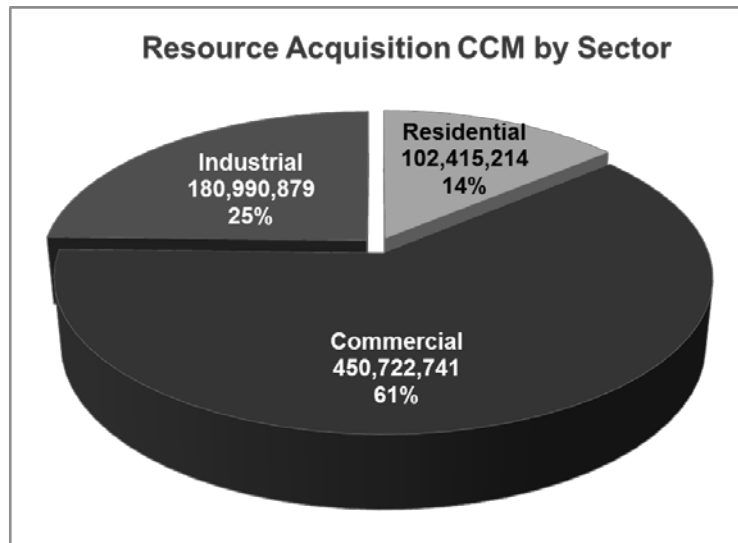
**Table 5.1 2015 Resource Acquisition Program Sector Results**

Resource Acquisition Program Sector	CCM 100% Target (m <sup>3</sup> )	2015 Net CCM (m <sup>3</sup> )	TRC-Plus Ratio	PAC Ratio	# of Projects <sup>1</sup>	# of Units <sup>2</sup>
Residential	12,024,643	102,415,214	2.24	1.94	5,646	---
Commercial	644,789,155	450,722,741	3.39	10.78	590	16,877
Industrial	355,087,402	180,990,879	6.15	15.45	115	235
<b>Total Resource Acquisition</b>	<b>1,011,901,200</b>	<b>734,128,834</b>	<b>3.12</b>	<b>5.21</b>	<b>6,351</b>	<b>17,112</b>

1. # of Projects summarizes the number of unique projects for custom offers, RIR and HEC.  
2. # of Units summarizes the number of units installed for prescriptive offers.

CCM savings contributions from each sector within the RA program are illustrated in Table 5.2. Commercial offers were responsible for 61% of the total CCM savings in the RA program. Industrial and Residential offers contributed 25% and 14% of results, respectively.

**Table 5.2 2015 Resource Acquisition – CCM Results by Sector**



All Resource Acquisition offers delivered to Enbridge customers in 2015 and discussed below will be continued in the Resource Acquisition DSM program in 2016.

## 5.1 Residential Resource Acquisition

### Home Energy Conservation (HEC)

<b>Objectives</b>	<p>The Residential component of the RA program focuses on the existing home sector through the marketing and delivery of a home energy conservation initiative.</p> <p>The goal of the HEC offer is to achieve deep energy savings in existing homes and to raise awareness of the benefits of energy efficiency. The initiative is designed to reduce gas use for space and water heating using a holistic approach, encouraging conservation through the installation of high efficiency equipment as well as thermal envelope improvements to reduce the space heating load. With financial incentives, the offer helps homeowners make their homes more energy efficient and reduces the burden of high energy costs.</p>
<b>Target Customer</b>	HEC is targeted to Rate 1 residential customers.



<b>Metrics</b>	<p>The first metric is cumulative cubic meter (CCM) savings generated by participants.</p> <p>The second metric is total number of participants – specifically, the number of houses with at least two eligible measures implemented and where average annual gas savings across all participants is at least 25% of baseline usage.</p>
<b>Tracking Methodology</b>	<p>Gas savings are claimed based on results calculated through the use of NRCANs accredited modeling software (HOT2000) utilized by Certified Energy Auditors (CEAs). Reporting provided to the Company by the delivery agents summarizes information regarding participants, dates, measures installed and gas savings (m<sup>3</sup>) which are maintained and tracked monthly.</p> <p>The number of participants (houses) with at least two major measures, and where average annual gas savings across all participants is at least 25% of combined baseline usage, are calculated, tracked and counted toward the deep savings participant metric.</p>
<b>Offer Description</b>	<p>Since the cancellation of the federal government funded ecoENERGY program that ran from 2007 and ended in early 2012, there has been a market need for initiatives that drive energy efficiency in the existing housing sector.</p> <p>This offer was introduced midway through 2012 to encourage and support gas savings opportunities in existing residential houses and to meet the priorities outlined in the Board's 2012-2014 DSM Guidelines, in particular, the goal of pursuing deep savings.</p> <p>HEC is designed to capture deep energy efficiency savings opportunities through the delivery of a holistic, “whole home” approach.</p> <p>The HEC offer utilizes accredited software such as Natural Resources Canada's (NRCAN) as the foundation in calculating annual gas</p>



	<p>savings for each participant. The software provides an effective building energy simulation tool to model the savings. Participants receive a pre-retrofit energy audit conducted by a certified energy advisor before starting work and a post-retrofit energy audit to calculate gas savings.</p> <p>Measures include home envelope improvements and mechanical system upgrades as these measures offer the greatest opportunity for “deep”, long-term energy conservation through gas savings.</p> <p>Enbridge offers qualifying customers incentive dollars towards the pre-retrofit energy audit of their home and the opportunity for additional incentives if the participant completes at least two upgrades from a list of qualifying measures. The offer aims to ensure that the installation of these measures contributes to the achievement of an average 25% annual gas savings over the participant portfolio, based on pre- and post-energy audit results. The qualifying measures included for HEC are as follows:</p> <ul style="list-style-type: none"> <li>• Heating system replacement;</li> <li>• Foundation insulation;</li> <li>• Water heating system replacement;</li> <li>• Air sealing;</li> <li>• Attic insulation;</li> <li>• Window replacements;</li> <li>• Wall insulation;</li> <li>• Drain water heat recovery; and</li> <li>• Exposed floor insulation.</li> </ul> <p>To be eligible for the offer, customers must meet the following criteria:</p> <ul style="list-style-type: none"> <li>• Be a residential homeowner in the Enbridge franchise area;</li> <li>• Have a valid Enbridge Gas account in good standing;</li> <li>• The home’s primary heat source must be natural gas;</li> <li>• Use an approved Certified Energy Evaluator/Auditor;</li> <li>• Install at least two measures; and</li> <li>• Complete a pre- and post-energy audit.</li> </ul>
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	In 2015, to help offset the costs of recommended upgrades, customer incentives of up to \$1,600 were available for achieving 25%-49% in annual gas savings and up to \$2,000 for achieving 50% and above in annual gas savings.
<b>Cost-Effectiveness</b>	The HEC offer is cost-effective as supported by the TRC-Plus and PAC ratios summarized in Table 5.3 below.
<b>2015 Results</b>	<p>Also as outlined in Table 5.3 below, the HEC offer contributed 102.4 million CCM to the Resource Acquisition results in 2015 with a total of 5,646 participants. These participants counted toward the Residential Deep Savings metric, exceeding the upper target of 952 participants.</p> <p>As communicated in 2015, including during the Oral Hearing for the 2015-2020 Multi-Year DSM Plan proceeding (EB-2015-0049), based on forecast participation in the offer, Enbridge halted the offer mid-year in order to manage budget requirements.</p>

**Table 5.3 2015 Residential Resource Acquisition Results**

Resource Acquisition Residential Sector	2015 Net CCM (m3)	TRC-Plus Ratio	PAC Ratio	# of Projects
<i>Home Energy Conservation</i>	102,415,214	2.24	1.94	5,646

**2015 Commentary and Lessons Learned:**

- The HEC offer again demonstrated great success in 2015. A key focus was the continuing expansion of the offer to a broader customer base, working toward the goal of making the offer accessible across the Enbridge franchise area.
- Enbridge continued to provide training sessions and touchpoint meetings to ensure that procedures and processes required for tracking were understood and followed.

- Enbridge continue to work in 2015 with the City of Toronto on the Home Energy Loan Program (HELP) to further broaden the delivery of the HEC offer in Toronto with a simultaneous expansion of the regions that could qualify for HELP. The initiative provides a financing tool offered by the City to assist homeowners with improving their home's energy efficiency and save money. Low interest loans are available to qualifying homeowners with repayment facilitated through installments on property tax bills.

#### Qualified CEAs for **GTA Region**

The Home Inspectors Group Inc.	647-792-0276
Pro Home & Building Inspections Inc.	416-851-7778
Direct Energy	1-866-633-1549
Canada Energy Audit Ltd.	1-888-298-9458 / 416-822-8524
Enertest Corporation	1-705-327-1504 / 1-877-327-1504
Windfall Ecology Centre	1-866-280-4431
Trillium Home Inspections	416-540-5870
Project FutureProof	416-481-4218

#### Qualified CEAs for **Ottawa & Niagara Regions**

The Home Inspectors Group Inc.	1-866-907-9206
Direct Energy	1-866-633-1549



\*Designated communities are Aurora, East Gwillimbury, Georgina, King, Newmarket, Markham, Richmond Hill, Vaughan, Whitchurch-Stouffville, The City of Toronto, Brampton, Mississauga, Ajax, Oshawa, Pickering, Whitby, Kitchener (K4B), Niagara, Grimsby, Niagara Falls and St. Catharines.  
\*\*Air Sealing must be a minimum reduction of at least 10% as measured by a blower test. To find out if you can reach a minimum of 25% in annual gas savings, a pre- and post-home energy audit is required by a program approved Certified Energy Auditor (CEA). Please contact one of the Enbridge pre-approved Certified Energy Auditors listed above for further information about this program. Additional information on the program can be found at [knowyouenergy.com](http://knowyouenergy.com). For any other enquiries, call 1-888-427-8888, press 3. Program may be subject to change or cancellation without notice at any time. Energy audit vouchers cannot be used or combined with multiple offers. Only one enrolment for incentive per household is permitted.

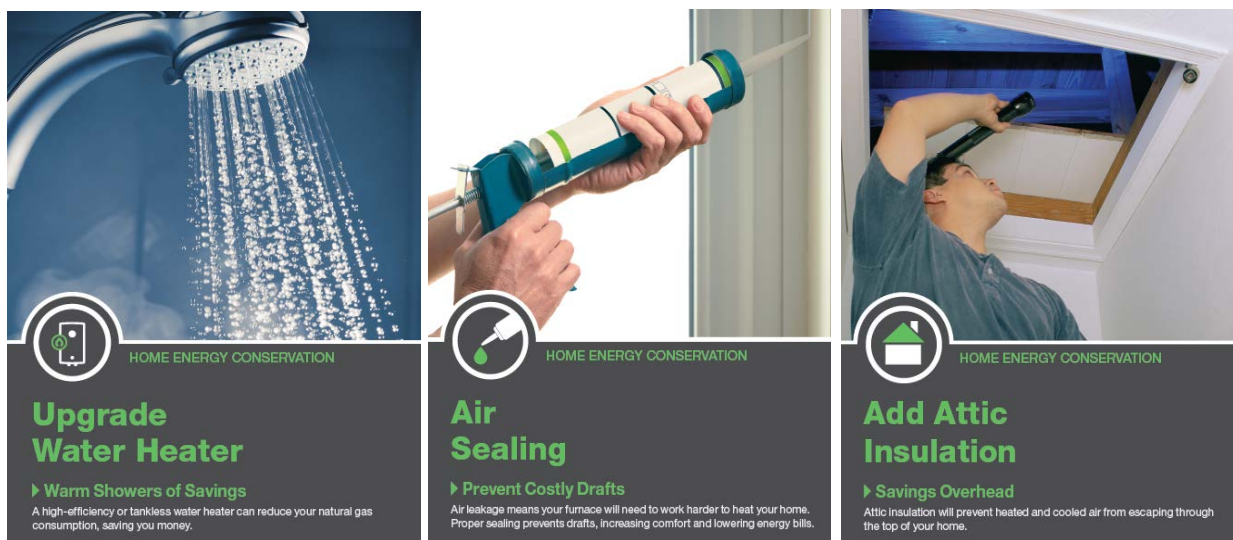
#### HOME ENERGY CONSERVATION PROGRAM



- Marketing efforts for HEC have been well received and included:
  - Enbridge Channel Consultants marketing to Heating, Ventilation and Air Conditioning (HVAC) and insulation contractors through e-blasts to communicate updates, geographic expansion and to promote opportunities for residential customers;
  - enhancements to Enbridge's residential energy efficiency microsite - [www.knowyouenergy.com](http://www.knowyouenergy.com) in order to increase user-friendliness;
  - targeted advertising in lifestyle magazines to highlight the HEC offer and gas savings opportunities directly to homeowners;
  - participation and exhibition at franchise area home shows to promote the HEC offer and increase awareness;
  - collaboration with the Toronto and Region Conservation Authority (TRCA) Sustainable Neighbourhood Action Planning (SNAP) for delivery of HEC



- marketing information to increase consumer awareness and drive participation; and,
- promotion to the realtor community in addition to the Home Labelling communication and marketing efforts for that initiative.
- Overall, net annual gas savings per project averaged approximately 1,200 m<sup>3</sup>. The majority of participants implemented heating system replacements; the next most common measures installed were air sealing and attic insulation.
- To support the growing momentum of this offer in 2015 and the opportunities to pursue HEC related savings, the Company expanded delivery and accessed available additional funds in line with provisions set out in the Guidelines. Spending for the portfolio in 2015 is summarized in Section 10.2 of this report.
- Due to the success of HEC in the first half of 2015, budget limitations became more challenging. As a result, Enbridge worked to optimize the DSM budget to accommodate an expansion of the program (relative to the budget), without unduly removing focus from other DSM areas and sectors. With these priorities in mind, and by accessing all of the available options presented to it, the Company determined that the program could not continue to be funded beyond mid-year. As a result, the Company communicated that eligible projects would need to have pre-audits completed in June, 2015 and post audits completed by July 31<sup>st</sup>, 2015.



- The HEC offer is well-aligned with the Board's guiding principles and key priorities as outlined in the Framework. The offer seeks to reach an increased number of participants, treat customers' homes in a holistic manner, and drive deep savings. In preparation for future growth, the Company assessed the administration for the offer to identify opportunities for improvements. Enbridge determined that a live registration site (to be developed early in 2016) for pre-audits would assist with the management of workflow processes for home audit tracking. With increased participation in the offer anticipated, improvements were necessary to ensure effective processes would be maintained with increased capacity.

## 5.2 Commercial Resource Acquisition

Enbridge serves over 150,000 Commercial sector customers across the Company's franchise territory. These customers span a wide variety of sub-sectors, which include: Multi-Residential Buildings, Commercial Office Buildings, Schools/Universities, Hotels/Motels, Warehouses, Retail Facilities, Food Services, Hospitals/Health-Care and Government/Municipal Facilities.

Offers designed for commercial customers include custom and prescriptive approaches designed to support the installation of energy efficient equipment and the adoption of energy efficient practices. This is accomplished through the provision of energy audits, technical support, education and incentives.

DSM programming available to commercial customers is delivered directly by Enbridge's Energy Solutions Consultants (ESCs) to customers and building owners/operators and also through supply chain channels and business partners, including HVAC contractors, engineering firms and energy service advisors.



**Table 5.4 2015 Commercial Resource Acquisition Results**

Resource Acquisition Commercial Sector	2015 Net CCM	# of Projects <sup>1</sup>	# of Units <sup>2</sup>	TRC-Plus Ratio	PAC Ratio
<i>Custom</i>	350,622,209	562	---	3.25	12.35
<i>Prescriptive</i>	97,416,428	---	16,877	5.71	21.34
<i>Run It Right</i>	2,684,105	28	---	0.33	0.36
<b>Total/Average</b>	<b>450,722,741</b>	<b>590</b>	<b>16,877</b>	<b>3.39</b>	<b>10.78</b>
<b>1.</b> # of Projects summarizes the number of unique projects for custom offers and RIR. <b>2.</b> # of Units summarizes the number of units installed for prescriptive offers.					

## Commercial - Custom and Prescriptive Fixed Incentive Offers

<b>Objectives</b>	The goal of the Commercial Custom offer is to reduce natural gas use through the capture of energy efficiency opportunities in commercial buildings, including retrofits of building components and upgrades at the time of replacement. The offer aims to promote the highest level of energy efficiency. The Commercial Prescriptive offer is designed to capture energy savings in the Commercial sector associated with the installation of prescriptive and quasi-prescriptive technologies.
<b>Target Customer</b>	Both the Custom and Prescriptive offers target commercial customers who are primarily in Rate 6 as well as commercial customers in Rates 135, 145, 110, 115 and 170.
<b>Metrics</b>	As part of the RA program, the primary metric for the Commercial Custom and the Prescriptive offer is lifetime natural gas savings - cumulative cubic meters (CCM) savings.
<b>Tracking Methodology</b>	<p>Savings for each custom project are calculated on an individual basis and results are tracked weekly by the Tracking and Reporting team, utilizing Enbridge's sales tracking software.</p> <p>Data is compiled for Prescriptive offer participants and results are also tracked on a weekly basis by the Tracking and</p>



	<p>Reporting team.</p> <p>All supporting documentation is reviewed for accuracy and completeness and is retained by Tracking and Reporting.</p>
<b>Offer Description</b>	<p>The Custom Commercial offer provides incentives for customers undertaking capital and operational improvements. Typical measures include the installation of high efficiency boilers, controls and building automation systems, heat recovery projects and building envelope improvements.</p> <p>The offer is promoted and delivered by ESCs who are active in the marketplace. ESCs are trusted energy advisors; their technical and energy efficiency sales experience is fundamental to the successful execution of custom projects. Enbridge executes on multiple approaches to reach commercial customers.</p> <p>ESCs work directly with customers, meeting with building operators and facility managers to conduct site visits and educate customers on potential options to improve the energy use of their facilities. They review prescriptive offerings to enable potential upgrade options or present custom recommendations where applicable, based on a building's unique systems and to suit the customer's energy efficiency goals, budgetary considerations and business needs.</p> <p>ESCs also work with national chain and large property management firms, centralizing efforts to introduce savings strategies and align DSM offers with customers' company-wide energy plans.</p> <p>ESCs use their technical expertise to work with smaller firms and managers of standalone buildings by educating them on savings concepts and providing recommendations and savings estimations for potential projects.</p>



	<p>Further, the Company works with a network of business partners to extend outreach to customers and promote awareness of the offers and encourage efforts towards energy efficiency. The Company maintains relationships with service providers (e.g. HVAC contractors, engineering consultants or energy service companies), manufacturers and distributors, ensuring they are well versed about offers and can present savings opportunity scenarios and discuss incentives and application processes with customers.</p> <p>The Commercial Prescriptive offer for 2015 included fixed incentives for various prescriptive and quasi-prescriptive energy efficiency measures impacting space heating, water heating and food service equipment.</p> <p>Prescriptive measures have pre-determined fixed savings based on the size and classification of the equipment. Quasi-Prescriptive measures involve energy savings calculations based on partially pre-determined values, but where one or more variables need to be input in order to determine gas savings for a particular installation.</p> <p>Enbridge offered a full range of prescriptive and quasi-prescriptive measures including:<sup>14</sup></p> <ul style="list-style-type: none"> <li>• Demand Control Ventilation (DCV);</li> <li>• Condensing Boilers &lt;300MBH;</li> <li>• High Efficiency Boilers (specified parameters);</li> <li>• Air Doors;</li> <li>• Energy Recovery Ventilation (ERV);</li> <li>• Heat Recovery Ventilation (HRV);</li> <li>• Infrared Heaters;</li> <li>• Condensing Make-Up Air Units;</li> <li>• Ozone Laundry System;</li> </ul>
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14 Specific details regarding measures included can be found at [enbridgegas.com/commercial](http://enbridgegas.com/commercial)



	<ul style="list-style-type: none"> <li>• Low-Flow Showerheads;</li> <li>• Demand Control Kitchen Ventilation System (DCKV);</li> <li>• Energy Star Qualified Dishwashers;</li> <li>• Energy Star Qualified Natural Gas Convection Ovens;</li> <li>• Energy Star Qualified Natural Gas Fryers;</li> <li>• Energy Star steam cookers; and</li> <li>• High efficiency under-fired broilers.</li> </ul>
<b>Cost-Effectiveness</b>	Both the Commercial Custom and Prescriptive offers were cost-effective, as supported by the TRC-Plus screening summarized in Table 5.4.
<b>Evaluation Activities</b>	<p>In the case of custom projects, savings for each project are determined with project-specific savings calculations. Where applicable, ESCs utilize standardized engineering calculators developed by Enbridge's technical engineering team. Projects are screened for an additional internal technical review to verify savings calculations as appropriate. Where required, savings calculations are specialized based on project-specific engineering analysis.</p> <p>An independent third-party engineering review, the Custom Project Savings Verification (CPSV), is conducted annually. This verification study has historically consisted of a detailed review of the savings calculations for a statistically representative sample of commercial custom projects.<sup>15</sup> Beginning in 2015, as outlined in the August 21<sup>st</sup>, 2015 memo from the board (EB-2015-0245), which outlines the new governance structure detailing the OEB's process to evaluate the results of Natural Gas Demand Side Management (DSM) programs from 2015 to 2020, the Board will be responsible for retaining an Evaluation Contractor (EC). The detailed annual evaluation and audit process will be developed as part of the EM&amp;V plan which the EC is expected to draft. The EAC will</p>

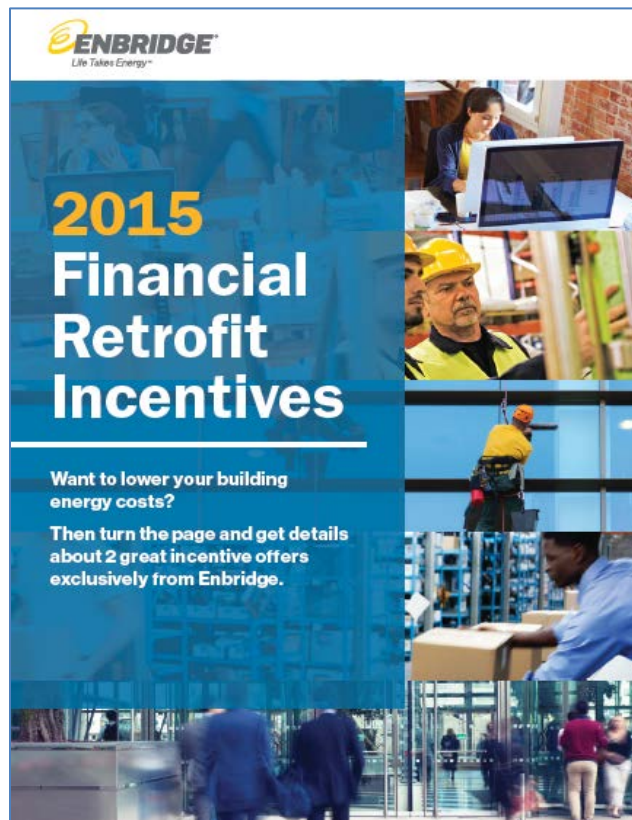
<sup>15</sup> The prescribed sampling methodology was developed for Enbridge and Union Gas by Navigant Consulting in 2012, revised in 2014 and endorsed by the TEC. "A Sampling Methodology for Custom C&I Programs", Dan Violette & Brad Rogers, Navigant Consulting, Inc., November 12, 2012. Revised: October 28, 2014



	provide advice and input on the development of the plan as appropriate.
<b>2015 Results</b>	<p>As summarized in Table 5.4, 562 commercial custom projects were claimed in 2015; these projects accounted for 350.6 million CCM in natural gas savings. Custom projects traditionally drive the highest percentage of Commercial results.</p> <p>As per Table 5.4, Commercial Prescriptive measures totaling 16,877 units contributed 97.4 million CCM.</p>

### 2015 Commentary and Lessons Learned:

- Enbridge continues to provide technical expertise to support and influence Commercial customers and their suppliers to identify and implement capital and operational improvements. Despite challenging rollover targets, natural gas savings results from Commercial DSM efforts were good in 2015.
- With 2015 being a rollover year from the previous multi-year plan, incentives for custom projects remained consistent at \$0.10/m<sup>3</sup> of gas saved and fixed incentives specific to prescriptive measures continued both to customers and to contractors/distributors.



- The strongest contributors to commercial custom project results were the Multi-Residential sector, Education and Health-Care sectors.
- Similar to 2014, measures that were among the major drivers to the Commercial prescriptive results in 2015 included prescriptive high-efficiency boilers, infrared heaters, demand control ventilation and ozone laundry systems.
- Competing priorities for Commercial customers continued to be one of the challenges to DSM project uptake in 2015. With limited capital to invest into energy efficiency upgrades, customers must consider a variety of options. For example investing in gas utility DSM initiatives, to decrease their natural gas consumption, versus investing in CDM initiatives, to reduce higher cost electricity consumption. An added challenge for DSM is that customers often stand to benefit from a relatively larger incentive to pursue CDM upgrades on a per energy unit basis.



Upgrading your building by investing in efficient equipment and systems can provide long-term environmental and financial benefits. At Enbridge we know buildings have unique energy requirements and that's why we're providing two great options for you to choose from:

## OPTION 1 UPGRADE / REPAIR CURRENT EQUIPMENT

Then look no further than the **Enbridge Custom Retrofit Incentive program**, this option will help you offset the cost of equipment upgrades, major repairs or undertake long overdue maintenance. **Qualified projects receive \$0.10 per m<sup>2</sup> of natural gas saved (up to \$100,000) for implementing energy saving measures.**

### QUALIFYING COMMERCIAL RETROFIT PROJECTS MAY INCLUDE:

- Upgrading to high efficiency and condensing boilers
- Improving boiler controls
- Improving ventilation controls
- Installing demand control ventilation
- Installing energy or heat recovery systems
- Installing energy management systems and other automated controls
- Steam trap, economizer or condensate leak repairs
- Insulation upgrades
- Installing reflective panels on radiators
- High extraction washers

## OPTION 2 INSTALL NEW EQUIPMENT

Our **Fixed Retrofit Incentive program** is the quick and easy way to offset the cost of installing energy efficiency equipment in your existing buildings.

### Exclusive customer incentives for existing buildings

SPACE HEATING	DESCRIPTION	CUSTOMER INCENTIVE AMOUNT
DEMAND CONTROL VENTILATION <sup>1</sup>	Single Zone/Detail	\$0.04/m <sup>2</sup>
	Single Zone/Offices	\$0.04/m <sup>2</sup>
CONDENSING BOILERS <sup>2</sup>	Up to 200 MBH, AFUE of 90% or Greater	\$400
	Up to 500 MBH	\$800
	600 to 999 MBH	\$1400
	1,000 to 15,000 MBH	\$2,200
	15,000 to 2,000,000 MBH	\$3,000
	Elementary Schools	\$4,000
	Secondary Schools	\$4,000
HIGH EFFICIENCY BOILERS <sup>3</sup>	Single Door (Reduction Entrance)	\$200
	Double Door (Reduction Entrance)	\$300
	Shipping Doors (8' x 10')	\$400
	Shipping Doors (8' x 10')	\$800
	Shipping Doors (10' x 10')	\$2,400

<sup>1</sup>Applicable to industrial customers for non-process, space heating applications.



SPACE HEATING	DESCRIPTION	CUSTOMER INCENTIVE AMOUNT
ENERGY RECOVERY VENTILATION <sup>1,2</sup>	Offices, Workspaces & Schools, Minimum Heat Recovery Effectiveness 67%	\$0.05/CFM
	Hotels, Restaurants & Retail, Minimum Heat Recovery Effectiveness 67%	\$0.04/CFM
	Multi-family Healthcare & Nursing Homes, Minimum Heat Recovery Effectiveness 67%	\$0.05/CFM
HEAT RECOVERY VENTILATION <sup>1,2</sup>	Offices, Workspaces & Schools, Minimum Heat Recovery Effectiveness 67%	\$0.03/CFM
	Hotels, Restaurants & Retail, Minimum Heat Recovery Effectiveness 67%	\$0.03/CFM
	Multi-family Healthcare & Nursing Homes, Minimum Heat Recovery Effectiveness 67%	\$0.05/CFM
INFRARED HEATERS <sup>1,2</sup>	Single stage up to 300,000 BTUs	\$100
	Two stage up to 300,000 BTUs	\$200
	Single speed up to 14,000 CFM Multi-family & Long Term Care	Greater of \$500 or \$0.05/CFM
CONDENSING MAKE-UP AIR UNITS <sup>1,2</sup>	Two speed up to 14,000 CFM Multi-family & Long Term Care	Greater of \$500 or \$0.05/CFM
	Single speed up to 14,000 CFM, Other Sectors	Greater of \$500 or \$0.05/CFM
	Two speed up to 14,000 CFM, Other Sectors	Greater of \$500 or \$0.05/CFM
WATER HEATING		
OZONE LAUNDRY SYSTEM <sup>1</sup>	Commercial Laundry/Washing	\$0.008 per lb. of laundry processed
SHOWERHEADS <sup>1</sup>	Multi-family residential buildings only. Replacement of an old showerhead 2.5 GPM or more with a new one with a flow rate of 1.5 GPM or less	\$5 per showerhead
FOOD SERVICE		
DEMAND CONTROL KITCHEN VENTILATION SYSTEM	Up to 4,000 CFM, Approved Manufacturers Only	\$800
	5,000 to 8,000 CFM, Approved Manufacturers Only	\$1,000
	10,000 to 18,000 CFM, Approved Manufacturers Only	\$1,800
ENERGY STAR <sup>1</sup> QUALIFIED DISHWASHERS <sup>1,2</sup>	Multiple Tank Conveyor, ENERGY STAR <sup>®</sup> Qualified	\$400
	Single Tank Conveyor, ENERGY STAR <sup>®</sup> Qualified	\$250
	Under Counter, High Temperature, ENERGY STAR <sup>®</sup> Qualified	\$100
	Stationary Rack, Low and High Temperature, ENERGY STAR <sup>®</sup> Qualified	\$100
ENERGY STAR <sup>1</sup> QUALIFIED NATURAL GAS CONVECTION OVENS - FULL SIZE	ENERGY STAR <sup>®</sup> Qualified	\$100
ENERGY STAR <sup>1</sup> QUALIFIED NATURAL GAS FRYERS	ENERGY STAR <sup>®</sup> Qualified	\$100

If you're interested in improving your existing building's energy performance choose the option that best meets your needs and then contact your Enbridge Energy Solutions Consultant (ESC) who will help you through the process.

➤ Enbridge continued to engage industry stakeholders and organizations in efforts to further support education and build awareness of the Enbridge services and DSM support available. These groups included:

- The Building Owners and Managers Association (BOMA Toronto, BOMA Ottawa)
- Restaurants Canada
- Ontario Restaurant Hotel & Motel Association (ORHMA)
- Retail Council of Canada
- Ontario Refrigeration and Air Conditioning (ORAC)
- The Heating, Refrigeration and Air Conditioning Institute (HRAI)
- Hotel Engineering/Facilities Manager's Association of Toronto (HEAT)
- Eastern Ontario Landlord Organizations (EOLO)
- Association of Condominium Managers of Ontario (ACMO)
- Canadian Condominium Institute (CCI)
- Federation of Rental Providers of Ontario (FRPO)
- Greater Toronto Apartment Association (GTAA)
- Canadian Healthcare Engineering Society (CHES)

- Ontario Long-Term Care Association (OLTCA)
- Professional Retail Store Maintenance Association (PRSM)
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
- Energy Solution Centre (ESC)
- Continental Automated Buildings Association (CABA)



## Case Study

### Energy efficient technologies serve up menu of benefits – Boston Pizza

Boston Pizza franchisee Rob Phillips used this Niagara Falls location to test three new energy efficient technologies – a Melink demand control kitchen ventilation system; Enershield air door; and low volume, high intensity kitchen spray valve. The impressive results – in energy cost savings, comfort, and green performance – convinced him to repeat the success at other franchise locations. Enbridge Gas Distribution helped Rob every step of the way with incentives and other assistance.



#### Challenges

The flagship of Rob Phillips' Boston Pizza franchises is a Morrison Street location in Niagara Falls. It is an open and expansive design with 7,287 square feet of space and high ceilings. As with any restaurant, top-notch heating, ventilation, and air conditioning

Rob's original kitchen ventilation system included three conventional range hoods that operated at 100% continuously whether stoves were in full use or not. This meant unnecessary loss of heated make-up air – and higher natural gas bills. The kitchen's hot

- Enbridge worked to identify appropriate collaboration opportunities in 2015 that could be leveraged to drive natural gas savings for commercial customers and promote energy efficiency broadly. A Performance Based Conservation initiative with Toronto and Region Conservation Authority (TRCA) involved electricity, gas and water utilities working together with the Independent Electricity System Operator (IESO) in an effort to understand and take action on energy savings opportunities in commercial and institutional buildings. Over the course of three years, the pilot will leverage a new, data-driven methodology to help building owners and managers understand their energy use through benchmarking.
- In addition, the Company was active in key industry events and conferences to further build DSM program awareness, and to provide customers with



opportunities to discuss their challenges directly with an ESC. Some of these events were:

- City of Toronto – Live Green, Toronto Hotel Sustainability Conference
- Canadian Healthcare Engineering Society, Provincial Trade Show & Education
- Ontario Long Term Care Association, Industry Event
- Toronto and Region Conservation Authority (TRCA), Greening Health Care Event
- Canadian Condominium Institute, Ottawa Conference / Tradeshow
- CivicAction, Race to Reduce
- Eastern Ontario Landlord Organization, Spring Networking Event
- Canadian Federation of Independent Grocers, 2015 Grocery Innovations Conference
- Retail Council of Canada, PM Expo
- Operations, Maintenance & Construction of Ontario Association of School Business Officials Annual Tradeshow

- Enbridge continues to work with distributors and contractors to promote the Company's energy efficiency offers and encourage these partners, who are well connected in the market, to help to identify opportunities to encourage customers to consider more energy efficient alternatives. For most prescriptive measures, Enbridge provides a nominal fixed incentive to contractors/distributors.
- As outlined in its 2015-2020 Multi-Year DSM Plan, the Company has recognized that current approaches have not had the same impact among smaller, harder to reach customers and segments. Beginning in 2016, the OEB approved a revised approach and separate targets for smaller customers (in terms of average annual gas consumption) distinct from large customers. The company is looking at differentiated marketing and delivery approaches to these groups in order to better respond to the needs of each.
- In addition to the formation of a dedicated sales team for smaller customers, the Company intends to expand the industrial online client portal to the commercial sector and develop tools and calculators to be available online to support customers and business partners. Also, the Company is planning a webinar



series targeted to smaller commercial and industrial customers and intends to expand the industrial newsletter to include small commercial accounts.

## Commercial – Run it Right and Energy Compass

<b>Objectives</b>	The goal of Run it Right (RiR) and Energy Compass is to encourage building owners to improve the energy performance of their buildings through operational improvements and benchmarking. These offers promote the awareness / visibility of building consumption patterns through energy monitoring information services (EMIS), low cost/no cost operational improvement measures and energy savings opportunity assessments. Ultimately, these offers aim to lead commercial customers toward data-driven decision-making.
<b>Target Customer</b>	<p>These offers are targeted to commercial customers in Rate 6, 110, 115, 135, 145 and 170 (with most commercial customers falling in the Rate 6 category). More specifically, the offers are designed for energy managers and building operators of commercial, multi-family and institutional buildings where daily consumption data is accessible.</p> <p>The Energy Compass initiative is marketed to commercial customers that have a portfolio of buildings.</p>
<b>Metrics</b>	As part of the Resource Acquisition program, the primary metric for RiR is lifetime natural gas savings - cumulative cubic meters (CCM) savings. The Energy Compass initiative does not have a scorecard metric.
<b>Tracking Methodology</b>	<p>The 2015 results are based on participants that registered for the RiR offer and completed the implementation of the agreed-upon low/no cost operational measures in 2014.</p> <p>Tracking and Report compiles data for each participant. Applicant information includes site address and building details, also consumption information and meter type are tracked. In addition, details regarding the investigation agent</p>



	conducting the assessment, milestone dates, measures tracked and incentive amounts are recorded. Final regression analysis reports for each participant are maintained and calculated savings are tracked.
<b>Offer Description</b>	<p>The RiR offer, as well as the Energy Compass initiative, is designed to motivate commercial customers towards performance-based conservation. The provision and analysis of detailed energy data aims to allow building operators and managers to make strategic data-driven decisions regarding energy savings and capital investments.</p> <p>Through Energy Compass and RiR, the Company helps commercial customers better manage their buildings, implement operational improvements to achieve energy savings and identify future cost-effective capital improvements. Savings that result from operational improvements implemented in any given year are recorded in the next year, following monitoring and verification.</p> <p>Customers interested in participating in the offer, and meeting the participation criteria, are first engaged by an Enbridge designated investigation agent. This agent conducts a high level energy audit on the participant's facility, identifying a list of operational improvement measures for the customer to implement.</p> <p>Once a customer implements the recommended measures, depending on the complexity of the building systems and annual consumption, a customer is then provided an incentive. Customers are then added to the Enbridge selected EMIS system in order to begin their 12 month monitoring period. Following the 12 month monitoring period, Enbridge provides the customer with a report which summarizes savings.</p>
<b>Cost-Effectiveness</b>	The RiR offer is not cost-effective in 2015, as illustrated by the TRC-Plus and PAC screening summarized in Table 5.4.



	However, the Commercial sector offers overall and the Resource Acquisition program as a whole shows screening results that are cost-effective.
<b>Evaluation Activities</b>	<p>The 2015 results are based on participants that registered for the RiR offer and completed the implementation of the agreed-upon low/no cost operational measures in 2014.</p> <p>A third party firm was retained by Enbridge to determine the 2015 claimed RiR savings.</p> <p>For these participants, gas consumption data for the 12 months prior to implementation (the base year) was used as the base case. Gas consumption was then monitored for 12 months following implementation (the reference year). Gas savings results are based on a standardized statistical regression analysis of actual consumption data for each participant, comparing natural gas consumption during a baseline and reference period. The baseline period is the time period prior to implementation of operational improvements while the reference is the period after improvements. Weather normalization of the baseline and reference gas consumption data is completed.</p>
<b>2015 Results</b>	Results for RiR are based on the calculation of total savings determined in 2015 for participants that enrolled in RiR in 2014. In 2015, volumetric savings of 2.68 million CCM were achieved by the 28 eligible participants. These amounts are outlined in Table 5.4. A further 8 participants were removed from the results due to the inclusion of capital measures during the monitoring period.

### 2015 Commentary and Lessons Learned:

- As was the case in previous years, an analysis of RiR participant results continues to indicate that average savings levels are significantly lower than the



10% reduction that was suggested in the initial forecast for the 2012 offer design. In 2015, average savings were 4.2%.

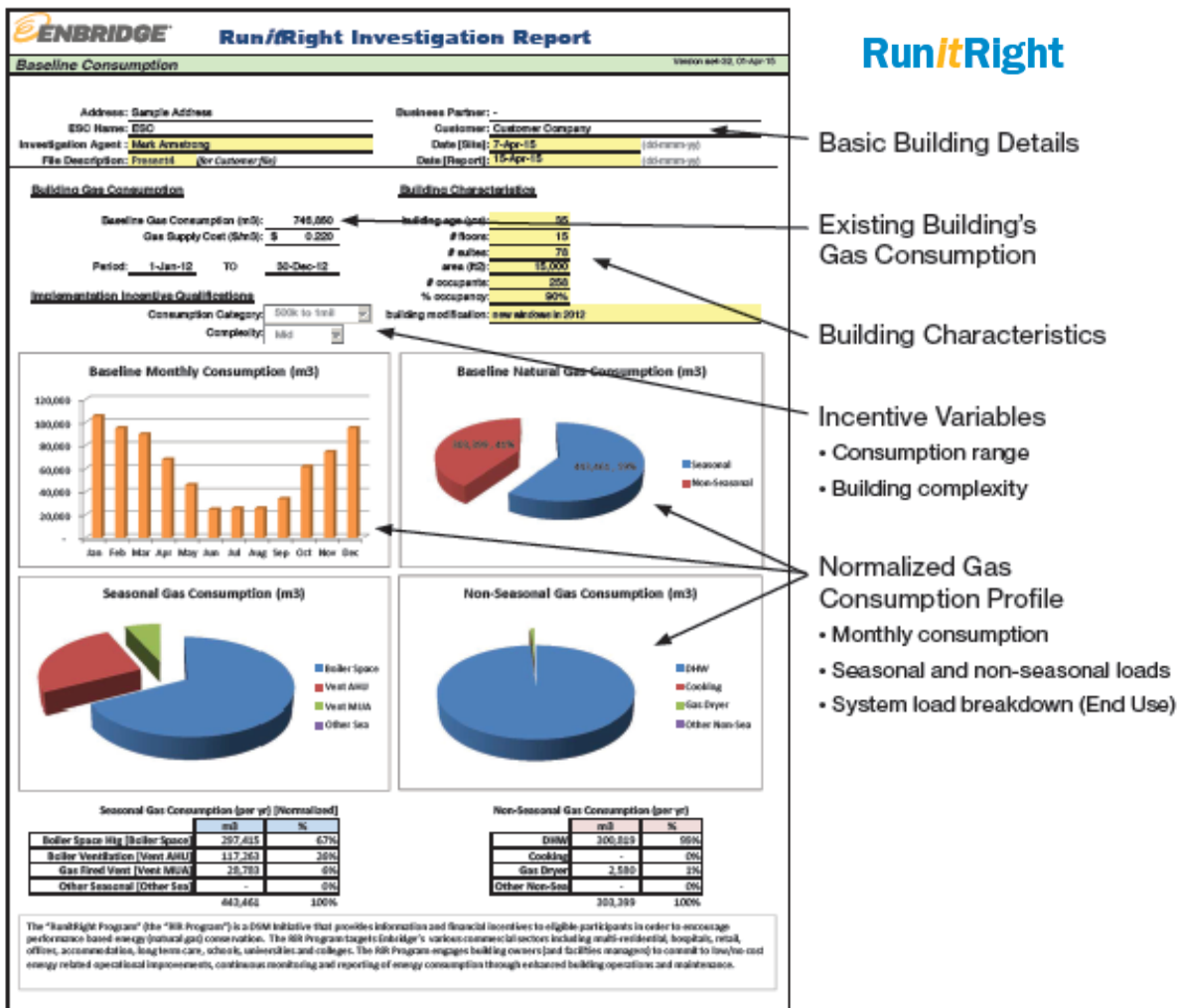
- While the number of customers that completed a RiR audit in 2014 was similar to previous years, those that followed through and implemented measures decreased from 53 in 2013 to 36 in 2014. Monitoring and measurement of savings proceeded for these 36 participants. Ultimately gas savings results associated with only 28 participants were included in the 2015 RiR gas savings result. The remaining participants undertook capital projects and therefore were deemed ineligible based on criteria for the 2015 RiR offer.
- In response to the low number of customers who implemented measures relative to the number of customers who showed initial interest and completed an audit, Enbridge sought to increase engagement between the investigation agents and customers signing up for the offer in 2015. Following the customers' receipt of their investigation report, the investigation agent was required to follow up with the customer to provide any assistance to support the implementation of the recommended measures. The expected outcome was that there would be an increase in the number of customers that took action and moved to the monitoring phase. Based on enrollments in 2015, this action has seen an increase in customers proceeding with the monitoring phase.
- Enbridge implemented further improvements to support customers enrolled in the offer including:
  - introducing a third-party calling service to educate and generate interest in the offer from existing eligible customers;
  - the development of a Building Automation Systems (BAS) training module ;
  - offering EMIS training to new participants to acclimate them to the software and encourage active usage throughout the 12 month measurement period.
  - The creation of an interactive display to better engage potential customers at various industry events.



- Assessing and interpreting actual results to determine RiR savings remains challenging. Although metered data reflects building consumption, it does not necessarily reflect the building conditions that can change year-over-year and therefore does not always provide a reliable assessment of the savings associated with operational improvements undertaken through the offer.
- An increase or decrease in consumption that occurs as a result of changes in the building not related to operational improvement activities (such as increasing operating hours or building occupancy changes) has an impact on the savings realized through the building's participation in the RiR offer. Such factors can be challenging to monitor and account for in the RiR regression analysis.
- Enbridge has spent considerable time and effort both independently and through the 2013 and 2014 audit processes to explore how to appropriately apply a methodology to capture operational savings. However, the results of these efforts have proved inconclusive to date. In a continued effort to further inform an appropriate methodology to be used, the Company intends to implement quarterly energy logs with participants to better understand building condition changes.



- As specified in the 2015-2020 Multi-Year DSM Plan, beginning in 2016 RiR has been redesigned to allow for the calculation of operational improvements even where the customer intends to proceed with capital projects. This revision should further remove barriers to participation.







### 5.3 Industrial Resource Acquisition

#### Industrial – Custom Solutions and Prescriptive Fixed Incentives Offers

<b>Objectives</b>	<p>The Industrial Custom Solutions offer is designed to capture cost-effective energy savings within the Industrial sector by delivering customized energy solutions aimed at supporting customers through a continuous improvement approach. Industrial Energy Solutions Consultants (ESCs) focus on assisting customers with the adoption of energy efficient technologies by overcoming financial, knowledge or technical barriers.</p> <p>The Industrial Prescriptive offer aims to capture energy savings in the Industrial sector by installing applicable prescriptive and quasi-prescriptive technologies, with a focus on increasing the adoption of energy efficient technologies among small industrial customers.</p>
<b>Target Customer</b>	<p>Both the Custom Solutions and Prescriptive offers are available to industrial customers (including Agricultural customers) in Rates 6, 110, 115, 135, 145 and 170.</p> <p>Custom projects encompass opportunities where savings are linked to unique industrial processes, building specifications, uses and technologies. With the Custom Solutions offer, Enbridge primarily targets industrial customers (both large and small) with significant process loads and high annual consumption.</p> <p>The technologies targeted to customers included in the prescriptive offer are often most suitable to smaller industrial customers whose gas usage is less weighted to the high process load profiles typical in larger industrial customers and who proportionally have higher seasonal gas usage.</p>





<b>Metrics</b>	As part of the Resource Acquisition program, the primary metric for the Industrial Custom and the Prescriptive offer is lifetime natural gas savings - cumulative cubic meter (CCM) savings.
<b>Tracking Methodology</b>	<p>Savings for each custom project are calculated on an individual basis and then tracked weekly by the Tracking and Reporting team, utilizing Enbridge's sales tracking software.</p> <p>Data is compiled for Prescriptive offer participants and also tracked on a weekly basis by the Tracking and Reporting team.</p> <p>All supporting documentation is reviewed for accuracy and completeness and is retained by Tracking and Reporting.</p>
<b>Offer Description</b>	<p>In the Industrial sector, the Continuous Energy Improvement (CEI) approach includes the Industrial Custom Solutions offer and the Prescriptive offer together with a number of enabling initiatives, such as support for industrial customers in identifying energy-saving opportunities through to assistance with project implementation.</p> <p>These offers are primarily promoted and delivered by ESCs (professional engineers) who are active in the marketplace. ESCs are trusted energy advisors that work with customers to determine solutions to address multiple objectives, namely production, energy efficiency and budgetary considerations. Work involves addressing technical barriers to energy efficiency adoption as well as financial barriers that may hinder business justification and implementation.</p> <p>Enabling initiatives allow ESCs to work with the customers to identify potential opportunities, quantify benefits, and justify action. Such initiatives include: ESCs leveraging their skills and tools to identify efficiency opportunities; involvement of third-party vendors to conduct specific types of audits or assessments of facilities; and/or ESCs assisting with the development of project implementation plans.</p>



	<p>Due to the unique nature of industrial customers, custom solutions developed by ESCs are designed and engineered to meet the specific requirements of each particular customer's facility. Five core components are common to the Custom offer:</p> <p><b>Knowledge Development:</b> Technical publications, quarterly updates, themed workshops and a resource based energy solutions portal are offered to provide customers with the knowledge to make informed decisions through education.</p> <p><b>Opportunity Identification:</b> ESCs provide support to assist customers in the identification of efficiency opportunities, such as equipment testing and assessment and thermal imaging.</p> <p><b>Measurement:</b> ESCs assist customers in selecting appropriate means of measurement to quantify key energy inputs.</p> <p><b>Engineering Analysis:</b> ESCs assist customers who do not have the resources needed to conduct financial, technical and enterprise risk evaluations for potential projects.</p> <p><b>Implementation Support:</b> ESCs work with customers on an implementation plan and connect them with business partners to complete the project.</p> <p>The following tiered incentive structure which was introduced in 2014 was once again offered in 2015 with the custom offer:</p> <p style="padding-left: 40px;">\$0.20/m<sup>3</sup> for first 50,000 m<sup>3</sup> gas saved \$0.05/m<sup>3</sup> for gas savings above 50,000m<sup>3</sup></p> <p>This incentive structure was designed to provide additional support to customers (both large and small) with the implementation of smaller projects.</p> <p>The Industrial Prescriptive offer evolved by leveraging existing Commercial offers applicable to the industrial customer base. The Industrial Prescriptive offer incorporates a fixed incentive approach and includes incentives designed to help offset the cost of energy efficiency upgrades specifically relevant to industrial facilities such as Air Doors, Heat Recovery</p>
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	Ventilators, Energy Recovery Ventilators, Condensing Make-up Air Units, Infrared Heaters and De-stratification Fans.
<b>Cost-Effectiveness</b>	Enbridge continues to demonstrate a high level of cost-effectiveness for the Industrial sector offers as supported by the TRC-Plus and PAC screening summarized in Table 5.5 that follows.
<b>Evaluation Activities</b>	<p>In the case of custom projects each project is assessed individually. Subsequent to project-specific savings calculations being completed by ESCs, an internal technical review of project applications and savings calculations is conducted. ESCs utilize standardized engineering calculators developed by Enbridge's technical engineering team. Where required, savings calculations are specialized based on project-specific engineering analysis.</p> <p>An independent third-party engineering review, the Industrial Custom Project Savings Verification (CPSV), is conducted annually. This verification study has historically consisted of a detailed review of the savings calculations for a statistically representative sample of Industrial sector custom projects.<sup>16</sup> Beginning in 2015, as detailed in the August 21<sup>st</sup>, 2015 memo from the board (EB-2015-0245), which outlines the new governance structure detailing the OEB's process to evaluate the results of Natural Gas Demand Side Management (DSM) programs from 2015 to 2020, the Board will be responsible for retaining an Evaluation Contractor (EC). The detailed annual evaluation and audit process will be developed as part of the EM&amp;V plan which the EC is expected to draft. The EAC will provide advice and input on the development of the plan as appropriate.</p>

16 The prescribed sampling methodology was developed for Enbridge and Union Gas by Navigant Consulting in 2012, revised in 2014 and endorsed by the TEC. "A Sampling Methodology for Custom C&I Programs", Dan Violette & Brad Rogers, Navigant Consulting, Inc., November 12, 2012. Revised: October 28, 2014



<b>2015 Results</b>	<p>There were 115 projects completed in the Industrial custom offer in 2015, and contributing 173.4 million CCM. Custom projects for industrial customers can be varied across a wide range of upgrades and improvements. In 2015, results from custom projects were led by savings from projects focused on industrial process efficiency improvements, the installation of control systems, and improvements to operational processes unique to specific customers.</p> <p>Prescriptive results totalled 7.59 million CCM and included 235 units installed. The focus for the Industrial prescriptive technologies in 2015 was Air Curtains and Infrared Heaters.</p>
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**Table 5.5 2015 Industrial Resource Acquisition Results**

Resource Acquisition Industrial Sector	2015 Net CCM	# of Projects <sup>1</sup>	# of Units <sup>2</sup>	TRC-Plus Ratio	PAC Ratio
<i>Custom</i>	173,397,871	115	---	6.21	15.00
<i>Prescriptive</i>	7,593,008	---	235	5.03	51.04
<b>Total/Average</b>	<b>180,990,879</b>	<b>115</b>	<b>235</b>	<b>6.15</b>	<b>15.45</b>
<sup>1</sup> . # of Projects summarizes the number of unique projects for custom offers. <sup>2</sup> . # of Units summarizes the number of units installed for prescriptive offers.					

**2015 Commentary and Lessons Learned:**

- The industrial sector utilizes most of its energy for process related consumption as opposed to heating and ventilation purposes. Plants consume a small portion of energy compared with the process equipment within the facility. Many industrial customers lack technical knowledge regarding energy efficient technologies that may help improve these processes and reduce overall energy consumption. Consequently, the industrial team focuses its efforts on helping customers identify ways to improve efficiency with process lines and the optimization of operational procedures.

- Overall, the Custom Solutions offer remained largely unchanged in 2015 from the previous year. Results continued to reflect the developing trend seen over the last few years with a shift from capital-intensive projects such as equipment upgrades, to opportunities focused on process improvements. The outcome has been an increasing proportion of projects which tend to yield good annual savings but lower CCM.
- Though the industrial team has identified an increasing number of potential opportunities year over year, the associated savings generated from completed projects has decreased in terms of cumulative gas saving results.



- Custom projects tend to be resource intensive requiring extensive technical expertise and data analysis; whereas prescriptive, fixed incentive projects are less complex to execute, and therefore a good alternative for smaller customers. The Company continued to leverage a distribution network of business partners and service providers to assist in the promotion of the Prescriptive offer.

- 2015 prescriptive project customers benefitted from financial incentive support for the installation of Infrared Heaters as well as Air Doors. In total, 235 prescriptive projects were completed.
- The Company continues to pursue opportunities to undertake audits and studies at industrial customers' facilities (e.g. plant energy assessments, steam trap audits or meter studies) to identify for the customer potential savings that could be realized with the implementation of various improvements. Approximately 70 audits were completed in 2015.



**2015 Industrial Custom Solutions**

**Customized Energy Solutions for the Industrial Sector**

Enbridge Gas Distribution offers free services and financial incentives designed to help our industrial customers make the most of the energy they consume. We'll work with you to design a custom solution that meets your energy needs and financial objectives.

[enbridgegas.com/industrial](http://enbridgegas.com/industrial)

**ENBRIDGE**  
Life Takes Energy

**Making energy work for you.**

A dedicated Enbridge Energy Solutions Consultant (ESC) will work with you, free of charge, to understand how you are using natural gas and develop a custom solution that can increase efficiencies and improve your bottom line.

**FREE services may include:**

- Energy efficiency planning
- Technical training, support and expertise
- Identification and monetization of savings opportunities
- Equipment replacement advice
- Process and operational improvement assessment
- Connection to independent business partners
- Identification of financial incentives and rebates

**Our financial incentives help offset the cost of energy saving initiatives:**

**Incentives for Opportunity Identification, Measurement and Engineering Analysis Conducted by a Third Party Consultant**

ANNUAL NATURAL GAS CONSUMPTION	50% OF ELIGIBLE COSTS TO A MAXIMUM INCENTIVE OF:
2,500,000 m <sup>3</sup> or greater	\$10,000
1,000,000 m <sup>3</sup> to 2,499,999 m <sup>3</sup>	\$6,000
300,000 m <sup>3</sup> to 999,999 m <sup>3</sup>	\$2,000
Up to 299,999 m <sup>3</sup>	\$1,000

**Action and Implementation Incentives:**

SAVINGS ASSOCIATED WITH PROJECT	INCENTIVE <sup>1</sup>
First 50,000 m <sup>3</sup> saved	\$0.20/m <sup>3</sup> saved
Each cubic meter beyond 50,000 m <sup>3</sup> saved	\$0.05/m <sup>3</sup> saved

<sup>1</sup>Contact an ESC for further details. Incentives cannot exceed the greater of 50% of the cost of the implementation or \$100,000 per project. See reverse for additional program conditions.

- Enbridge offered a variety of materials and forums aimed at increasing awareness of energy efficiency opportunities and benefits, educating industrial customers and providing resources to research and evaluate potential improvement solutions. Efforts in 2015 focused on a number of initiatives including:

- Energy efficiency workshops and webinars;
- Quarterly newsletters (via email blasts);
- Audits and Assessments; and,
- Industrial Energy Solutions Portal



- Over the course of 2015, to further increase awareness of energy efficiency in customers' facilities, the industrial team hosted workshops focused on educating customers and their employees on identifying energy conservation opportunities and providing information to help evaluate potential projects. These workshops helped customers identify projects that not only resulted in natural gas savings, but also identified electric and water savings opportunities. The 2015 workshops included the following:

- **Process Heating Efficiency Workshop**

Focused on helping customers understand and identify process heating related energy savings opportunities and discover how incremental changes can generate real savings.



### Process Heat Industrial Workshop

Process heating is vital to nearly all manufacturing processes, supplying the heat needed to produce basic materials and commodities.

Are you optimizing your process heating equipment and its settings? If not, sign up today for our FREE workshop, led by Damir Naden, Energy Efficiency Manager, Enbridge Gas Distribution.

#### Workshop Details

**Date:** June 9, 2015  
**Location:** International Centre, 6900 Airport Road, Mississauga  
**Time:** 8:30 – 11:00 a.m.  
 Complimentary breakfast will be served at 8:00 a.m.  
**Cost:** Free for Enbridge Industrial customers

Space is limited!  
[Click Here to Register](#)

The workshop will help Plant Managers, Energy Efficiency Managers, Facilities or Maintenance Managers identify opportunities to save energy and to learn more about equipment dedicated to process heating in manufacturing

#### Workshop Topics Include:

- Process heating basics
- Thermal heat transfer basics
- Heat recovery
- Industrial oven optimization
- Hands-on examples how to turn the theory into real life savings

Enbridge Gas Distribution will use e-mail addresses submitted only for the purpose of sending communications regarding its available industrial programs. Subscribers may opt out of receiving Enbridge Gas Distribution's industrial program communications at any time by clicking [unsubscribe](#).

Privacy Policy: <https://www.enbridgegas.com/industrial/privacy-policy.aspx>  
 Enbridge Gas Distribution P.O. Box 850, Scarborough, Ontario, M1K 5B3

- **Successful Energy Management Workshop**

Provided attendees with the opportunity to learn more about energy management planning and how to develop a solid energy baseline of their facilities.

- **Heating and Ventilation Workshop**

This session focused on educating customers on how to recognize the symptoms of negative pressure in their facilities, calculate the associated operating costs, and identify no cost/low cost solutions to improve

efficiencies, save money and create a more comfortable work environment for employees year round.

- **Energy Management Success Stories**

This workshop featured speakers from two leading Ottawa area customers who shared how energy management helped them find and implement energy efficiency solutions that resulted in significant emission reduction and cost savings.

- **Boiler Efficiency Workshop**

Enbridge's first workshop held at a customer site. Attendees were provided with a site tour of the host client's facility where they were able to explore practical applications of how to optimize energy efficiency, improve productivity and significantly reduce emissions and operating costs in their boiler plant.



The screenshot shows an email newsletter header with the Enbridge logo and the date "September 2015". Below the header is a banner image of two workers in hard hats, with the text "Industrial News from Enbridge" and the URL "enbridgegas.com/industrial". The main content area features a section titled "Boiler Efficiency Workshop" for "October 7, 2015", with a description of the workshop and a "Register Today" button. Below this is a section titled "Prevent Boiler Blowdown of your Water, Chemical and Energy Budget" with a description and a "Read More" button.

- Over 120 participants took part in these workshops in 2015 and most workshop participants attended more than one event, which serves as an indication that these customers value the information provided. Workshop feedback survey results were excellent with ratings of 95% support in terms of relevancy of the content covered.



- In an effort to drive efficiency projects, limited time incentive campaigns are now introduced at workshops. For example, as part of the HVAC workshop, a campaign to cover the cost of the purchase and installation of a centralized control system for exhaust fans was introduced. In association with the Boiler Efficiency Workshop, customers were offered double the regular incentive for any boiler related energy efficiency project completed within a limited time period. These campaigns will be continued in 2016.
- The Company has established and developed solid relationships with many of the larger industrial customers; however the Company has recognized there is more work needed to improve engagement and develop contacts with the smaller industrial customer base. In 2015, Enbridge worked in collaboration with EnerSource on a Collaborative Energy Assessment initiative targeting the smaller customer segment in both the commercial and industrial sectors. The Company leveraged a third party vendor to connect with smaller commercial and industrial customers and offer them a free energy assessment. As part of this effort, the third party vendor would collect specific customer contact, business and facility information to inform the development of targeted strategies and offers that would more effectively meet the needs of this underserved customer base. The outreach initiative also served as a means of promoting tools, incentives and offers currently available through Enbridge, to a segment of the sector that was previously not well engaged.
- The Industrial Energy Solutions portal launched in 2014 continued to evolve. The portal provides industrial customers, contractors and business partners with the tools to:
  - Identify and quantify energy efficiency opportunities
  - Calculate energy savings
  - Apply for Enbridge financial incentives
  - Learn about different types of energy efficiency technologies
  - Request support from an Energy Solutions Consultant
- Several enhancements were made to the portal in 2015 including:
  - New calculators for the following technologies:
    - Air compressor heat recovery
    - Condensing economizers

- Feedwater economizers
  - Low temperature chemical wash
  - Exhaust reduction
  - The addition of recorded workshop videos with online access for customers who were unable to attend the events in person.
- In accordance with the rollover for 2015, as in prior years and as outlined in the DSM plan (EB-2015-0049), budget spending on programs and activities for rate classes 110, 115 and 170 was capped. “The purpose of these limits is to ensure that the maximum cost to be borne by industrial customers in these rate classes is known in advance and capped.”<sup>17</sup>
- Table 5.6 details the actual spending (including allocated overheads but excluding Low Income Allocations) relative to prescribed spending limits for each rate class and shows that spending is within the limits set out for all three rate classes.

**Table 5.6 Rate Class 110, 115 and 170 Spending Limits vs. 2015 Actual Spending**

Rate Class	2015 Spending Limit	2015 Spending*
110	\$1,721,000	\$1,424,754
115	\$1,333,000	\$478,971
170	\$2,264,000	\$295,557

*\*2015 Actual Spending amounts include program costs and overheads but exclude Low Income LEAP allocations.*

- Both of the industrial custom and prescriptive offers continue to be important components in Enbridge’s DSM portfolio and will be continued in 2016. As outlined in the Company’s 2015-2020 Multi-Year DSM Plan, the Company continues to pursue strategies to successfully drive savings within the smaller industrial customer group. The Company will continue to look at ways to tailor efforts to realize achievement in this challenging market segment.

<sup>17</sup> Enbridge Gas Distribution Inc. 2015-2020 Multi-Year DSM Plan, OEB File: EB-2015-0049, Exhibit B, Tab 1, Schedule 3, Page 7 of 19.

## 6. Low Income Scorecard

Enbridge is a leader in the delivery of energy efficiency programs specifically designed for low income customers. Programming has evolved considerably since DSM activities for this market were first offered in the Enbridge franchise in 2004.

Enbridge's Low Income offers are similar to Resource Acquisition offers in that they consist of the installation of energy efficient equipment or measures. However Low Income offers are set apart to recognize the unique needs of their target customer base. Though these offers may result in a lower benefit/cost ratio – Total Resource Cost – than similar offers delivered to non-low income customers, they are designed to address the needs of these consumers and include other important societal benefits.

Performance in terms of the Low Income scorecard for 2015 is measured primarily in terms of net CCM of natural gas savings, however also includes a metric based on program enrollment.



Want to lower your  
**ENERGY COSTS?**  
**ENBRIDGE CAN HELP.**

Enbridge Gas Distribution is committed to helping social and assisted housing providers save energy and money, while at the same time improve the quality and comfort for their residents.

We can help you manage your energy use and reduce your operating expenses.

Our special incentive offers are available on retrofit installations that result in natural gas savings for projects completed by December 31, 2015.

To learn more, visit [www.enbridgegas.com/affordablehousing](http://www.enbridgegas.com/affordablehousing)  
 or [www.enbridgegas.com/winterproofing](http://www.enbridgegas.com/winterproofing).

Incentives are available only to program  
 eligible Enbridge Gas customers.





The Low Income program focuses on helping to reduce the energy costs facing low income customers and their housing providers through the installation of measures and thermal envelope improvements to achieve water and space heating savings. Design and delivery considerations for this segment are unique from traditional approaches. As such, approaches are adopted to best reach out to these vulnerable customers and raise customer awareness, encourage resident and building staff engagement, and in turn, build participation. This community includes low wage households, seniors, recent immigrants to Canada and often people with special needs. The Low Income program comprises two segments: Single Family Residential (Part 9) buildings and Multi-Residential (Part 3) buildings.

Enbridge's delivery strategy for the Low Income sector focuses on leveraging available channels and resources, community-based organizations (CBOs) and local community service providers. These groups have established relationships with trusted organizations that support the social service needs (housing affordability and environmental sustainability) of low income consumers.

The Company has also been particularly effective in building collaborative partnerships in the marketplace with LDCs and municipalities. Enbridge has recognized the benefits of collaboration with these partners, as well as with social and assisted housing support networks, in helping to inform and improve program delivery. Proactive stakeholder and customer relationship management provides for continuous program improvement and refocusing of program strategies to be responsive to housing providers' needs and the evolution of affordable housing.

In the social housing space, a key partner in the Enbridge franchise area is Toronto Community Housing (TCH). As the largest social housing provider in Canada and the second largest in North America, TCH provides homes to roughly 60,000 low income households.

The Low Income program exhibited strong results in 2015 relative to scorecard performance targets. Results in the Single Family (Part 9) segment were strong, totaling 28.07 million CCM, surpassing the middle (100%) target. In the Multi-Residential (Part 3) segment, results totalled 63.97 million CCM in natural gas savings.

**Table 6.0 2015 Low Income Scorecard**

Component	Metric	Targets				2015 Result
		Weight	Lower	Middle	Upper	
Single Family (Part 9)	Cumulative Savings (million m <sup>3</sup> )	50%	18.10	24.10	30.20	28.07
Multi-residential (Part 3)	Cumulative Savings (million m <sup>3</sup> )	45%	51.60	68.70	86.00	63.97
Multi-residential (Part 3) LIBPM <sup>1</sup>	Percent of Part 3 Participants Enrolled <sup>2</sup>	5%	30%	40%	50%	65%

1. LIBPM - Low Income Building Performance Management is the Low Income offer complement to the Commercial Run It Right (RIR) offer.

2. Low Income Building Performance Management (LIBPM) percentage of Part 3 buildings enrolled in current year program =  $(x+y)/(x+y+z)$ :

x = # of new LIBPM buildings in the current year that have participated in another aspect of the Low Income program in a previous year of 2012-2014 plan; y = # of new LIBPM buildings in the current year that have not previously participated in the Low Income program; z = # of buildings in the current year that have implemented custom projects other than LIBPM.

**Table 6.1 2015 Low Income Results**

Low Income Component	CCM 100% Target (m <sup>3</sup> )	2015 Net CCM (m <sup>3</sup> )	TRC-Plus Ratio	PAC Ratio	# of Projects <sup>1</sup>	# of Units <sup>2</sup>
Single Family (Part 9)	24,100,000	28,067,264	1.06	0.96	1,343	1,102
Multi-Residential (Part 3)	68,700,000	63,969,353	3.20	4.76	96	3,331
<b>Total/Average</b>	<b>92,800,000</b>	<b>92,036,617</b>	<b>1.88</b>	<b>2.00</b>	<b>1,439</b>	<b>4,433</b>
1. # of Projects summarizes the number of unique projects Home Winterproofing and for custom offers.						
2. # of Units summarizes the number of units installed for prescriptive offers.						

All Low Income offers delivered to Enbridge customers in 2015, with the exception of the Low Income Building Performance Management offer, will be continued in the Low Income DSM program in 2016. Details regarding individual offers are discussed below.

## 6.1 Single Family (Part 9)

### Home Winterproofing and Prescriptive Measures

<b>Objectives</b>	The goal of the Single Family Low Income offer is to enable energy savings through the reduction of hot water use and space heating demand in low income single family households through the installation of thermal envelope improvements, space heating and water saving measures.
<b>Target Customer</b>	<p>This offer targets Rate 1 homeowners and tenants living in low-rise homes within the Enbridge franchise area who need assistance with their energy costs.</p> <p>Income verification is a requirement for participation in this offer.</p> <p>Eligible customers must meet the following criteria:</p> <ul style="list-style-type: none"> <li>• Income is at or below 135% of Statistics Canada's Low Income Cut-Off (LICO);</li> <li>• Occupants of single detached and low-rise multi-family (3 stories or less);</li> <li>• Private homeowner or tenant who pays their own gas bills; or</li> <li>• Tenants residing in social and assisted housing, regardless of gas bill payment responsibility.</li> </ul>
<b>Metrics</b>	The primary metric is cumulative cubic meter (CCM) savings.
<b>Tracking Methodology</b>	In the case of Home Winterproofing, reports are submitted from delivery agents summarizing installation site information (e.g., address, ownership, housing type) and natural gas savings (m <sup>3</sup> ) calculated based on the results of customized energy audits conducted by energy auditors for income qualified participants.



	<p>Participation also is tracked by type of tenancy (i.e., social housing or privately-owned dwellings). Similarly, monthly reporting is provided by delivery agents and summarizes unit installations for each prescriptive measure installed. Monthly reports are compiled by the Tracking and Reporting team, utilizing Enbridge's sales tracking software.</p>
<b>Offer Description</b>	<p>The Low Income Home Winterproofing offer is available for:</p> <ul style="list-style-type: none"> <li>• qualified Part 9 buildings (three stories or less);</li> <li>• private homeowners and residential tenants within the Enbridge franchise who meet the established income eligibility criteria;</li> <li>• residents of social housing; and</li> <li>• recipients of social assistance benefits.</li> </ul> <p>For each Part 9 single family home, Enbridge aims to comprehensively address all cost-effective opportunities, provided that the customer accepts all such measures. Basic prescriptive measures including showerheads, aerators, programmable thermostats and heat reflector panels are offered.</p> <p>The Winterproofing offer provides low income customers with a free home energy audit and upgrades that may include: attic, wall and/or basement insulation, door and window caulking and draft-proofing.</p> <p>Enbridge's main approach to delivering the Winterproofing offer is to work with experienced and reliable delivery agents who perform the energy audits and install measures. Upgrades are determined by a free home energy audit performed by a Certified Energy Auditor to determine which cost-effective measures are most appropriate for each home. Basic measures, as defined above, are offered as part of the screening process. Once the measures are installed, a second</p>





	<p>home energy audit is conducted to calculate the gas savings realized.</p> <p>EnviroCentre, Green Communities, and GreenSaver continued as the three primary service providers contracted by Enbridge to market and deliver the offer. These delivery agents are well established in their communities with recognized connections to low income proponents throughout the franchise area.</p> <p>The strategy of delivering the offer in partnership with community-based organizations with strong links to social service agencies has proven to be an effective way of connecting with a hard-to-reach customer segment. Where possible, delivery agents also refer participants to the local electric utility's conservation weatherization program.</p>
<b>Cost-Effectiveness</b>	<p>Low Income programs are often amongst the most expensive to deliver. As per the Guidelines, the Low Income program screening threshold is 0.70; the Low Income Part 9 offer was cost-effective as supported by the TRC-Plus and PAC screening in Table 6.2.</p>
<b>2015 Results</b>	<p>Single Family (Part 9) results were solid in 2015. Actual cumulative savings were 28.07 million CCM, as outlined in Table 6.2. These results exceeded the middle (100%) target of 24.1 million CCM set out in the 2015 DSM Plan.</p> <p>The Enbridge Home Winterproofing offer reached 1,343 low income households in 2015. Many of these homes also received basic prescriptive measures including showerheads and aerators where appropriate, and in some cases also benefitted from the installation of heat reflector panels.</p>



**Table 6.2 2015 Single Family (Part 9) Low Income Results**

Low Income Component	2015 Net CCM (m3)	TRC-Plus Ratio	PAC Ratio	# of Projects <sup>1</sup>	# of Units <sup>2</sup>
<i>Single Family (Part 9)</i>	28,067,264	1.06	0.96	1,343	1,102
1. # of Projects summarizes the number of unique projects for Home Winterproofing.					
2. # of Units summarizes the number of units installed for prescriptive offers.					

**2015 Commentary and Lessons Learned:**

- With Green Light on a Better Environment (GLOBE) no longer a delivery agent due to internal structuring at Housing Services Corporation (HSC), Enbridge reallocated the social housing customers to the remaining delivery agents to expand their customer coverage. Enbridge continues to work with HSC as an energy champion within the sector.
- The combined efforts of delivery agents servicing the privately-owned low income housing market, coupled with continuing work done in social housing (Part 9) properties culminated in a strong result in 2015 with 1,343 homes benefitting from the Home Winterproofing offer in 2015.
- The Company is particularly pleased with the results that were accomplished in 2015, through its work with Ottawa Community Housing (OCH), the second largest housing provider in Ontario. Enbridge worked diligently in managing the performance of EnviroCentre – the Ottawa area delivery agent – to ensure that Enbridge was responsive to the needs of OCH and their residents' while at the same time achieving savings targets.
- As summarized in Table 6.3, 56% or 757 projects claimed in 2015 involved privately-owned houses, the remaining 586 or 44% of homes were social housing. On average, CCM savings per home averaged 20,795 CCM for both social housing buildings and privately-held dwellings.

**Table 6.3 Home Winterproofing – Breakdown of Results**

<b>2015 Home Winterproofing Results</b>		
# Social Housing Projects	586	44%
# Privately-Owned Projects	757	56%
<b>Total Number of Projects</b>	<b>1,343</b>	<b>100%</b>
Average CCM Savings/Home - Social Housing (m3)	21,066	
Average CCM Savings/Home - Privately-Owned (m3)	20,585	
<b>Average CCM Savings/Home - All Projects (m3)</b>	<b>20,795</b>	

- Toronto Hydro, in co-operation with Enbridge, submitted a business case to IESO to develop a pilot program for joint delivery of the gas and electric Single Family Low Income programs. The pilot is intended to identify cost-efficiency opportunities for joint delivery and enhancements in customer experience. The intention is that this effort will provide a blueprint for a jointly delivered province-wide program.
- Significant efforts in 2015 focused on collaborating with Toronto Hydro to develop a joint initiative between the two utilities to deliver their respective Low Income Single family offers – utilizing one common delivery channel within the City of Toronto.
- Through the Home Assistance Program (HAP) sub-committee of the IESO Residential Working Group, Enbridge worked with IESO in the development of the business case for an updated HAP program in 2015. Of note, these efforts resulted in a streamlined application process, with one single application required for both gas and electric programs. In addition, the HAP income qualification approach was revised so that participants who had already qualified for the gas offer were automatically eligible for HAP. The new HAP program was also revised to incorporate a similar pricing approach used by Enbridge for the implementation of the audit and measures.
- The successful delivery of Home Winterproofing to Toronto Community Housing (TCH) required that efforts integrate with TCH's overall building repair and energy efficiency action plans. A thorough assessment within various TCH departments and Enbridge spanned several months and resulted in a signed Memorandum of Understanding between TCH and Enbridge. A steering

committee including Enbridge, TCH, Toronto Hydro and GreenSaver was created with the objective of working to prioritize the delivery of the electricity and gas programs for 2016 and beyond.

- Promotion of the Home Winterproofing offer through webinars and information sessions facilitated by the delivery agents to social agencies and community groups continued in 2015. Specific, marketing and sponsorship efforts included:
  - buck slips (including a jointly produced piece by Enbridge and Toronto Hydro) and postcards for delivery agents to use at community centre events, social agencies and direct mail across the franchise area;



**Are those bills giving you the chills?**

**Bills adding up? Reduce energy use with a free Home Winterproofing Program.**

**ENBRIDGE**

**Take Advantage of this FREE Program to qualified Enbridge Gas Customers.**

If your home is heated with natural gas you may be eligible for new insulation and draft proofing through the Enbridge Home Winterproofing Program.

**Save money.**  
The program can cut your energy use by 30% and lower your energy bills.

**Be more comfortable.**  
An energy-efficient home has fewer drafts, and lets you control the temperature.

**Get healthier.**  
Fewer drafts mean a more comfortable home for you and your family.

**Increase the value of your home.**  
Buyers and tenants like energy-efficient homes.

**Protect the environment.**  
The less energy you use, the cleaner the air.

Find out if you qualify\* at [enbridgegas.com/winterproofing](http://enbridgegas.com/winterproofing) or call GreenSaver at 1-888-855-3106

**HOME WINTERPROOFING PROGRAM**

**green saver**  
Energy Conservation In Action

\*Customer must meet income and customer requirements

- street posters were posted outside variety stores in identified low income communities to help increase participation;
- a collaboration effort with the Canadian Health Media Network placed Home Winterproofing brochures and videos in 146 medical offices (resulted in over 800,000 impressions);
- expansion of social media efforts, including digital advertising with Metroland and Google was new in promoting awareness across various channels; and,

- sponsorship through LIEN, HSC and ONPHA to promote initiatives to social and affordable housing providers including:
  - LIEN annual conference
  - ONPHA annual conference inclusive of tradeshow booths and workshops
  - ONPHA Regional Meetings
  - HSC Energy Forum
  - Sponsored Stories
  - E-Alert Advertising
- Enbridge continued to engage in training and quality control efforts with delivery agents to ensure good work plan documentation and submission requirements were maintained to support tracking and reporting. Enbridge also facilitated focus groups in Toronto, Niagara, and Peterborough with local program participants. This provided an opportunity for past participants to provide feedback and recommendations for: customer experience improvements; channels for communication; and, marketing messages that led to participation.
- The LEAP outbound calling campaign continued for 2015. An estimated 10% of LEAP participants that Enbridge attempted to contact were ultimately transferred to a delivery agent in their area to discuss the Home Winterproofing opportunity. Enbridge continues to talk to LEAP agencies with the objective of allowing Enbridge to engage immediately with participants at the time of LEAP application for inclusion in Home Winterproofing.
- The Low Income Home Winterproofing offer will continue to be an important focus for Enbridge in 2016.

## 6.2 Multi-Residential (Part 3)

### Custom Projects and Prescriptive Measures

<b>Objectives</b>	The goal of the Multi-Residential Low Income offer is to enable energy savings through the reduction of space heating demand and hot water use in low income multi-residential buildings through the installation of thermal envelope improvements, space heating and water saving measures.
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<b>Target Customer</b>	<p>This offer targets multi-residential social housing providers and managers.</p> <p>The offer also targets eligible owners and property managers of privately-owned multi-unit residential buildings (MURBs) in the City of Toronto, which provide housing to a market that includes low income customers and families based on screening criteria established in collaboration with Enbridge's Low Income Consultative Working Group.</p>
<b>Metrics</b>	<p>The primary metric is cumulative cubic meter (CCM) savings.</p>
<b>Tracking Methodology</b>	<p>As with Commercial custom projects, the savings for each custom project are calculated on an individual basis.</p> <p>Additionally, savings per unit installed for each type of prescriptive measure are tracked and totalled.</p> <p>Results are recorded and summarized through a monthly tracking process utilizing Enbridge's sales tracking software.</p> <p>All supporting documentation is reviewed for accuracy and completeness and is retained by Tracking and Reporting.</p>
<b>Offer Description</b>	<p>Low Income Multi-Residential (Part 3) efforts help social housing providers and MURB managers improve the energy efficiency of aging buildings.</p> <p>The Low Income Multi-Residential offer takes a "building as a system approach" to energy efficiency. It targets housing providers, building operators and tenants with a range of measures such as equipment replacement, thermal envelope improvements and controls, and includes enhanced financial incentives, technical information services, building assessments/audits, education and project facilitation.</p>



	<p>Financial barriers inherent in the Low Income sector related to limited capital availability are addressed by providing an increased financial incentive relative to the standard custom offer; incentives are based on annual natural gas savings up to \$100,000 or 50% of project cost.</p> <p>Prescriptive equipment replacement is incented at a set dollar amount depending on efficiency levels. These measures include specific condensing/high efficiency boilers, energy recovery ventilation systems and heat recovery ventilation systems. A free direct install showerhead installation program is also available.</p> <p>Technical issues are addressed by engaging sector experts to provide a suite of services including benchmarking, energy audits, technical assistance and project facilitation. Financial subsidy is provided towards energy audits, building and equipment inventories, and consumption monitoring activities.</p> <p>Direct install in-suite measures, low-flow showerheads and heat reflector panels are provided for eligible buildings.</p>
<b>Cost-Effectiveness</b>	<p>As per the Guidelines, the Low Income program TRC-Plus screening threshold is 0.70. The Low Income Part 3 offer was cost-effective as supported by the TRC-Plus and PAC screening – see Table 6.4.</p>
<b>Evaluation Activities</b>	<p>In the case of custom projects, savings for each project are determined with project-specific savings calculations. Where applicable, ESCs utilize standardized engineering calculators developed by Enbridge's technical engineering team. Projects are screened for an additional internal technical review to verify savings calculations as appropriate. Where required, savings calculations are specialized based on project-specific engineering analysis.</p>

	An independent third-party engineering review, the Custom Project Savings Verification (CPSV), is conducted annually. This verification study has historically consisted of a detailed review of the savings calculations for a statistically representative sample of Commercial/Low Income custom projects. <sup>18</sup> Beginning in 2015, as outlined in the August 21 <sup>st</sup> , 2015 memo from the board (EB-2015-0245), which outlines the new governance structure detailing the OEB's process to evaluate the results of Natural Gas Demand Side Management (DSM) programs from 2015 to 2020, the Board will be responsible for retaining an Evaluation Contractor (EC). The detailed annual evaluation and audit process will be developed as part of the EM&V plan which the EC is expected to draft. The EAC will provide advice and input on the development of the plan as appropriate.
<b>2015 Results</b>	The Low Income Part 3 Multi-Residential offer achieved 63.97 million CCM natural gas savings in 2015.

**Table 6.4 2015 Multi-Residential (Part 3) Low Income Results**

Low Income Component	2015 Net CCM (m3)	TRC-Plus Ratio	PAC Ratio	# of Projects <sup>1</sup>	# of Units <sup>2</sup>
<i>Multi-Residential (Part 3)</i>	63,969,353	3.20	4.76	96	3,331
1. # of Projects summarizes the number of unique projects for custom offers.					
2. # of Units summarizes the number of units installed for prescriptive offers.					

### 2015 Commentary and Lessons Learned:

- The Low Income sector faces inherent financial barriers due to limited capital availability, therefore an increased financial incentive relative to the standard custom offer is provided. Projects in the Low Income sector are generally incented based on \$0.40/m<sup>3</sup> of gas saved for custom measures including building envelope, fans, boilers, heat recovery/economizers and make-up air units.

18 The prescribed sampling methodology was developed for Enbridge and Union Gas by Navigant Consulting in 2012, revised in 2014 and endorsed by the TEC. "A Sampling Methodology for Custom C&I Programs", Dan Violette & Brad Rogers, Navigant Consulting, Inc., November 12, 2012. Revised: October 28, 2014



Incentives are calculated based on annual natural gas savings up to 50% of project costs.

- As the largest social housing provider in the country, projects with Toronto Community Housing (TCH) buildings comprised approximately 16 million CCM of the Part 3 2015 results. The successful implementation of the retrofit projects in TCH buildings is largely attributed to an integrated and solutions-based approach tailored for a customer that has very unique needs and objectives. For example, a gas savings volumetric objective was established at the start of the year and a tiered financial incentive structure was proposed to encourage broader building participation. A working group including both Enbridge and TCH met regularly for project updates and to identify solutions to persistent barriers such as collection and compilation of building information and prioritization of energy savings opportunities. Working together to address identified barriers helps to facilitate the development of business cases for capital investments and funding proposals. For example, Enbridge provided technical advice in support of Regent Park's district energy system project. Both parties have recognized the significant value of this approach. As Enbridge continues to extend services to TCH, the Company plans to adopt the same approach for other large low income customer portfolio managers that require flexibility to encourage deeper participation in DSM offers.
- In recent years, Enbridge has invested in project facilitation and technical support services to social housing providers to help elevate the visibility of energy conservation and encourage energy management practices. One initiative, *Audit to Action* is an audit offer managed by Housing Services Corp. (HSC) and extended to social housing providers and service managers. The energy audits are free to participants with a commitment for implementation of some or all of the measures identified through the audit. Participants to this offer are carefully selected by HSC and service managers to ensure follow-through on audit recommendations. Importantly, the audit report informs business cases for capital investments, calls for funding proposals and/or funding subsidies. There were 14 *Audit to Action* participants in 2014 that went on to implement projects in 2015.

- Marketing efforts to increase awareness of the availability of Low Income offers in privately-owned buildings continued in 2015. The Federation of Rental Housing Providers of Ontario (FRPO) remains the primary industry channel for promoting this work. Joint promotional activities that focused on building owner and resident education and engagement were planned throughout the year. Enbridge is also an active member of FRPO's steering committee for the development of the Environmental Champion's module of FRPO's Certified Rental Buildings (CRB) Program.
- The City of Toronto has been an invaluable partner in cross-promoting the Enbridge Low Income offers to privately-owned multi-residential building managers along with the City's own programs including Tower Renewal and the Local Improvement Charge (LIC) Financing Program. Municipal partnerships such as this provide a template for how the Company will approach other municipalities and focus expansion efforts to private multi-residential buildings in other regions of the Enbridge service territory.
- The Company dedicates significant efforts in strategic outreach to its stakeholders and key customers. These efforts highlight the value of energy management and the Enbridge partnership, while at the same time help to inform the Company's programming activities. Enbridge recognizes the importance of ensuring its offers are providing value-add to the customer's housing operations and are responsive to the changing needs of these customers.
- Enbridge has learned that resident engagement has become a significant factor influencing decision-making within the affordable housing building community. Successful project implementation requires that the Company continue to co-ordinate its efforts with the understanding that resident input to the budgeting considerations and project prioritization of housing providers is part of the process toward project execution.



Join your neighbours in saving energy		Join your neighbours in saving energy		Join your neighbours in saving energy	
Together let's make a difference		Together let's make a difference		Together let's make a difference	
 <p><b>Don't leave water running</b></p> <p>Turn off the taps when shaving or brushing your teeth to help conserve water.</p>	 <p><b>Clean radiators, vents and air returns</b></p> <p>Keep radiators, vents and air returns clean and free of obstructions - furniture, dust or pet hair.</p>	 <p><b>Don't keep fans running</b></p> <p>Turn off the kitchen and bathroom fans when not in use.</p>			
 <p><b>Wash in cold water</b></p> <p>You rarely need hot water to get laundry clean and the energy savings are significant. Always wash full loads or adjust the machine to the size of the load.</p>	 <p><b>Lock in the heat</b></p> <p>Open drapes and curtains during the day to let the sun warm your home, and close them at night to keep the heat inside.</p>	 <p><b>Add layers, stay warm</b></p> <p>Instead of turning up the thermostat, add a sweater to keep the heat close to your body. Stay cozy with a pair of warm socks or furry slippers.</p>			
 <p><b>Make minutes matter</b></p> <p>The average shower takes about eight minutes. Reducing your shower time by a minute or two can make a big difference.</p>	 <p><b>Turn off appliances, lights and electronics</b></p> <p>When you leave a room, turn off the lights to save energy. Also when not in use, turn off appliances, lights and electronics.</p>	 <p><b>Set your thermostat lower</b></p> <p>Lower the setting of your thermostat when you go to bed or when you are away from your home.</p>			





- The Company plans to continue to drive Part 3 results in 2016 by focusing on the needs of housing providers' and being responsive to the evolving affordable housing landscape.

## Low Income Building Performance Management (LIBPM) <sup>19</sup>

<b>Objectives</b>	This offer is designed to provide participants with detailed energy and water consumption information and benchmarking reports at no cost. The goal is to raise the level of awareness on energy usage. In addition, coaching is provided on possible areas of improvement, energy efficiency tips and energy efficiency opportunities.
<b>Target Customer</b>	This offer targets multi-residential social housing providers and managers as well as eligible owners and property managers of privately-owned multi-unit residential buildings (MURBs), which provide housing to a market that includes low income customers and families based on screening criteria established in collaboration with Enbridge's Low Income Consultative Working Group.
<b>Metrics</b>	<p>The metric for this offer is based on the percentage of Part 3 buildings enrolled in the current year.</p> <p>The formula for calculating the percentage of Part 3 buildings enrolled in the current-year Low Income Building Performance Management offer is as follows:</p> $\% \text{ LIBPM} = \frac{(x + y)}{(x + y + z)} \text{ where:}$ <p>x = Number of new LIBPM buildings in the current year that have participated in another aspect of the Low Income program in a previous year of the 2012-2014 plan;</p> <p>y = Number of new LIBPM buildings participating in current year that have not previously participated in the Low Income program; and,</p> <p>z = Number of buildings in the current year that have implemented custom projects other than LIBPM.</p>
<b>Tracking Methodology</b>	Participating buildings are required to complete an Enrollment and Participation form. Monthly monitoring and tracking is

<sup>19</sup> Low Income Building Performance Management is the Low Income offering complement to the Commercial Run it Right (RiR) offering.



	<p>conducted by a third party agent and quarterly reporting is provided to the customer and Enbridge.</p>
<b>Offer Description</b>	<p>As a result of the 2015 rollover, this offer continued as outlined in the 2013-2014 Update (EB-2012-0394). In recognition of the need for a Building Performance Management offer directed at the Low Income sector, the concept of the Commercial Run it Right activity was modified to reflect the needs of social housing providers and the characteristics of social housing buildings. The Low Income Building Performance Management initiative (LIBPM) has been simplified to include:</p> <ul style="list-style-type: none"> <li>• benchmarking specifically developed for the social housing sector;</li> <li>• analysis of historical consumption data;</li> <li>• development of recommendations for reducing consumption; and</li> <li>• assessment of resulting changes in consumption 12 months later based on changes in actual gas usage.</li> </ul> <p>In line with the Low Income delivery strategy of leveraging and/or enhancing existing sector and delivery agents' networks, Enbridge entered into an agreement with HSC to reach social housing buildings.</p> <p>Through this initiative, the energy consumption of participating buildings is tracked over a twelve-month period. Quarterly reports are generated for each building. Follow-up calls are made by HSC to "underperformers" based on the benchmarks established, to provide coaching and identify pathways to energy savings – from improved operational practices to energy savings incentives. The quarterly report is also used to generate program awareness and to identify potential projects for custom or prescriptive offers.</p> <p>In the case of qualified privately owned multi-residential low income buildings, participants were enrolled in Energy Compass</p>



	and benefited from the consumption analysis provided through that initiative.
<b>2015 Results</b>	<p>Enbridge was able to reach a significant number of buildings for participation in benchmarking efforts, with 121 properties that enrolled and participated in 2015.</p> <p>Based on the calculation outlined for the metric, this resulted in a score of 64.7% for this metric, above the upper target for this initiative in the 2015 DSM rollover scorecard.</p>

#### Offer Commentary and Lessons Learned:

- Housing Services Corporation continued its role as program implementation agent for Enbridge's LIBPM offer through its Utility Management Program. As a sector organization, it plays an important role as a stakeholder and communication channel for the Company's Low Income Program.
- This initiative has been well-received specifically by social housing providers and their service managers. Moving forward, though there is no longer a defined metric included in the scorecard for 2016 and beyond for this type of offer, the practice of benchmarking building performance has become a best practice in good energy management efforts and will continue to be an important facet of Enbridge's engagement with the Multi-Residential Low Income market as an enabling activity to support other offers that will continue in the 2015-2020 Multi-Year DSM Plan.

## 7. Market Transformation Scorecards

Market Transformation programs are designed with the aim of influencing consumer behaviour and attitudes in support of reducing energy consumption. Market Transformation activities focus on enabling fundamental changes that lead to increased market share of energy efficient products and services, and on influencing consumer behaviour and attitudes that support reductions in natural gas consumption.

Enbridge's Market Transformation program is comprised of two offers which are directed to the new construction sector, both Commercial and Residential, as well as an offer aimed at the existing residential housing sector. As 2015 is a rollover year, these three offers are continuations of offers established in the 2012-2014 Multi-Year DSM Plan.

Enbridge is pleased to report that 2015 was another successful year with respect to the performance of the Market Transformation (MT) program. Efforts in 2015 have focused on continuing to build awareness and recognition in the marketplace, with the aim of educating and influencing the respective target market groups in support of reductions in natural gas consumption.

Introduced in 2012, Savings by Design Residential and Savings by Design Commercial are designed to influence builders and developers in the new construction sector. These offers were developed to provide a basis, both through education and influence, to engage with stakeholders through an interactive assessment process with a focus of exploring design options and construction considerations to construct to standards above building code requirements and achieve energy performance savings.

The Home Labelling (Rating) offer was developed for the home re-sale marketplace and was intended to help educate the realtor community about what a home rating represents and the value it brings to homebuyers and sellers.

Performance in the Market Transformation program is assessed in terms of metrics specific to each of the three offers. On a weighted scorecard basis, all three of the offers exceeded their respective upper performance targets in 2015.

Both the Savings by Design Residential and Commercial offers will continue to be delivered as part of the Market Transformation program in 2016. The Home Labelling offer however, will not continue. Details regarding individual offers are discussed below.



## 7.1 Residential Savings by Design (SBD)

<b>Objectives</b>	The goal of the Residential Savings by Design offer is to use the Integrated Design Process (IDP) to demonstrate to builders the potential for achieving higher levels of energy and environmental performance through the application of alternative design approaches. In order to realize the potential that the IDP demonstrates to the builder, performance incentives are provided. These incentives encourage the construction of new homes to an energy efficiency standard 25% above the level prescribed in the 2012 Ontario Building Code, ("OBC"). Enbridge expects that Residential SBD will help builders see the value of the IDP approach, and encourage adoption on an ongoing basis.
<b>Target Customer</b>	The offer targets builders and designers of new, Part 9 residential low-rise houses (towns, semis and detached homes) in the Enbridge franchise territory. The intent is to engage builders who construct multiple homes in any given year.
<b>Metrics</b>	There were two metrics for SBD Residential in 2015. The first metric tracks the number of previously non-participating eligible builders that enroll and take part in the IDP; the second metric tracks the number of homes built to the SBD specifications over the course of the year.
<b>Tracking Methodology</b>	<p>This offer requires a commitment from builders to construct homes within a three-year time frame following the completion of the IDP.</p> <p>Commitment letters and eligibility documents along with IDP reports are maintained for all participants. Third party reporting of energy audits is compiled and tracked to support incentive payments.</p> <p>Given the three-year window, in order to follow-up on the builder commitment, Channel Consultants maintain regular contact with</p>



	builders to ensure that all required documentation is provided and proper submission procedures are followed for the builders to receive incentives.
<b>Offer Description</b>	<p>SBD Residential focuses on engaging building industry stakeholders and leveraging industry capabilities to encourage builders to make informed decisions that can realize potential energy savings. Through educating builders on how to construct more energy efficient houses, along with providing a building incentive, the Company influences these builders to first “design it right”, then “build it right” and, finally, “sell it right”.</p> <p>SBD Residential is designed to provide a variety of support activities for builders of new homes from the early design phase through to construction. Savings by Design is a process-based approach involving:</p> <ul style="list-style-type: none"> <li>• Visioning Session – to define the builder’s sustainability priorities and opportunities;</li> <li>• Integrated Design Process Session – to identify and evaluate strategies to meet the builder’s sustainability goals and the SBD energy reduction target of 25% beyond code through application of energy modelling;</li> <li>• Building Energy Modelling – to evaluate energy performance baselines and proposed improvements.</li> </ul> <p>This SBD consultation process involves connecting participating design teams with leading industry experts and other stakeholders as they consider alternative approaches to energy and environmental performance.</p> <p>Through this process, the team works with the builder to explore opportunities to achieve higher energy performance. Starting with the building envelope (windows, wall structure, insulation) and moving inward with HVAC mechanicals and lighting, the</p>

	<p>Savings by Design team guides the builder through a design process to achieve a modelled building that performs to at least 25% better than 2012 OBC.</p> <p>In addition, depending on the specific priorities identified during the visioning session, experts from fields such as lighting, storm water management, sustainable land-use planning, indoor air quality and renewable energy can be engaged to provide further value to the IDP.</p> <p>A third-party service provider undertakes testing and verification to ensure that constructed homes are built with 25% greater energy efficiency than required under the current OBC.</p>
<b>2015 Results</b>	<p>As illustrated in Table 7.0, Residential SBD was successful in enrolling 19 builders who completed the IDP process in 2015. The result exceeds the middle (100%) target for this metric. In addition, there were 1,987 new homes built in relation to the completed units metric. In other words, for builders who have enrolled and completed the IDP process since 2012, there were 1,987 new homes constructed in 2015 through this initiative with features consistent with SBD standards of 25% above OBC (as illustrated in the builder's IDP). This result exceeded the upper target for completed units in 2015.</p>

**Table 7.0 2015 Residential Savings by Design Scorecard**

Component	Metric	Targets				2015 Result
		Weight	Lower	Middle	Upper	
Residential Savings by Design	<i>Builders Enrolled</i> <sup>1</sup>	<b>60%</b>	13	18	22	<b>19</b>
	<i>Completed Units</i>	<b>40%</b>	833	1,111	1,389	<b>1,987</b>

<sup>1</sup>. Eligible builders based on a minimum of 50 homes built in the prior year.

## 2015 Commentary and Lessons Learned:

- In 2015, SBD Residential saw a slight decrease in participating builders in comparison with 2014, as over the previous 3 years many of the large production builders had already been through the IDP portion of the offer.
- SBD continues to rely on the development of relationships by Channel Consultants with key decision makers in the builder community in order to achieve targets. Channel Consultants have built and continue to build these relationships to encourage builders to reassess their approach to building design as it relates to energy efficiency considerations.

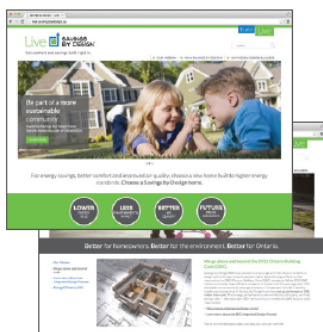
## Your Guide to SBD Sales Collateral



Use these marketing materials to help educate homebuyers on the advantages of owning a Savings by Design (SBD) home. All pieces will be co-branded with your own company logo (see reverse for how to supply your logo to us).

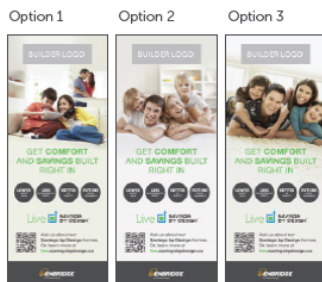
### 1 live.savingsbydesign.ca Website

This website has detailed information on what makes a Savings by Design home a smart choice. The URL appears on all collateral, along with a QR code that consumers can scan with their smartphone to be brought to the site immediately. Your team can also refer to the site on screen to help explain the SBD home features.



### 2 Consumer Benefits Banner

This self-supporting banner should be displayed somewhere near the entrance of your sales centre. Its purpose is to quickly educate consumers on the benefits of owning a Savings by Design home, and drive them to visit the website or scan the QR code to learn more.



Size: 31.5"x78"  
Quantity: 1 of your choice of 3 versions

### 3 SBD Home Features Poster

This poster should be displayed prominently in your sales centre. Its purpose is to show consumers the key energy efficient upgrades that would be included in a Savings by Design home, and also to work as a reference for your team as they explain some of the upgrades.



Size: 18"x24"  
Quantity: 1

- Enbridge remains strategically involved throughout the builder community, participating actively in builder conferences, education forums and industry associations that provide an opportunity for builder (and other primary stakeholder) engagement and energy efficiency advocacy. For example:
  - Enbridge has representatives involved in the various Home Building Associations across the franchise, provincially and nationally;

- Enbridge representatives sit on the board of directors for BILD, the Sustainable Buildings Canada board, as well as the Canadian Home Builders' Association (CHBA) net zero council.
- Over the past 5 years the combination of more stringent mortgage lending rules, steadily increasing housing prices, and increased household debt have made customers more cost conscious when making home purchasing decisions. In addition, builders have expressed growing concerns with increasing development costs and land availability. Notably in 2015, discussions taking place during IDP sessions focused on the need to look for more cost-effective and energy efficient ways to build new homes.
- These aforementioned consumer market conditions further support the SBD approach of engaging builders in a “push” strategy to increase energy efficient new home construction. This is not to suggest that the Company discounts the importance of working with builders and other stakeholders to increase awareness and education of energy efficiency in the consumer market, but due to competing consumer interests, consumer demand alone will not drive the changes needed to move the market towards greater levels of energy efficient construction.
- Enbridge continues to respond to builder needs addressing the sales and marketing challenges facing the new construction market. The marketing support package that the Company created to support builders in their model homes was well received. Several builders took advantage of the offer to order and use the SBD materials to help promote energy efficiency to potential home buyers. In addition, the IDP optional sales and marketing module has been selected by many participants, and feedback has been positive.
- Enbridge participants on the IESO Business and Residential working groups, which includes representatives from IESO as well as LDCs. This served to support Enbridge's efforts in continuing to foster collaboration between CDM and DSM offers as it relates to new construction programming. Consequently, Enbridge was able to provide SBD participants with information on CDM incentives, and this involvement has also provided a forum for planning discussions around future potential New Construction collaboration between DSM and CDM programs.

- In the course of ongoing assessment of the offer and how to best engage and influence builders, stakeholder consultation included:
  - Municipalities – specifically as it related to the support the SBD offer could provide, to help communities meet efficiency objectives and in the execution of Municipal Energy Plans
  - Conservation Authorities
  - Other Industry participants including Energy Modelers, Service Organizations, NRCAN etc.



- In addition, builders that had participated in SBD in previous years have expressed an interest in re-engaging with Enbridge and its team of experts to participate in additional IDPs for new, upcoming developments. As builders typically construct many different designs of homes in different degree day zones, with multiple model variations in response to changing market needs, it would be beneficial to participate in additional IDP's to consider different projects with different challenges. To reflect this need, the offer has been revised in the 2015-2020 Multi-Year DSM Plan.





## 7.2 Commercial Savings by Design (SBD)

<b>Objectives</b>	The goal of the Commercial Savings by Design offer is to use the Integrated Design Process to demonstrate to builders the potential for achieving higher levels of energy and environmental performance through the application of alternative design approaches. The offer is intended to support this demonstration and awareness with incentives that encourage builders to use the knowledge gained in the IDP to design and build buildings that are more energy efficient. Enbridge expects that Commercial SBD will help builders see the value of the IDP approach, and encourage adoption on an ongoing basis.
<b>Target Customer</b>	This offer is targeted at builders and designers of new, Part 3 commercial buildings in the Enbridge franchise territory. Enbridge targets its promotional activity to owners, builders and developers, design teams including architects, design engineers and energy modelers.
<b>Metrics</b>	Builders and developers who enroll in the offer and complete the IDP process are eligible to be counted towards performance targets. Metrics are based on the number of projects to which a developer commits. As per EB-2012-0394, "the same developer with different clients and different kinds of projects may be counted multiple times. A minimum 100,000 square feet requirement applies to each project. A project is defined as either a single building or multiples of the same building by the same company that adds up to 100,000 square feet." <sup>20</sup>
<b>Tracking Methodology</b>	Enrollment entails a signed memorandum of understanding with a builder or developer containing a commitment to participate in the Commercial Savings by Design offer and participate in the IDP process. The builder commits to

<sup>20</sup> EB-2012-0394, Exhibit B, Tab 1, Schedule 3, page 17 of 20.





	<p>constructing building(s) to the IDP standard within five years in order to receive performance incentives. Enbridge Channel Consultants maintain regular contact with builders to track project status to project completion. Charrette reports for each IDP are maintained to provide a record of information on preliminary estimated savings for each project. All documentation and incentives are tracked by Tracking and Reporting.</p>
<b>Offer Description</b>	<p>Enbridge has provided commercial new construction programming since 1999, beginning with the Design Assistance Program (“DAP”), which was developed to engage the new building design community to design and model new construction buildings to higher levels of energy efficiency. The Commercial Savings by Design offer was designed and developed for delivery beginning in 2012 to encourage developers to build/construct Part 3 buildings to 25% above 2012 OBC. The offer includes the following types of activities:</p> <ul style="list-style-type: none"> <li>• Improving sizing and design;</li> <li>• Optimization of passive solar, day lighting and natural ventilation;</li> <li>• Integration of high efficiency lighting and HVAC systems;</li> <li>• Integration of lighting and HVAC controls in response to occupant loads;</li> <li>• Reduction and/or optimization of internal loads;</li> <li>• Improving thermal characteristics of the building envelope; and,</li> <li>• Managing environmental impacts.</li> </ul> <p>In addition to the facilitation of the IDP, which brings together industry experts, conservation authorities, and municipalities, the offer provides incentives that include financial support to cover costs associated with the IDP and additional incentives tied to the achievement of gas savings above code.</p>



<b>2015 Results</b>	Enbridge was successful in enrolling 24 new developments in 2015 that met the eligibility requirements and completed the IDP process. This result reached the upper scorecard target.
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**Table 7.1 2015 Commercial Savings by Design Scorecard**

Component	Metric	Targets			2015 Result
		Weight	Lower	Middle	Upper
Commercial Savings by Design	New Developments Enrolled	100%	11	18	24
					24

**2015 Commentary and Lessons Learned:**

- In 2015, Enbridge continued to increase participant levels over previous years as builder interest in the offer remained strong. This can be attributed to an increased awareness of the offer in the market and a better appreciation of the value of participation.
- As the Company continues to learn from participants, the tools employed to market the offer have evolved. In 2015 further enhancements were made based on solicited builder feedback, for example:
  - refinements to content in existing point of sale material were made to better link benefits to barriers faced by builders;
  - a promotional video was created for use at Company sponsored events;
  - additional builder testimonial videos were produced; and,
  - whitepapers and advertorials were published in print media publications.
- While awareness of SBD has increased over the past 3 years, engaging a builder at the right time remains challenging and crucial to securing participation. To that end, Enbridge continues to remain strategically involved throughout the builder community, actively participating in conferences and industry associations that provide a forum for builder (and other primary stakeholder) engagement.



**We make better energy performance possible.**

Building for energy efficiency doesn't need to be costly and complicated. Enbridge can help. Our Savings by Design (SBD) program gives you free access to industry experts and performance incentives for constructing energy efficient, sustainable buildings beyond code requirements.

**Up to \$55,000 in incentives and benefits are available.**

The Savings by Design program supports you with expertise and rewards you with performance incentives through the three primary stages of your project:

- 1. Integrated Design Process (IDP)**  
Benefit – up to \$25,000

The IDP is a full-day workshop with a team of experts, to determine the optimal mix of design elements and technologies to maximize energy and environmental performance. Savings by Design covers all costs of the IDP, up to a \$25,000 value, including:

- Visioning session and report
- Preliminary energy model and IDP energy model
- Integrated Design Process logistics, catering, facilitation and design expert fees
- Final IDP report

- 2. Energy Performance Incentive – \$15,000**  
Implementing the recommendations from the IDP can help you achieve significant energy savings and qualify you for valuable incentives. For buildings that achieve a 25% energy reduction target versus OBC 2012 with SB-10, Savings by Design will provide a \$15,000 incentive once the energy performance target has been met.
- 3. Commissioning Incentive – \$15,000**  
The commissioning process confirms that design, construction and system operations meet the project requirements. Builders that surpass the energy performance target of 25% better than OBC with SB-10 and submit the Final As-Built Energy Model along with the final Commissioning Report will be entitled to receive a \$15,000 incentive.

To get started or to learn more, visit [commercial.savingsbydesign.ca](http://commercial.savingsbydesign.ca)

**Build  SAVINGS BY DESIGN™**

 ENBRIDGE  
Life Takes Energy™

To qualify for the program, your project must be a minimum of 100,000 square feet or aggregate buildings to equal 100,000 square feet or greater. Building(s) must be in the Enbridge Gas Distribution franchise area. In order to receive incentive payments, you must agree to all program terms and conditions, must fully participate in all stages of the program and must meet all program requirements.

- Specifically Enbridge has been active in the following areas:
  - Canada Green Building Council (Toronto Chapter) as both a sponsor and active participant and presenter at their various events;
  - Sustainable Buildings Canada Board member, actively supporting the planning and execution of the well-attended Green Buildings Festival annual conference; and,
  - supporting municipal energy planning where Enbridge has increased its engagement with municipalities and regions to ensure the SBD offer remains top of mind in examining strategies to meet community efficiency objectives.
- Builders/developers continue to regard energy efficiency as a cost rather than an investment, as their primary objective is to simply meet code requirements on time and on budget. Market price sensitivity for both multi-residential and other commercial building types remains a primary focus for builders, conflicting with

an interest to drive down ongoing operational costs that would result from energy efficiency improvements.

- An additional facet to the offer was introduced in 2015; a costing specialist was added to the IDP expert panel. While the estimations of efficiency costs that are provided represent a range of costs that are completely dependent on the incremental energy efficiency approaches selected, builders have responded well to receiving this information as it is helpful in the management of life cycle cost expectations. The additional information is expected to provide a greater likelihood that energy efficiency targets established in the IDP process can be achieved.
- While new condominiums continue to represent a significant percentage of annual commercial new construction starts, Enbridge has had moderate success in enrolling developments which reflect other building types in 2015.
- In 2014, Enbridge identified it would be focusing on long term care, healthcare and school projects following fund approvals by the respective ministries for new construction in these sectors. This targeting strategy proved to be successful. Developments included in the 2015 SBD Commercial offer represented a wide variety of commercial building types, including:
  - Condos,
  - Schools,
  - Offices,
  - Churches,
  - Hospitals
  - Long Term Care
  - 6 story wood construction (mixed use residential/retail) <sup>21</sup>
- In efforts to continue to broaden the impact the SBD Commercial offer can have on the commercial new construction market, Enbridge submitted a revised offer in the 2015-2020 Multi-Year DSM Plan (EB-2015-0049) which outlined a reduced minimum square footage eligibility criteria of 50,000 ft<sup>2</sup> beginning in 2016.
- Also beginning in 2016, in response to builder feedback on performance incentives, the incentive structure has changed to better support builder activities

21 An update to Ontario building code in January 2015 allowed for the construction of 6 story wood buildings

and increased the likelihood that the builder constructs to at least the targeted 25% above code.



### Savings by Design Commercial

#### How to Access Incentives

The Savings by Design (SBD) program is for the new construction sector which includes commercial/institutional and multi-unit residential buildings that fall within the scope of Part 3 of the Building Code and have a gross floor area of 100,000 square feet or greater.<sup>1</sup> The SBD Commercial program supports and rewards you through the three primary stages of the project:



#### 3. Commissioning Incentive

This \$15,000 incentive is paid when your Final As-Built and Reference Building Energy Models, and Commissioning Report are submitted and approved. To qualify, you must submit the following:

- The Final As-Built Building Energy Model and the associated Reference Building Energy Model that follows the energy performance path modelling rules of the selected energy code.
- A Project Performance Summary, that demonstrates the Enbridge Savings By Design program target has been met.
- The final As-Built Plans and Specifications.
- The Commissioning Report for the completed project that has been prepared and signed by a commissioning agent who has been accredited by either the Building Commissioning Association (BCA), the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), or the Association of Energy Engineers (AEE).
- A Confirmation of Implementation of Final Design Energy Efficiency Measures form, signed by a member of the design team having a professional designation provided by either the Ontario Association of Architects, or Professional Engineers Ontario.
- An invoice made out to Enbridge in the amount of \$15,000 plus HST.

#### 1. Integrated Design Process (IDP) Benefit

This one-day IDP workshop is to explore changes to the building design to increase the annual energy performance to a level that is at least 25% better than the Ontario Building Code.<sup>2</sup> The incentive works as follows:

- The following costs for the IDP, estimated at \$25,000, are included: the venue, meals and breaks, Sustainable Buildings Canada (SBC) IDP facilitation team, their experts and support staff, Enbridge staff, real-time energy modelling services and final report.
- All costs associated with the attendance of the members of your team, including designers, modellers and experts, are not covered by Enbridge.

#### 2. Energy Performance Incentive

This \$15,000 incentive is paid when the Final Design Stage Energy Model, showing that the energy performance target of at least 25% better than code has been met, is submitted and approved. To qualify, you must submit the following:

- The Final Design Stage Building Energy Model and the associated Reference Building Energy Model that follows the energy performance path modelling rules of the selected energy code.
- A Final Design Project Performance Summary, with information taken from the energy models that demonstrates the Enbridge Savings By Design Program Target has been met.
- The Final Design Stage Plans and Specifications for the project, in electronic format.
- An invoice made out to Enbridge in the amount of \$15,000 plus HST.



- Strategic involvement in conferences and events that provide an opportunity to showcase the offer and market the approach will be continue to be the primary focus for SBD marketing efforts.
- With the contract expiration of the last version of the High Performance New Construction Program (HPNC) CDM program, Enbridge has engaged various LDC's (Toronto Hydro, Hydro Ottawa, Niagara Peninsula Energy Inc.) as well as the Independent Electricity System Operator (IESO) with the objective to better align future iterations of HPNC with Enbridge's SBD Commercial New Construction offer.



### 7.3 Home Labelling (Rating)

<b>Objectives</b>	<p>The objective of the Home Labelling offer is the realization of widespread adoption of a voluntary home labelling system in the residential home resale marketplace.</p> <p>This initiative is aimed at educating the Residential market (both realtors and homeowners) in better understanding the concept of a home energy rating and the value it brings in the resale market.</p> <p>Ultimately, the goal is that a home's energy performance rating becomes a standard condition of sale, similar to home inspections for resale homes.</p>
<b>Target Customer</b>	<p>The immediate target market to support the deployment of a home rating system is realtors and their real estate brokerages. Consequently, collaboration with brokerages willing to commit to promoting Home Labelling and educating real estate agents are key components for effective delivery.</p> <p>The ultimate market is Residential (Rate 1) customers and the real estate agents and brokerages who are listing homes for sale.</p>
<b>Metrics</b>	<p>There are two scorecard performance metrics associated with the Home Labelling offer.</p> <p>The first metric requires Enbridge to secure new commitments from realtors collectively responsible for more than 5,000 (middle target) or 10,000 (upper target) home listings per year.</p> <p>A second metric counts the number of ratings performed by buyers and/or sellers. The rating must either be included in a listing or related marketing materials by the seller or made a condition of sale by the buyer.</p>

<b>Tracking Methodology</b>	Commitment letters from new realtors and home ratings included in Multiple Listing Service (MLS) listings or related marketing materials are tracked and recorded in respect of each of the two metrics.
<b>Offer Description</b>	The Home Labelling offer is designed for participants in the re-sale marketplace and aims at helping consumers understand what a home rating represents and the value it can provide to both homebuyers and purchasers at the time of sale or purchase. The offer also aims to motivate realtors to include energy ratings in marketing material (e.g., MLS).
<b>2015 Results</b>	<p>In 2015, 10 new brokerages committed to participate. As illustrated in Table 7.2, these brokerages are collectively responsible for 41,650 home listings. This result exceeded the upper target established for this metric.</p> <p>The number of recorded home ratings marketed in 2015 was 333. This result fell short of the lower target for the second metric specified for this offer.</p>

**Table 7.2 2015 Home Labelling Scorecard**

Component	Metric	Targets				2015 Result
		Weight	Lower	Middle	Upper	
Home Labelling	<i>Realtor Commitments<sup>1, 2</sup></i>	<b>50%</b>	N/A	5,000	10,000	<b>41,650</b>
	<i>Ratings performed</i>	<b>50%</b>	2,250	4,500	6,750	<b>333</b>

1. Commitments to make provision for a data field to show home energy ratings for all homes listed by participating realtors (industry-wide commitment to include such a field on MLS or similar listing service and/or realtors' commitment to do so with all the homes they list on their own websites, handouts and other consumer material).

2. Commitment from realtors collectively responsible for more than 5,000 (middle target) or 10,000 (upper target) listings/year.



## 2015 Commentary and Lessons Learned:

- Back in 2009, the Green Energy and Green Economy Act included a proposal to mandate a home labelling system for all re-sale homes in Ontario, however implementation did not follow. With continued anticipated opposition from realtors to a government-enforced program, a voluntary system designed to gain acceptance in the marketplace precipitated the inclusion of a home rating offer in the Company's 2012-2014 DSM plan. The approach was intended to leverage the existing infrastructure to achieve voluntary adoption of getting home ratings completed as a standard practice in much the same way as an offer to purchase a home is made under the provision of a home inspection.



**SELLING YOUR HOME?**  
List your score and earn more.

**What is an energy score?**  
An energy score or rating is a measure of a home's energy efficiency after it has been evaluated by a certified home energy auditor.

**Why list your energy score?**  
Through the Enbridge Home Rating Program, qualifying home sellers displaying their energy score/rating on the MLS listing or other marketing materials may receive a **\$100 Lowe's gift card** and an **Energy Savings Kit**.\*

For more information, please visit:  
[www.knowyourenergyscore.ca/home-rating](http://www.knowyourenergyscore.ca/home-rating)

**ENBRIDGE**  
Life Takes Energy™

**HOME RATING PROGRAM**

\*To qualify, the residential resale property must currently use natural gas for heating and have an active Enbridge Gas Distribution account. Full terms and conditions are available at [www.knowyourenergyscore.ca](http://www.knowyourenergyscore.ca)

HRLMAY.2015

- In the 2015 rollover year, activities continued to focus on securing commitments from brokerages; creating awareness and educating realtors on the value of home energy ratings. Participation in conferences and events supporting the realtor community continued to be a fitting venue for promoting awareness of the Home Labelling initiative. In particular, Enbridge Channel Consultants participated in the annual Realtor Quest conference in Toronto – the largest gathering of Real Estate Board members. These conferences provided an excellent forum for Enbridge to engage with industry stakeholders to promote the offer and schedule

follow-up sessions with brokerages to explain the offer parameters and incentives, quantify the value of the offer and the benefits to potential buyers and/or sellers, as well as provide education and training workshops.

- Enbridge has had success with the offer to date as the Company has demonstrated good results in influencing brokerages to commit and gaining realtor attendance at brokerage meetings; however, the Company has not seen the anticipated actual number of home listings with the energy rating promoted.
- Though Enbridge has learned that most home buyers agreed that they value the importance of purchasing an energy efficient home, these same buyers most often do not enquire, nor expect that a house has been energy labelled or rated.
- Enbridge has identified some challenges regarding the adoption of home labelling. The Company has learned there are certainly concerns from both the realtor and legal side that introducing such considerations may delay or complicate expediting the closing of the home sale – parties involved in the transaction generally don't understand what the energy rating is. Also, there is a public perception that energy labels are confusing and don't necessarily depict true operating costs.
- In the 2015-2020 Multi-Year DSM Plan (EB-2015-0049), Enbridge proposed a revised offer beginning in 2016 in which the Company would refocus on the home buyer with efforts to promote energy audits as a means to educate and encourage consumers to have home ratings conducted.
- In the January 20<sup>th</sup>, 2016 Decision and Order on Enbridge's 2015-2020 Multi-Year DSM Plan (EB-2015-0049), the OEB did not approve the continuation of the Home Rating program as part of Enbridge's DSM portfolio beginning in 2016.
- Though the Company will not be proceeding with the Home Labelling offer, Enbridge continues to support the value to consumers of getting an energy audit completed on their homes. The completion of a pre and post-retrofit energy evaluation continues to be a key component of the Home Energy Conservation offer and provides the participant with an Energy Rating score. For those Ontarians increasingly interested in looking for ways to conserve energy and make environmentally responsible choices, working towards and demonstrating a

good energy score will not only provide comfort and peace of mind, but will also add value to their homes.

- Enbridge worked with the Ministry of Energy during 2015 to provide input on a proposal being developed to require home energy rating and disclosure (HER&D) at the time of listing. The Company has provided feedback based on experience in the past number of years; explaining the gaps, barriers and successes in an effort to assist the Province in the delivery of a program that consumers can understand.
- The Company will continue to monitor developments at the government level regarding the implementation of a mandated home rating framework and engage with stakeholders where appropriate to provide feedback and support implementation.

## 8. Lost Revenue Adjustment Mechanism (LRAM)

The LRAM is a mechanism to adjust for margins the utility loses/gains if its DSM program is more/less successful in the period after rates are set than was planned in setting the rates. As outlined in the Guidelines, the LRAM Variance Account (LRAMVA) is used to track, by rate class, the impact of DSM activities undertaken in relation to the forecasted impact included in distribution rates.

LRAM is calculated on a monthly basis using the volumetric impact of the measures implemented. The LRAM amount is an adjustment which may be an amount refundable to, or receivable from, the Company's customers (depending on whether the actual natural gas savings resulting from the natural gas utility's DSM activities are less than or greater than what was included in the forecast for rate-setting purposes).

**Table 8.0 2015 LRAM Statement**

2015 Annual Report LRAM Calculation						
Based on 57,036,910 FE m3 built into rates						
Rate Class	Budget Net Partially Effective	Actual Net Partially Effective	Volume Variance	Distribution Margin	LRAM Allocation \$	Actual LRAM \$
Rate 110	2,065,678	1,242,033	(823,645)	1.4924	(\$12,292)	\$18,536
Rate 115	1,314,523	764,107	(550,415)	0.8174	(\$4,499)	\$6,246
Rate 135	0	25,666	25,666	1.2825	\$329	\$329
Rate 145	2,428,288	142,321	(2,285,968)	1.5224	(\$34,802)	\$2,167
Rate 170	4,942,907	208,383	(4,734,524)	0.4504	(\$21,325)	\$939
<b>Totals</b>	<b>10,751,396</b>	<b>2,382,510</b>	<b>-8,368,887</b>		<b>(\$72,589)</b>	<b>\$28,216</b>
Amount to be paid back to Ratepayers					<b>(\$72,589)</b>	
* Rate 1 and Rate 6 are not included in the LRAM amount for clearance above as these rate classes are covered under the Average Use True-Up Variance Account (AUTUVA)						



## 9. DSM Shareholder Incentive

Enbridge earns a shareholder incentive based on its performance against targets outlined for Resource Acquisition, Low Income and Market Transformation scorecards. The DSM Incentive provides that incentive to the Company in relation to its DSM activities. Further to approved amounts outlined in EB-2015-0049, Table 9.0 summarizes how the maximum incentive available in 2015 is allocated across each program.

**Table 9.0 2015 DSM Maximum Incentive Allocation**

Program	Total Budget *	% of Total	Maximum Incentive Available
<i>Resource Acquisition</i>	\$19,175,275	58%	\$6,482,744
<i>Low Income</i>	\$7,382,078	23%	\$2,495,721
<i>Market Transformation</i>	\$6,244,587	19%	\$2,111,159
	<b>\$32,801,939 *</b>	<b>100%</b>	<b>\$11,089,624</b>

\* The Total Budget reflects the OEB approved 2015 roll-over budget amount of \$32,801,939 and does not include the additional Board approved incremental budget of \$4,920,291. The combined approved Total DSM budget for 2015 is \$37,722,230

Scorecard results and the corresponding DSMI earned for each program is detailed in the following tables:

**Table 9.1 Resource Acquisition Scorecard Achievement & DSMI**

Resource Acquisition						
Component	Metric	Weight	Lower	Middle	Upper	2015 Result
Volumes	<i>Cumulative Savings (million m<sup>3</sup>)</i>	92%	758.9	1011.9	1264.9	734.13
Residential Deep Savings	<i>Number of Participants</i>	8%	571	762	952	5,646
Total Weighted Scorecard Target Achieved						150.0% *
Scorecard Incentive Achieved						\$6,482,744

\* Weighted scorecard is capped at 150%. Actual scorecard achievement is 152.3%



**Table 9.2 Low Income Scorecard Achievement & DSMI**

Low Income						
Component	Metric	Weight	Targets			2015 Result
			Lower	Middle	Upper	
Single Family (Part 9)	Cumulative Savings (million m <sup>3</sup> )	50%	18.1	24.1	30.2	28.07
Multi-residential (Part 3)	Cumulative Savings (million m <sup>3</sup> )	45%	51.6	68.7	86.0	63.97
Multi-residential (Part 3) LIBPM	Percent of Part 3 Participants Enrolled	5%	30%	40%	50%	65%
Total Weighted Scorecard Target Achieved						116.2%
Scorecard Incentive Achieved						\$1,483,792

**Table 9.3 Market Transformation – Residential SBD Scorecard Achievement & DSMI**

Market Transformation						
Component	Metric	Weight	Targets			2015 Result
			Lower	Middle	Upper	
Residential Savings by Design	Builders Enrolled	60%	13	18	22	19
	Completed Units	40%	833	1,111	1,389	1987
Total Weighted Scorecard Target Achieved						150.0% *
Scorecard Incentive Achieved						\$1,076,493

\* Weighted scorecard is capped at 150%. Actual scorecard achievement is 170.5%

**Table 9.4 Market Transformation – Commercial SBD Scorecard Achievement & DSMI**

Market Transformation						
Component	Metric	Weight	Targets			2015 Result
			Lower	Middle	Upper	
Commercial Savings by Design	New Developments Enrolled	100%	11	18	24	24
Total Weighted Scorecard Target Achieved						150.0%
Scorecard Incentive Achieved						\$418,269

**Table 9.5 Market Transformation – Home Labelling Scorecard & DSMI**

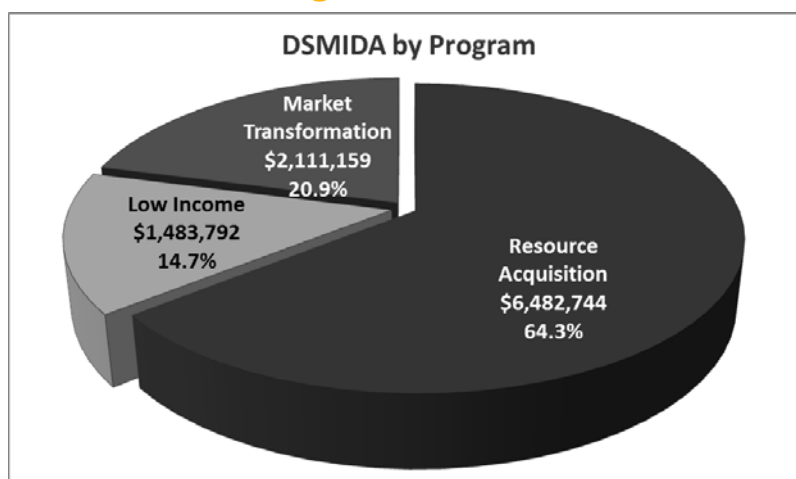
Market Transformation						
Component	Metric	Weight	Targets			2015 Result
			Lower	Middle	Upper	
Home Labelling	<i>Realtor Committments</i>	50%	N/A	5,001	10,001	41,650
	<i>Ratings performed</i>	50%	2250	4,500	6,750	333
Total Weighted Scorecard Target Achieved						150.0% *
Scorecard Incentive Achieved						\$616,397

\* Weighted scorecard is capped at 150%. Actual scorecard achievement is 237%

**Table 9.6 2015 DSMIDA Summary**

Program	DSMIDA by Program	% Contribution
<i>Resource Acquisition</i>	\$6,482,744	64%
<i>Low Income</i>	\$1,483,792	15%
<i>Market Transformation</i>	\$2,111,159	21%
<b>TOTAL</b>	<b>\$10,077,695</b>	<b>100%</b>

**Table 9.7 2015 Program Contribution to DSMIDA**





## 10. 2015 Budget and Program Spending

### 10.1 Budget

Table 10.0 provides the 2015 DSM budget as outlined in the 2015-2020 Multi-Year DSM Plan (EB-2015-0049). The Board approved a 2015 budget of \$37,722,230 in its Decision on January 20<sup>th</sup>, 2016.

**Table 10.0 2015 DSM Plan Budget**

Program	Program Budget	Overheads	Total Budget
<i>Resources Acquisition</i>	\$14,443,790	\$4,731,485	\$19,175,275
<i>Low Income</i>	\$6,864,090	\$517,988	\$7,382,078
<i>Market Transformation</i>	\$4,890,900	\$1,353,687	\$6,244,587
<b>Total Roll-over Budget</b>	<b>\$26,198,780</b>	<b>\$6,603,160</b>	<b>\$32,801,939</b>
<i>Incremental Budget</i>			\$4,920,291
<b>Total 2015 DSM Budget</b>			<b>\$37,722,230</b>

### 10.2 2015 Spending

**Table 10.1 2015 OEB Approved Budget vs. Spending**

Program	OEB Approved Budget	2015 Spending	Variance	%
<b>Resource Acquisition</b>	<b>\$19,175,275</b>	<b>\$23,389,805</b>	<b>\$4,214,530</b>	<b>22%</b>
<i>Residential</i>	\$1,872,720	\$9,362,295	\$7,489,575	
<i>Commercial</i>	\$8,252,370	\$6,221,724	-\$2,030,646	
<i>Industrial</i>	\$4,318,700	\$2,166,706	-\$2,151,994	
<i>Overheads</i>	\$4,731,485	\$5,639,080	\$907,595	
<b>Low Income</b>	<b>\$7,382,078</b>	<b>\$7,173,710</b>	<b>-\$208,368</b>	<b>-3%</b>
<i>Part 9 Residential</i>	\$4,655,790	\$4,444,616	-\$211,174	
<i>Part 3 Multi-Residential</i>	\$2,208,300	\$2,111,746	-\$96,554	
<i>Overheads</i>	\$517,988	\$617,349	\$99,361	
<b>Market Transformation</b>	<b>\$6,244,587</b>	<b>\$4,657,079</b>	<b>-\$1,587,508</b>	<b>-25%</b>
<i>Residential SBD</i>	\$2,493,900	\$2,032,022	-\$461,878	
<i>Commercial SBD</i>	\$969,000	\$890,464	-\$78,536	
<i>Home Labelling</i>	\$1,428,000	\$121,241	-\$1,306,759	
<i>Overheads</i>	\$1,353,687	\$1,613,352	\$259,665	
<b>Total</b>	<b>\$32,801,939</b>	<b>\$35,220,594</b>	<b>\$2,418,654</b>	<b>7%</b>
<b>Incremental Budget</b>	<b>\$4,920,291</b>	<b>\$559,378</b>	<b>-\$4,360,913</b>	
<b>Grand Total</b>	<b>\$37,722,230</b>	<b>\$35,779,972</b>	<b>-\$1,942,258</b>	<b>-5%</b>



As outlined in Table 10.1 above, spending in relation to Enbridge's DSM programming in 2015 was \$35,220,594. In addition \$559,378 was spent against incremental budget initiatives (discussed in further detail below). Total spending amounted to \$35,779,972.

### 10.3 Incremental Budget

In its original application for the 2015-2020 Multi-Year DSM Plan (EB-2015-0049) filed on April 1<sup>st</sup>, 2015, Enbridge identified a series of initiatives it believed were appropriate pursuits above and beyond the 2015 rollover budgets which would help to begin transitioning into a new DSM Framework. As outlined in Section 15.1 of the DSM Framework these amounts, not having been built into to rates, will be recovered via the DSMVA and, as stated at page 38 of the Filing Guidelines will be "...incremental to any DSMVA amounts used..." for the purpose of achieving results beyond the 100% achievement level. As noted in Section 2.1 of this report the Board approved an incremental budget of \$4.92 million for this purpose in pursuit of the guiding principles and key priorities outlined in the 2015-2020 DSM Framework.

Throughout the course of the EB-2015-0049 proceeding in 2015 approval of Enbridge's overall incremental budget and the items listed within it were not certain. This uncertainty was compounded by a recommendation by a party to the proceeding which Enbridge adopted in its Reply Argument that would allow for any approved incremental budget to be carried forward into 2016 given the merit of the initiatives proposed and the likelihood that uncertainty would persist into the final months of 2015, or even into 2016.

As a result, the Company proceeded cautiously in spending this budget within 2015. Ultimately the Board's Decision and Order in EB-2015-0049 was not received until January 20<sup>th</sup>, 2016, in which the Board disallowed the carrying forward of the 2015 incremental budget into 2016. The net result of all these factors was significant underspending on all items listed within the incremental budget.

Table 10.3 below outlines each item within the incremental budget inclusive of a basic description of the initiative, the budget approved by the Board in EB-2015-0049, the actual spending on each initiative within 2015, and a brief explanation of the variance for each item.



**Table 10.2 Incremental Budget vs. 2015 Incremental Spending**

<b>Incremental Budget Item</b>	<b>Incremental Budget</b>	<b>2015 Spending</b>
<i>My Home Health Record (MMHR)</i>	<i>\$2,650,000</i>	<i>\$444,801</i>
<i>Integrated Resource Planning</i>	<i>\$300,000</i>	<i>\$0</i>
<i>Potential Study Update</i>	<i>\$50,000</i>	<i>\$0</i>
<i>Green Button Initiative</i>	<i>\$300,000</i>	<i>\$0</i>
<i>Comprehensive Energy Management</i>	<i>\$370,000</i>	<i>\$60,462</i>
<i>Low Income New Construction</i>	<i>\$250,000</i>	<i>\$1,101</i>
<i>Collaboration Fund</i>	<i>\$1,000,000</i>	<i>\$53,014</i>
<i>Unallocated</i>	<i>\$291</i>	<i>\$0</i>
<b>TOTAL</b>	<b>\$4,920,291</b>	<b>\$559,378</b>

**Table 10.3 Incremental Spending Detail**

<b>Budget Item</b>	<b>Description</b>	<b>Approved Budget (000's)</b>	<b>Actual Spending (000's)</b>	<b>Explanation of Variance</b>
My Home Health Record Residential Behaviour Program(MHHR)	Rollout of the MHHR offer to residential customers in the first partial year of the offer.	\$2,650.0	\$444.8	While the Board's Decision approved Enbridge's incremental budget of \$4.92M which included MHHR costs in 2015, it did not approve continuation of MHHR into 2016. Spending was incurred prior to the Board's Decision on Jan. 20 <sup>th</sup> , 2016.
Integrated Resource Planning (IRP) Study	Undertaking of the Board's guidance to conduct an IRP study. This study is to be completed in time to inform the mid-term review.	\$300.0	\$0.0	Enbridge's EB-2015-0049 Application included a proposed scope of work for an IRP study. Given that neither approval of the scope of work nor the incremental budget were received until 2016, Enbridge did not commence spending on an IRP study in 2015
Potential Study Update	Work towards completing an update to recent Potential Study in order to account for and incorporate more recent market potential data that becomes available. And/or contribute towards funding ground up research in collaboration with Union and the IESO to better inform a sector by sector understanding.	\$50.0	\$0.0	Enbridge initially budgeted this amount to augment its potential study, filed as Exhibit C, Tab 1, Schedule 1 in EB-2015-0049 with additional primary research. After requesting this amount, Enbridge learned that the Board itself would be commissioning a new and separate potential study for completion by June of 2016.



Green Button Initiative	Participate in the Green Button initiative sponsored by the MOE. Including development of a customer information system(s) to allow for data transfer.	\$300.0	\$0.0	Spending on the Green Button Initiative was not initiated in 2015 because timelines for the initiative were slower than expected and the Company did not receive approval of this amount until after the year was already completed.
Comprehensive Energy Management	Offer Comprehensive Energy Management to large industrial and commercial customers.	\$370.0	\$60.5	Not having approval of the incremental budget until 2016 Enbridge proceeded cautiously in soft-launching CEM. Despite hesitant spending the Company was able to identify a number of priority customers with high suitability for the offer moving forward.
Low Income New Construction	Initiate Low Income New Construction offer.	\$250.0	\$1.1	Not having approval of the incremental budget until 2016, activities toward this end in 2015 were limited to the exploration of partnership opportunities for the program in 2016 and beyond.
Collaboration and Innovation Fund (CIF)	Fund for collaborative pilot programs to drive understanding on innovative technologies and market approaches.	\$1,000.0	\$53.0	Uncertainty with respect to Board Approval guided the Company towards a measured and cautious approach towards spending this budget. The \$53k spent was largely focused on the development of future collaborative pilots, research and initiatives as the Company felt it prudent to continue to explore collaboration given the strong indications from the Board to do so.
<b>TOTAL</b>		<b>\$4,920.3</b>	<b>\$559.4</b>	

## 10.4 Collaboration and Innovation Fund

As noted on page 82 of the Board's Decision and Order in EB-2015-0049, the Board has approved Enbridge's proposal for a Collaboration and Innovation Fund ("CIF") of approximately \$6 million over the term of the 2015-2020 Multi-Year DSM Plan. The Board made the determination for these funds to be available throughout the term of the Plan, rather than approve a distinct \$1 million within each year, in contemplation of the need "...to provide flexibility and address important opportunities when presented."<sup>22</sup>

<sup>22</sup> EB-2015-0049, Decision and Order, p.81, January 20<sup>th</sup>, 2016



As a result of the lack of certainty during 2015 regarding the future of the CIF specifically, and the incremental budget more broadly, spending of this Fund in 2015 was limited. During 2015 approximately \$53,000 was spent.

CIF spending in 2015 was largely focused on the development of future collaborative pilots, research and initiatives. While these early efforts did not generate distinct gas saving or other results in 2015, it is anticipated that they will facilitate meaningful collaboration with the Independent Electricity System Operator (“IESO”) and electric utilities in 2016 and beyond. Of note, a small commercial and industrial collaborative energy assessment effort was undertaken with Enersource Corporation (“Enersource”). The initiative involved 30 commercial and 20 industrial customer site visits. The purpose of the initiative was to generate energy efficiency awareness and engagement amongst these customer segments, identify opportunities for customers to save both electricity and gas through DSM and CDM programs, gain further insight into the needs of these customer segments, increase customer convenience and also reduce the cost of these activities.

## 10.5 Demand Side Management Variance Account (DSMVA)

As specified in the Guidelines, the DSMVA “should be used to track the variance between actual DSM spending by rate class versus the budgeted amount included in rates by rate class.”<sup>23</sup>

The exact DSM budget built into rates for the 2015 calendar year was \$34,954,513. This amount was proposed by Enbridge and subsequently approved by the Board in the Company’s 2015 Rate Adjustment proceeding EB-2014-0276. The following excerpt filed November 28<sup>th</sup>, 2014 outlines the rationale for the inclusion of this amount in rates:

The Framework Consultation will result in a new DSM Framework that will apply to the six years 2015 through 2020. While the Company and DSM stakeholders recently filed submissions on the Board’s draft DSM Framework and Guideline released on September 15, 2015, a final decision of the Board on the new DSM Framework is not expected until later this year. The timing of the Board’s decision on the Framework Consultation creates some uncertainty and complexity from a planning perspective for 2015. Despite this, the

23 EB-2014-0134. Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), OEB, December 22, 2014, Page 38.



Company has developed a 2015 DSM budget it believes recognizes directionally the likely result of the Framework Consultation and reflects the practicalities of the planning process for DSM programs that will be operated in 2015. Enbridge is therefore proposing an increase in the DSM Budget for 2015 to \$35 million...

The increase in the filed budgets from \$32.8 to \$35 million for 2015 results from direction ascertained from two notable milestones on the evolution of DSM beyond the current DSM Framework. These milestones included: 1) the Minister of Energy's Directive to the Board outlining the requirement for a six-year plan and achievement of all cost-effective DSM; and, 2) the Draft DSM Framework and Guidelines released by the Board on September 15, 2014 outlining preliminary guidance on the level of budget for consideration between 2015 and 2020.<sup>24</sup>

Subsequent to submitting the above-noted evidence, Enbridge received the Board's final DSM Framework and accompanying Filing Guidelines on December 22<sup>nd</sup>, 2014. The final Framework was inclusive of direction to roll-forward Enbridge's 2015 DSM budget and an invitation to apply for an additional 15% in budget to address the Board's Guiding Principles and Key Priorities. As addressed previously in Section 2.1, the combined effect of these two Framework elements resulted in a proposed budget of \$37.7 million, which was approved by the Board in its Decision and Order in EB-2015-0049 on January 20<sup>th</sup>, 2016.

Table 10.4 shows the variance between the 2015 DSM spending (as summarized previously in Table 10.1) in comparison to the DSM budget built into rates. The resulting DSMVA for 2015 is \$825,460 (recoverable from ratepayers).

**Table 10.4 DSMVA Determination: 2015 Spending vs. Amount Built Into Rates**

DSM Budget Previously Built Into Rates	2015 DSM Spending	Spending Against Incremental Budget	Variance = DSMVA
A	B	C	Variance = A-B-C
\$34,954,513	\$35,220,594	\$559,378	-\$825,460

24 EB-2014-0276, Exhibit D1, Tab 4, Schedule 1, pages 1-2

## 10.6 DSM Rate Allocation

Table 10.5 illustrates the allocation to rate classes of the DSM Variance Accounts.<sup>25</sup>

**Table 10.5 2015 Rate Allocation**

Rate Class		DSMIDA	LRAMVA	DSMVA	TOTAL
Rate 1	<sup>1</sup>	\$5,901,877	N/A	\$6,498,202	\$12,400,079
Rate 6	<sup>1</sup>	\$3,438,449	N/A	-\$2,919,026	\$519,423
Rate 9	<sup>2</sup>	\$404	\$0	-\$74	\$331
Rate 100		\$0	\$0	\$0	\$0
Rate 110		\$421,703	-\$12,292	\$191,445	\$600,856
Rate 115		\$146,222	-\$4,499	-\$451,019	-\$309,296
Rate 125	<sup>2</sup>	\$15,156	\$0	-\$2,779	\$12,377
Rate 135		\$12,883	\$329	-\$144,351	-\$131,139
Rate 145		\$41,385	-\$34,802	-\$1,040,849	-\$1,034,266
Rate 170		\$93,350	-\$21,325	-\$1,304,940	-\$1,232,914
Rate 200	<sup>2</sup>	\$5,254	\$0	-\$963	\$4,291
Rate 300	<sup>2</sup>	\$1,010	\$0	-\$186	\$825
Total	<sup>3</sup>	\$10,077,695	-\$72,589	\$825,460	\$10,830,567

1. Rate 1 and Rate 6 are not included in the LRAM amount as these rate classes are covered under the Average Use True-Up Variance Account (AUTUVA).

2. Rates 9, 125, 200 & 300 do not have any LRAM component in the rate allocation since customers in these rate classes are not eligible for DSM programs. These rate classes will however be subject to rate allocations for DSMVA and applicable DSMIDA related to Low Income Program.

3. Numbers may not add up due to rounding.

<sup>25</sup> As in prior years, Low Income DSM spending is allocated to all rate classes, to be consistent with the electricity conservation framework, as well as the LEAP Emergency Financial Assistance program. Allocation for the LEAP fund was outlined in EB-2008-0150 Report of the Board: Low Income Energy Assistance Program on page 11 Section 5.1.1 Funding LEAP.



## **Appendix A: Input Assumptions**

On March 27<sup>th</sup>, 2015, Enbridge Gas Distribution Inc. and Union Gas Limited submitted a joint application which sought approval from the Ontario Energy Board for new and updated Demand Side Management measures. The Board assigned file number EB-2014-0354 to this application. On July 23<sup>rd</sup>, 2015 Enbridge and Union Gas were granted approval of the new and updated DSM measures and input assumptions as set out in the joint application, EB-2014-0354.

These inputs were subject to Enbridge's 2014 DSM audit. The inputs were used in calculating the savings claims that comprise the 2015 DSM scorecard results. The Board approved this approach as per its revised Decision and Order issued February 24<sup>th</sup>, 2016 (EB-2015-0049).



## Appendix B: 2015 Avoided Costs

The following tables outline the Avoided Costs used in the determination of 2015 results and are included here for reference in the following charts:

Year	2015 Gas Avoided Costs							
	Water Heating		Space Heating		Combined Space & Water Heating		Industrial	
	Baseload (\$/m3)		Baseload (\$/m3)		Baseload (\$/m3)		Baseload (\$/m3)	
	Rate	NPV	Rate	NPV	Rate	NPV	Rate	NPV
1	0.1309	0.1342	0.1375	0.1495	0.1365	0.1476	0.1312	0.1347
2	0.1689	0.2939	0.1784	0.3182	0.1767	0.3147	0.1700	0.2981
3	0.1846	0.4590	0.1950	0.4926	0.1931	0.4873	0.1857	0.4698
4	0.1974	0.6258	0.2087	0.6690	0.2066	0.6621	0.1987	0.6465
5	0.2120	0.7954	0.2241	0.8482	0.2219	0.8395	0.2134	0.8289
6	0.2249	0.9654	0.2377	1.0279	0.2353	1.0174	0.2263	1.0149
7	0.2356	1.1338	0.2490	1.2060	0.2465	1.1937	0.2371	1.2023
8	0.2403	1.2963	0.2539	1.3777	0.2514	1.3636	0.2418	1.3861
9	0.2320	1.4446	0.2452	1.5344	0.2427	1.5189	0.2335	1.5567
10	0.2257	1.5810	0.2385	1.6787	0.2362	1.6616	0.2272	1.7163
11	0.2302	1.7126	0.2433	1.8178	0.2409	1.7994	0.2317	1.8729
12	0.2348	1.8396	0.2482	1.9519	0.2457	1.9322	0.2363	2.0264
13	0.2395	1.9620	0.2531	2.0814	0.2506	2.0603	0.2411	2.1770
14	0.2443	2.0801	0.2582	2.2062	0.2556	2.1839	0.2459	2.3246
15	0.2492	2.1940	0.2634	2.3266	0.2607	2.3031	0.2508	2.4695
16	0.2541	2.3039	0.2686	2.4427	0.2660	2.4181	0.2558	2.6115
17	0.2592	2.4099	0.2740	2.5547	0.2713	2.5290	0.2609	2.7508
18	0.2644	2.5121	0.2795	2.6628	0.2767	2.6359	0.2662	2.8875
19	0.2697	2.6107	0.2851	2.7670	0.2822	2.7391	0.2715	3.0215
20	0.2751	2.7058	0.2908	2.8675	0.2879	2.8386	0.2769	3.1529
21	0.2806	2.7975	0.2966	2.9644	0.2936	2.9346	0.2824	3.2818
22	0.2862	2.8860	0.3025	3.0579	0.2995	3.0272	0.2881	3.4082
23	0.2919	2.9713	0.3086	3.1481	0.3055	3.1165	0.2939	3.5322
24	0.2978	3.0536	0.3147	3.2351	0.3116	3.2026	0.2997	3.6538
25	0.3037	3.1330	0.3210	3.3190	0.3178	3.2857	0.3057	3.7731
26	0.3098	3.2096	0.3275	3.4000	0.3242	3.3658	0.3118	3.8901
27	0.3160	3.2834	0.3340	3.4780	0.3307	3.4431	0.3181	4.0048
28	0.3223	3.3547	0.3407	3.5533	0.3373	3.5177	0.3244	4.1173
29	0.3288	3.4234	0.3475	3.6260	0.3440	3.5896	0.3309	4.2277
30	0.3353	3.4896	0.3544	3.6960	0.3509	3.6589	0.3376	4.3359

The Nominal Growth Rate used in the table is 2.0%

The Real Discount Rate used in the table is 4%, the Nominal Discount Rate used in the table is 5.75%



2015 Water and Electricity Avoided Costs																				
Water Heating					Space Heating					Combined Space & Water Heating					Industrial					
Year	Electricity (c/Kwh)		Water (\$/1000 litre)		NPV	Electricity (c/Kwh)		Water (\$/1000 litre)		NPV	Electricity (c/Kwh)		Water (\$/1000 litre)		NPV	Electricity (c/Kwh)		Water (\$/1000 litre)		NPV
	Rate	NPV	Rate	NPV		Rate	NPV	Rate	NPV		Rate	NPV	Rate	NPV		Rate	NPV	Rate	NPV	
1	0.1132	\$0.11	0.68875	\$0.69		0.1132	\$0.11	0.6888	\$0.69		0.1132	\$0.11	0.6888	\$0.69		0.1132	\$0.11	0.6888	\$0.69	
2	0.1157	\$0.22	0.70421	\$1.35		0.1157	\$0.22	0.7042	\$1.35		0.1157	\$0.22	0.7042	\$1.35		0.1157	\$0.22	0.7042	\$1.35	
3	0.1181	\$0.33	0.71871	\$2.00		0.1181	\$0.33	0.7187	\$2.00		0.1181	\$0.33	0.7187	\$2.00		0.1181	\$0.33	0.7187	\$2.00	
4	0.1206	\$0.43	0.73352	\$2.62		0.1206	\$0.43	0.7335	\$2.62		0.1206	\$0.43	0.7335	\$2.62		0.1206	\$0.43	0.7335	\$2.62	
5	0.1230	\$0.53	0.74862	\$3.22		0.1230	\$0.53	0.7486	\$3.22		0.1230	\$0.53	0.7486	\$3.22		0.1230	\$0.53	0.7486	\$3.22	
6	0.1256	\$0.62	0.76404	\$3.79		0.1256	\$0.62	0.7640	\$3.79		0.1256	\$0.62	0.7640	\$3.79		0.1256	\$0.62	0.7640	\$3.79	
7	0.1282	\$0.72	0.77978	\$4.35		0.1282	\$0.72	0.7798	\$4.35		0.1282	\$0.72	0.7798	\$4.35		0.1282	\$0.72	0.7798	\$4.35	
8	0.1308	\$0.80	0.79584	\$4.89		0.1308	\$0.80	0.7958	\$4.89		0.1308	\$0.80	0.7958	\$4.89		0.1308	\$0.80	0.7958	\$4.89	
9	0.1335	\$0.89	0.81223	\$5.41		0.1335	\$0.89	0.8122	\$5.41		0.1335	\$0.89	0.8122	\$5.41		0.1335	\$0.89	0.8122	\$5.41	
10	0.1362	\$0.97	0.82896	\$5.91		0.1362	\$0.97	0.8290	\$5.91		0.1362	\$0.97	0.8290	\$5.91		0.1362	\$0.97	0.8290	\$5.91	
11	0.1391	\$1.05	0.84603	\$6.39		0.1391	\$1.05	0.8460	\$6.39		0.1391	\$1.05	0.8460	\$6.39		0.1391	\$1.05	0.8460	\$6.39	
12	0.1419	\$1.13	0.86346	\$6.86		0.1419	\$1.13	0.8635	\$6.86		0.1419	\$1.13	0.8635	\$6.86		0.1419	\$1.13	0.8635	\$6.86	
13	0.1448	\$1.20	0.88124	\$7.31		0.1448	\$1.20	0.8812	\$7.31		0.1448	\$1.20	0.8812	\$7.31		0.1448	\$1.20	0.8812	\$7.31	
14	0.1478	\$1.27	0.89939	\$7.75		0.1478	\$1.27	0.8994	\$7.75		0.1478	\$1.27	0.8994	\$7.75		0.1478	\$1.27	0.8994	\$7.75	
15	0.1509	\$1.34	0.91791	\$8.17		0.1509	\$1.34	0.9179	\$8.17		0.1509	\$1.34	0.9179	\$8.17		0.1509	\$1.34	0.9179	\$8.17	
16	0.1540	\$1.41	0.93682	\$8.57		0.1540	\$1.41	0.9368	\$8.57		0.1540	\$1.41	0.9368	\$8.57		0.1540	\$1.41	0.9368	\$8.57	
17	0.1571	\$1.47	0.95611	\$8.96		0.1571	\$1.47	0.9561	\$8.96		0.1571	\$1.47	0.9561	\$8.96		0.1571	\$1.47	0.9561	\$8.96	
18	0.1604	\$1.53	0.97581	\$9.34		0.1604	\$1.53	0.9758	\$9.34		0.1604	\$1.53	0.9758	\$9.34		0.1604	\$1.53	0.9758	\$9.34	
19	0.1637	\$1.59	0.99590	\$9.70		0.1637	\$1.59	0.9959	\$9.70		0.1637	\$1.59	0.9959	\$9.70		0.1637	\$1.59	0.9959	\$9.70	
20	0.1671	\$1.65	1.01642	\$10.05		0.1671	\$1.65	1.0164	\$10.05		0.1671	\$1.65	1.0164	\$10.05		0.1671	\$1.65	1.0164	\$10.05	
21	0.1705	\$1.71	1.03735	\$10.39		0.1705	\$1.71	1.0373	\$10.39		0.1705	\$1.71	1.0373	\$10.39		0.1705	\$1.71	1.0373	\$10.39	
22	0.1740	\$1.76	1.05872	\$10.72		0.1740	\$1.76	1.0587	\$10.72		0.1740	\$1.76	1.0587	\$10.72		0.1740	\$1.76	1.0587	\$10.72	
23	0.1776	\$1.81	1.08053	\$11.04		0.1776	\$1.81	1.0805	\$11.04		0.1776	\$1.81	1.0805	\$11.04		0.1776	\$1.81	1.0805	\$11.04	
24	0.1812	\$1.86	1.10279	\$11.34		0.1812	\$1.86	1.1028	\$11.34		0.1812	\$1.86	1.1028	\$11.34		0.1812	\$1.86	1.1028	\$11.34	
25	0.1850	\$1.91	1.12550	\$11.64		0.1850	\$1.91	1.1255	\$11.64		0.1850	\$1.91	1.1255	\$11.64		0.1850	\$1.91	1.1255	\$11.64	
26	0.1888	\$1.96	1.14869	\$11.92		0.1888	\$1.96	1.1487	\$11.92		0.1888	\$1.96	1.1487	\$11.92		0.1888	\$1.96	1.1487	\$11.92	
27	0.1927	\$2.00	1.17235	\$12.19		0.1927	\$2.00	1.1724	\$12.19		0.1927	\$2.00	1.1724	\$12.19		0.1927	\$2.00	1.1724	\$12.19	
28	0.1967	\$2.05	1.19650	\$12.46		0.1967	\$2.05	1.1965	\$12.46		0.1967	\$2.05	1.1965	\$12.46		0.1967	\$2.05	1.1965	\$12.46	
29	0.2007	\$2.09	1.22115	\$12.71		0.2007	\$2.09	1.2212	\$12.71		0.2007	\$2.09	1.2212	\$12.71		0.2007	\$2.09	1.2212	\$12.71	
30	0.2048	\$2.13	1.24631	\$12.96		0.2048	\$2.13	1.2463	\$12.96		0.2048	\$2.13	1.2463	\$12.96		0.2048	\$2.13	1.2463	\$12.96	

The Nominal Growth Rate used in the table is 2.0%  
 The Real Discount Rate used in the table is 4%, the Nominal Discount Rate used in the table is 5.75%