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December 14, 2018

VIA RESS, COURIER, and EMAIL

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, Suite 2700
Toronto, Ontario M4P 1E4

Dear Ms. Walli:

Re: Reporting of Enbridge Gas Distribution Inc.'s 2017 DSM Program Results (EB-2015-0245)

In accordance with the DSM Framework and Filing Guidelines (EB-2014-0134), the gas utilities are required to annually prepare a Draft Evaluation Report to be filed with the Ontario Energy Board ("OEB").

On October 30th, 2018, the OEB issued the 2016 Annual Verification Report and informed the gas utilities that the submission date for their 2017 Draft Evaluation Report was November 30th, 2018.

In a letter to Enbridge on December 3rd, 2018, the OEB confirmed its acceptance of Enbridge's request to submit the 2017 Draft Evaluation Report by December 14th, in order to allow time for the utility to consider the conclusions and direction provided by the OEB in its DSM Mid-Term Review Report released on November 29th, 2018.

As directed by the OEB, enclosed Enbridge hereby files its 2017 DSM Draft Annual Report. Given the OEB's role in overseeing the evaluation process related to DSM program results, Enbridge presumes that the Board will provide copies of this 2017 DSM Draft Annual Report to applicable persons and entities. Alternatively, Enbridge would be pleased to provide any party with a copy of the report as directed by the Board.

Sincerely,

[original signed]

Kevin Culbert
Senior Manager, Regulatory Policy and Strategy

Attachment

2017 Demand Side Management Draft Annual Report

14 December 2018

ENBRIDGE

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Executive Summary

Enbridge Gas Distribution summarized its 2017 DSM Plan in the 2015-2020 Multi-Year DSM Plan (EB-2015-0049), filed on April 1st, 2015. The Company's 2017 DSM Plan was outlined consistent with the provisions set out by the Ontario Energy Board in the Report of the Board: Demand Side Management Framework for Natural Gas Distributors (2015-2020), published December 22nd, 2014 (EB-2014-0134).

In its Decision and Order, published January 20th, 2016, and the update to the Decision and Order, published February 24th, 2016, the Board responded to the details outlined in the Company's Plan and determined that Enbridge reasonably interpreted the DSM Framework. The Decision outlined the approvals for Enbridge's 2017 programs and budgets and established the mechanism for setting targets. The 2017 Draft Annual Report provides an overview on the Company's results.

The Company reports that in the 2017 DSM program year, the portfolio generated total gas savings of 623.7 million net lifetime (cumulative) cubic meters. 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 and Energy Management program delivery are not captured in these totals, since results for this program are not measured on the basis of cubic meters (m^3) or lifetime (cumulative) cubic meters 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 22nd, 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 2017, the portfolio demonstrated cost-effective program delivery based on positive results from both the TRC-Plus and PAC screening tests. The portfolio had an overall TRC-Plus ratio of 1.79 and an overall PAC ratio of 1.80.

Table ES.0 2017 DSM Portfolio Results

Program	Annual Net Gas Savings (m^3)	Cumulative Net Gas Savings (m^3)	Budget	2017 Spending [1]	TRC-Plus Ratio	PAC Ratio
Resource Acquistion						
Home Energy Conservation	6,156,714	153,917,853	$15,180,000	$22,644,994	1.04	0.94
Adaptative Thermostats	2,892,038	43,380,576	$1,525,000	$1,479,319	2.54	4.58
C&I Custom	15,407,705	250,156,051	$7,157,145	$7,240,134	2.82	4.91
C&I Prescriptive	2,396,013	40,399,674	$2,241,134	$1,113,533	2.35	5.38
C&I Direct Install	3,734,401	56,016,021	$5,060,872	$1,807,641	5.01	4.50
Small New Construction	-	-	$1,305,566	$0	-	-
Energy Leaders	139,238	1,392,380	$400,000	$78,613	1.31	2.64
Run It Right (RA)	173,891	869,455	$1,434,480	$872,005	0.23	0.13
Comprehensive Energy Mgmt (RA)	-	-	$80,184	$0	-	-
Overheads	-	-	$5,104,327	$4,967,265	-	-
Total RA	**30,900,001**	**546,132,010**	**$39,488,708**	**$40,203,504**	**1.75**	**1.93**
Low Income						
Single Family (Part 9)	790,267	19,598,364	$6,290,000	$4,539,420	1.81	0.60
Multi-Residential (Part 3)	2,938,314	57,999,949	$3,418,121	$2,765,831	3.19	2.99
New Construction [1]	-	-	$1,200,000	$1,158,956	-	-
Overheads	-	-	$1,619,299	$1,575,817	-	-
Total LI	**3,728,581**	**77,598,313**	**$12,527,420**	**$10,040,024**	**2.06**	**1.24**
Market Transformation						
Residential Savings by Design [1]	-	-	$3,250,000	$4,216,284	-	-
Commercial Savings by Design [1]	-	-	$950,000	$1,270,688	-	-
School Energy Competition	-	-	$600,000	$460,396	-	-
Run It Right (MT)	-	-	$285,520	$421,777	-	-
Comprehensive Energy Mgmt (MT)	-	-	$763,861	$234,085	-	-
Overheads	-	-	$868,335	$845,018	-	-
Total MT	**-**	**-**	**$6,717,716**	**$7,448,248**	**-**	**-**
Programs Subtotal	**34,628,582**	**623,730,323**	**$58,733,844**	**$57,691,776**	**1.79**	**1.80**
Portfolio Overheads	**-**	**-**	**$4,200,000**	**$2,080,992**	**-**	**-**
Grand Total	**34,628,582**	**623,730,323**	**$62,933,844**	**$59,772,768**	**-**	**-**

1. Low Income New Construction, Residential Savings by Design and Commercial Savings by Design spending include accrued incentive amounts

The cumulative net gas savings results for the individual offers are outlined above in Table ES.0. In 2017, the Resource Acquisition program contributed a total of 546.1 million net cumulative cubic meters (CCM) in natural gas savings; the Low Income program delivered 77.6 million net CCM natural gas savings, and overall the Market Transformation and Energy Management offers continued to demonstrate good results.

Total spending in 2017 amounted to $59,772,768.[1] In comparison, the OEB approved budget for 2017 as per the Board's Decision was $62,933,844.

Table ES.1 2017 DSM Results Summary

2017 DSM Results Summary	
Net CCM Savings	623,730,323 m^3
DSMIDA amount recoverable from Ratepayers	$537,831
LRAMVA amount payable to Ratepayers [1]	-$70,687
Pre-accrual DSMVA amount [2]	-$5,489,576
DSMVA amount payable to Ratepayers [1 2]	-$3,161,076

1. The LRAMVA and DSMVA are negative indicating that these amounts are payable to ratepayers.
2. Refer to Section 10.5 for explanation regarding the DSMVA.

The determination of the Company's shareholder incentive is based on 2017 DSM performance in relation to the weighted scoring approach. The resulting DSM Shareholder Incentive earned by the Company for 2017 is $537,831 as outlined in Table ES.1. The DSM Incentive Deferral Account (DSMIDA) is utilized to record the shareholder incentive amount earned by Enbridge as a result of its DSM program results.

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 Lost Revenue Adjustment Mechanism calculation based on 2017 results is $13,550. As such the Lost Revenue Adjustment Mechanism Variance Account amount relative to the forecasted impact included in distribution rates for 2017 is $70,687 to be refunded to ratepayers.

The DSM Variance Account (DSMVA) is utilized to track the difference between DSM spending in 2017 (including accrued amounts for offers with future incentive payment commitments) and the amount already built into rates which equates to the 2017 OEB approved DSM budget. In 2017, the full OEB approved budget was not spent. The total amount of unspent dollars, pre accrual, in the DSMVA is $5,489,576. Of this amount,

[1] Total spending includes accrued amounts for future incentive payment commitments for applicable offers.

$2,328,500 represents amounts accrued for incentive payment commitments to be paid out in future years and tracked in the DSMVA. $3,161,076 is to be refunded to ratepayers.

1. Introduction

The continuing need for DSM efforts in the province of Ontario was outlined by the Ontario Energy Board (the "Board") in the Report of the Board: Demand Side Management Framework for Natural Gas Distributors (2015-2020), published December 22nd, 2014 (the "Framework").

To guide the utilities' DSM portfolios, the Framework established a number of goals including, assisting consumers in managing their energy bills, promoting energy efficiency and creating a culture of conservation. The Framework also provides direction for DSM programs and outlines the proposed weighted scorecard approach to measuring DSM performance.

Enbridge Gas Distribution ("Enbridge", the "Company") has demonstrated significant achievement in results since Demand Side Management was introduced to its customers in the mid-1990s. Between 1995 and 2017[2], Enbridge's energy efficiency programs reduced customer consumption by 11.9 billion cubic meters of natural gas. These gas savings have resulted in a reduction of 22.2 million tonnes of greenhouse gas emissions[3], roughly equal to removing 4.4 million cars from the road for one year.[4]

Despite evolving government policies and mandates that are presenting new challenges to operating in the energy efficiency landscape, as well as the continuing low cost of natural gas relative to increasing electricity prices, 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 at the same time provide support for the Province's greenhouse gas reductions emissions targets.

[2] 2017 DSM contribution to these values are pre-audit
[3] Assumes 1.875kg of $CO2_e$ is emitted for each m^3 gas that is consumed.
[4] Assumes the average automobile produces 5.1 tonnes of CO_2 per year.

Enbridge's 2017 DSM portfolio included programs directed towards Resource Acquisition, Low Income, and Market Transformation and Energy Management as follows:

Resource Acquisition Program

- Home Energy Conservation Offer
- Residential Adaptive Thermostat Offer
- Custom Commercial Offer
- Custom Industrial Offer
- Run it Right Offer
- Commercial and Industrial Prescriptive Offer
- Commercial and Industrial Direct Install Offer
- Energy Leaders Initiative

Low Income Program

- Home Winterproofing Offer
- Low Income Multi-Residential Offer
- Low Income New Construction Offer

Market Transformation and Energy Management Program

- Savings by Design – Residential Offer
- Savings by Design – Commercial Offer
- School Energy Competition
- Run it Right Offer
- Comprehensive Energy Management Offer

The 2017 Draft Annual Report (the "Report") on Enbridge's Demand Side Management program provides a summary of the results for the program year and summarizes these results relative to scorecard metrics approved by the Board. The Report provides a comparison of actual and target results and also provides an opportunity for Enbridge to

highlight successes as well as lessons learned. In addition, the Report offers information in support of the Company's 2017 Demand Side Management Incentive Deferral Account (DSMIDA), Demand Side Management Variance Account (DSMVA), and the Lost Revenue Adjustment Mechanism Variance Account (LRAMVA) claims.

As outlined in the Framework, beginning in 2015 the governance structure changed significantly such that the Board is now responsible for the oversight responsibility of the annual audit and evaluation of the utilities' DSM results, including selecting the Evaluation Contractor and verification consultants. As requested in the Framework, Enbridge and Union Gas consulted to align on the general format of each utility's Annual Report. The Report will be reviewed by the OEB's third party Evaluation Contractor to facilitate the 2017 program evaluation.

Since the 2016 Final Verification Report was not completed until October 30th, 2018, the submission of this 2017 DSM Draft Annual Report has been delayed well beyond the April 1st date outlined in the Framework.

Enbridge remains committed to the objective of continually improving its DSM practices, program design and delivery. A significant component of this effort includes the consideration of recommendations and expertise provided by stakeholders through the annual audit and evaluation process. The delayed 2015 and 2016 processes however has limited the Company's ability to consider recommendations or incorporate learnings in a timely fashion to support continuous improvement.

2. Demand Side Management

2.1 2017 DSM Plan

The Minister of Energy issued a Directive to the Board calling for the development of a new DSM policy framework on March 31st, 2014. Beginning January 1st, 2015, the new framework was to span a six year period and, among other things, enable the achievement of all cost-effective DSM.

The Board issued a Draft Report on September 15th, 2014 outlining the Board's proposed 2015-2020 DSM Framework for Natural Gas Distributors (EB-2014-0134) and requested all interested parties to provide comments. Enbridge, Union Gas, and a wide variety of stakeholders provided comments on the Board's proposed 2015-2020 DSM Framework on October 15th, 2014. The Board issued its Framework and the accompanying Guidelines on December 22nd, 2014.

In accordance with the 2015-2020 Framework, Enbridge filed the Multi-Year Demand Side Management Plan (2015-2020) (EB-2015-0049) on April 1st, 2015. The Board responded to the details outlined in the Multi-Year Demand Side Management Plan (the "Plan"), and on January 20th, 2016 and February 24th, 2016, provided a Decision and a Revised Decision respectively to support the Plan which included Enbridge's 2017 approved programs and budgets and established the mechanism for determining targets.

Enbridge's 2016 to 2020 DSM portfolio includes offers that are new in this Plan and offers that have existed in the past. These new or enhanced offers have been developed based on industry input, stakeholder input, Enbridge's experience, and research from best practices in other jurisdictions. These offers are responsive to market fundamentals, including opportunities and challenges, as well as they are directly responsive to the Board's Framework guiding principles and key priorities (EB-2014-0134).

The provisions set forth in the Plan were intended to be flexible within reason, allowing the Company to introduce, change, or discontinue activities or initiatives as necessary in response to market conditions as well as the customers' needs, within the constraints of the DSM budgets and scorecards approved by the Board and the terms of the Framework and the Board's Filing Guidelines (EB-2014-0134).

2.2 Program and Portfolio Design

The Company's DSM activities continue to drive change in the market through focused efforts to deliver natural gas savings and related benefits to customers. Enbridge's 2017 DSM Plan includes three distinct programs; Resource Acquisition, Low Income, and Market Transformation and Energy Management. Within each of these programs, a variety of energy efficiency offers are available in support of the Company's customers and the province's greenhouse gas (GHG) emission reduction efforts.

The offers comprising the Resource Acquisition program focus on achieving direct, volumetric natural gas savings customer by customer. This generally involves the installation of energy efficient equipment, the implementation of process optimization or putting into practice operational improvements by the customer. The Company supports these improvements by providing training, energy audits, technical assistance and financial incentives among other approaches.

The offers made available in the Low Income program are largely similar to the offers included in the Resource Acquisition and Market Transformation and Energy Management programs. However, delivering energy efficiency to the low income market presents a unique set of challenges requiring a different approach that recognizes the distinctive needs of this market segment.

While the Low Income program will often yield lower net Total Resource Cost (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, the focus of Enbridge's Market Transformation and Energy Management program is on facilitating fundamental changes in the market, such as increased market shares of energy efficient products and services, or the provision of education to the market and the influencing of consumer behavior and attitudes to support efficiency in energy use over the longer term.

2.3 Cost-Effectiveness Screening

The utility is expected to assess the economic value of its DSM portfolio through a method of calculating and screening 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." The utilities were instructed to apply a 15% non-energy benefit adder to the benefit side of the TRC test calculation. In addition, 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."

"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." The 15% non-energy benefit adder accounts for other benefits, for example, environmental, economic and social benefits that are not related to the reduction in natural gas.

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 and assessed on their own merits based on the objectives of the program.

The Program Administrator Cost (PAC) test is also utilized by Enbridge as a secondary reference tool to assess the programs' cost-effectiveness. As outlined in the Guidelines, "the costs included in the PAC test calculation include all expenditures by the utility to administer DSM programs (i.e., costs to design, plan, administer, deliver, monitor and evaluate)." The 2017 DSM Draft Annual Report provides an opportunity to report both TRC-Plus and PAC assessments for the 2017 DSM portfolio. Cost-effectiveness screening for 2017 programs is summarized in Section 4.3.

2.4 Target Adjustment Mechanism

As outlined in the Board's Decision, beginning in 2017, the Board approved a target adjustment mechanism ("TAM") such that the utilities would adjust target metrics year to year based on actual performance adjusted for spending. Further to promote continued efficiency, the OEB directed there would be a 2% productivity factor added to targets for Resource Acquisition and Low Income metrics, and a 10% productivity factor for all Market Transformation and Performance-Based target metrics.

For Resource Acquisition and Low Income target metrics the Board provided the following guidance by way of example:[5]

> *Actual performance in year 1 / Dollars spent in year 1 x Dollars in budget year 2 x 1.02*
>
> *For illustrative purposes, if the utility's 2016 actual cumulative gas savings achievement for a program is 665 million m^3 with an actual spend of $7.50M*

[5] EB-2015-0029/2015-0049, Board Decision, January 20, 2016, page 70.

(excluding overheads) on the program, the result would be 88.67 m^3 per dollar spent. To calculate the 2017 target, the 2016 result (88.67 m3/$) will be multiplied by the 2017 budget of $7.8M (691.6 million) times the productivity improvement of 2% equaling a 2017 target of 705.4 million m^3.

The lower and upper bands are calculated by multiplying the target by 75% and 150% respectively.

In the illustration the lower band will be 529.1 million m^3 (75% of 705.4 million m^3) and the upper band will be 1,058.1 million m^3 (150% of 705.4 million m3).

The prior year's metric achievement is expected to reflect the final verified program results following the annual program evaluation. Actual spend is equal to the final actual spending excluding all overhead costs (program and portfolio).

For Market Transformation and Performance-Based target metrics the Board provided the following guidance by way of example:[6]

Actual performance in year 1 / Dollars spent in year 1 x Dollars in budget year 2 x 1.1

For illustrative purposes, if the 2016 School Energy Competition metric achievement was 55 schools with an actual spend of $0.30M (excluding overheads) on the program, the result would be 183.3 schools per million dollars spent. To calculate the 2017 target, the 2016 result (183.3 schools/$million) will be multiplied by the 2017 school energy budget of $0.60M (110 schools) times the productivity improvement of 10% equaling a 2017 target of 121 schools. The Lower Band will be 91 schools (75% of 121 schools) and the Upper Band will be 182 schools (150% of 121 schools).

Again, the prior year's metric achievement is expected to reflect the final verified program results following the annual program evaluation. Actual spend is equal to the final actual spending excluding all overhead costs (program and portfolio).

In the EB-2015-0049 Board Decision, the Board noted, "given the limited experience with formulaic adjustment mechanisms, the utilities should suggest any necessary changes to the approved formulaic targets at the mid-term review, for 2018 to 2020."[7] Enbridge followed this direction and included a number of comments outlining concerns

[6] EB-2015-0029/2015-0049, Board Decision, January 20, 2016, page 70.
[7] EB-2015-0029/2015-0049, Board Decision, January 20, 2016, page 72.

with the operationalization of the TAM in its submission to the Board for the mid-term review. In particular, Enbridge noted that the TAM was not appropriate for the adjustment of targets for program offers with deferred incentive payouts (i.e. offers where annual metrics do not align with the year in which customer incentive payouts are made), as the adjustment mechanism results in artificial and unachievable targets that do not reflect the true relationship between the Company's results from the previous year, considered in terms of the previous year's program spending, and the market potential for those program offers.

The utilities concerns regarding TAM impacts on offers with deferred incentives were assessed by the Board and in the Board's November 29, 2018 Report of the Ontario Energy Board: Mid-Term Review of the Demand Side Management (DSM) Framework for Natural Gas Distributors (2015-2020) (the "Mid-Term Report"), the Board provided the following update to the Target Adjustment Mechanism methodology:

> "The OEB will revise the target adjustment formula for [Low-Income New Construction, Run-it-Right, Comprehensive Energy Management, Residential Savings by Design and Commercial Savings by Design] … The revised target formula will replace "annual actual program costs" with "annual accrued program costs". Accrued program costs are those costs that the gas utility is subject to providing to the customer in latter years should the customer fulfill its commitments to the program and be eligible for the financial incentives."[8]

In response to this revised direction, Enbridge has provided both 2017 (current year) spending as well accrued spending amounts for applicable offers in Section 10, Table 10.1 of this report. As outlined above, pursuant to the Board's Mid-Term Report, Enbridge will apply the total of actual and accrued spending for these offers in the determination of their respective 2018 targets.

2.5 Program Evaluation

As outlined in the Framework, the Board introduced that it would be taking on the coordination function of the Evaluation, Measurement & Verification (EM&V) process

[8] Report of the Ontario Energy Board: Mid-Term Review of the Demand Side Management (DSM) Framework for Natural Gas Distributors (2015-2020), November 29th, 2018, page 16.

throughout the 2015-2020 DSM framework period. The Board provided utilities and participants in the EB-2014-0134 consultation a memo on August 21st, 2015, which provided additional details regarding the new governance structure for the 2015-2020 DSM evaluation process of program results (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 programs beginning with the 2015 program year. This document included the following evaluation responsibilities:

- The OEB would be responsible for coordinating and overseeing the evaluation and audit process, including selecting a third party Evaluation Contractor.
- The Evaluation Contractor (EC) would carry out the evaluation and audit processes and would draft an EM&V Plan for the natural gas utilities' DSM programs.
- An Evaluation Advisory Committee (EAC), which includes representation from each of the utilities, would be formed to provide input and advice to the OEB on the development of the plan and on the evaluation and audit of the DSM results.

2.6 2017 Annual Audit and Evaluation of DSM Results

Enbridge's 2017 DSM results, as summarized in the DSM Draft Annual Report are subject to an independent external audit. As referenced in section 2.5 above, the Board's August 21st, 2015 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 EC and publishing the final evaluation results on an annual basis. The memo specified that the EC would carry out the annual evaluation and audit processes of all DSM programs and provide an opinion on whether the claimed DSM Incentive (DSMI) amount, LRAMVA, and DSMVA have been correctly calculated using reasonable assumptions. The EAC, which includes utility representation as described below in section 2.7, will provide input and play an advisory role throughout the audit to facilitate the achievement of the audit objectives. Board Staff communicated it had issued an RFP on February 8th, 2016, for the procurement and selection of the EC. Subsequently, Board staff announced it had selected DNV GL as the EC. DNV GL led the evaluation activities for both the 2015 and 2016 program years. The utilities are of

the understanding that DNV GL will again be the EC leading the 2017 program year evaluation effort.

2.7 Evaluation Advisory Committee

As detailed in the August 21st, 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 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

On May 5, 2016, two additional independent experts were added to the EAC:

- Ted Kesik, Knowledge Mapping Inc.
- Robert Wirtshafter, Wirtshafter Associates Inc.

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.

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 Annual and Long-Term Budgets							
Resource Acquisition (RA)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2015-2020 Total**
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
Total RA	**$19,175,275**	**$34,336,673**	**$39,488,708**	**$43,162,456**	**$42,056,270**	**$42,908,517**	**$221,127,899**
Low Income (LI)							
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
Total LI	**$7,382,078**	**$11,945,410**	**$12,527,420**	**$13,309,177**	**$13,576,837**	**$13,849,850**	**$72,590,772**
Martket Transformation (MT)							
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
Total MT	**$6,244,587**	**$6,579,034**	**$6,717,716**	**$6,882,454**	**$7,030,304**	**$7,181,118**	**$40,635,213**
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)	**$32,801,940**	**$52,861,117**	**$58,733,844**	**$63,354,087**	**$62,663,411**	**$63,939,485**	**$334,353,884**
Portfolio Overheads							
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] [2]	*$1,000,000*	$1,000,000	$1,000,000	$1,000,000	$1,021,616	$1,043,663	$6,065,279
DSM IT [3]	*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
Total Portfolio Overheads [1] [2] [3]	*n/a*	$3,500,000	$4,200,000	$4,200,000	$3,758,362	$3,817,891	$19,476,253
2015 Incremental Budget [1] [2]	$4,920,291	n/a	n/a	n/a	n/a	n/a	n/a
Total Portfolio Budget	**$37,722,231**	**$56,361,117**	**$62,933,844**	**$67,554,087**	**$66,421,773**	**$67,757,376**	**$358,750,428**

1. In 2015, the Collaboration & 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.
3. Total DSMIT budget as approved by the Board is $5M for 2015-2020 with $1M accrued per year between 2016-2020.

Table 3.1 Actual Annual Total DSM Costs

(including DSM spending[9], 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	2016	2017 [1 2]
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	$42,390,914	$41,344,661
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	$17,001,090	$16,334,202
RATE 9	$0	$0	$0	$0	$0	$1,425	$1,420	$1,712	$1,839	$2,030	$2,116
RATE 100	$8,949,764	$3,201,527	$2,667,170	$86,297	$17,677	$0	$0	$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	$1,899,864	$1,250,531	$1,374,254
RATE 115	$643,144	$1,716,735	$1,314,146	$545,382	$602,386	$1,329,072	$1,420,390	$567,271	$657,559	$532,093	$550,836
RATE 125	$0	$0	$0	$0	$0	$53,449	$53,268	$64,223	$68,967	$76,131	$79,337
RATE 135	$1,762	$79,757	$11,685	$59,163	$121,756	$441,318	$320,401	$123,739	$58,863	$85,564	$358,143
RATE 145	$855,487	$901,590	$676,730	$729,534	$655,237	$495,925	$369,074	$253,864	$152,227	$84,478	$83,297
RATE 170	$294,508	$1,860,562	$1,843,628	$2,040,735	$2,195,089	$536,445	$149,399	$457,841	$403,107	$574,392	$164,511
RATE 200	$0	$0	$0	$0	$0	$18,529	$18,466	$22,264	$23,909	$26,392	$27,503
RATE 300	$0	$0	$0	$0	$0	$3,563	$3,551	$4,281	$4,598	$5,075	$5,289
TOTAL	$29,145,632	$28,867,172	$30,738,550	$28,113,075	$33,958,134	$38,726,165	$32,327,718	$40,093,170	$45,773,267	$62,028,692	$60,324,149

1. 2017 values are pre-audit amounts reflected in the 2017 Draft Annual Report and will be finalized/updated subject to Board approval.
2. 2017 DSM Spending includes accrued incentive amounts.

Table 3.2 Historic Actual Annual DSM Spending

	2007	2008	2009	2010	2011	2012	2013	2014	2015 [2]	2016	2017 [3]
Total DSM Spending ($ millions) [1]	$21.20	$23.03	$25.42	$24.00	$27.24	$30.61	$27.84	$32.51	$35.78	$55.65	$59.77

1. Total DSM Spending includes variable costs, fixed costs and DSMVA where applicable
2. 2015 DSM Spending includes incremental spending of $559,378
3. 2017 DSM Spending includes accrued incentive amounts

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

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 [6]
Total DSM Spending (millions $) [1]	$21.2	$23.0	$25.4	$24.0	$27.2	$30.6	$27.8	$32.5	$35.8	$55.6	$59.8
Total Distribution Revenue (millions $) [2 3 4 5]	$980.9	$995.9	$1,012.1	$960.4	$978.8	$972.0	$1,055.0	$1,044.0	$1,055.4	$1,122.0	$1,147.3
DSM Spending as % of Distribution Revenue	2.2%	2.3%	2.5%	2.5%	2.8%	3.1%	2.6%	3.1%	3.4%	5.0%	5.2%

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
6. 2017 DSM Spending includes accrued incentive amounts.

[9] 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 [1]	2013	2014	2015	2016 [2]	2017 [3]
	$ millions										
Total Shareholder Incentive Earned	$8.25	$5.80	$5.36	$4.16	$6.77	$8.16	$4.54	$7.65	$10.08	$6.37	$0.54
Maximum Shareholder Incentive Available	$9.00	$9.22	$9.24	$9.40	$10.16	$10.45	$10.66	$10.87	$11.09	$10.45	$10.45

1. 2012 Shareholder Incentive includes reduction of -$657,223 per Board's decision (EB-2013-0352)
2. 2016 Shareholder Incentive subject to Board approval
3. 2017 Shareholder Incentive subject to audit and Board approval

Table 3.5 Shareholder Incentive Earned as a Percent (%) of DSM Spending[10]

	2007	2008	2009	2010	2011	2012 [2]	2013	2014	2015	2016 [3]	2017 [4,5]
Total Shareholder Incentive ($ million)	$8.25	$5.80	$5.36	$4.16	$6.77	$8.16	$4.54	$7.65	$10.08	$6.37	$0.54
Total DSM Spending [1]	$21.20	$23.03	$25.42	$24.00	$27.24	$30.61	$27.84	$32.51	$35.78	$55.65	$59.77
Shareholder Incentive Earned as a % of DSM Spending	39%	25%	21%	17%	25%	27%	16%	24%	28%	11%	1%

1. Total DSM Spending includes variable costs, fixed costs and DSMVA where applicable
2. 2012 Shareholder Incentive includes reduction of -$657,223 per Board's decision (EB-2013-0352)
3. 2016 Shareholder Incentive subject to Board approval
4. 2017 Shareholder Incentive subject to audit and Board approval
5. 2017 DSM Spending includes accrued incentive amounts

Table 3.6 Annual and Long-Term Natural Gas Savings Targets

Annual Natural Gas Savings Targets						
Scorecard	2015	2016	2017 [1]	2018 [2]	2019	2020
Resource Acquisition	1,011.9	631.1	806.5	*Targets are formulaic based on past year's performance*		
Low-Income	92.8	96.7	167.1			
Total	1,104.7	727.8	973.6			

1. 2017 targets are calculated based on 2016 audited results multiplied by the 2017 budget multiplied by the productivity improvement of 2% in accordance with the Board's direction for a target adjustment mechanism beginning in 2017.
2. 2018 targets require post audited 2017 DSM results and Board approval

[10] 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 2017 Total Annual & Cumulative Natural Gas Savings
(Gross and Net)

	2017 Annual Gas Savings [1]		2017 Cumulative Gas Savings [1]	
	Gross	Net	Gross	Net
Resource Acquisition	63,792,013	30,900,001	1,067,431,296	546,132,010
Low-Income	3,740,849	3,728,581	77,720,991	77,598,313
Total	**67,532,862**	**34,628,582**	**1,145,152,287**	**623,730,323**

1. 2017 DSM results subject to audit and Board approval

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

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 [1]	2017 [2]
Total Net Gas Savings (millions m3)	85.07	77.25	69.86	64.58	76.40	60.14	47.74	43.54	48.97	50.52	34.63
Total Gross Gas Savings (millions m3)	85.99	121.98	117.62	98.82	114.14	92.53	66.06	60.62	67.09	90.03	67.53

1. 2016 DSM results subject to Board approval
2. 2017 DSM results subject to audit and Board approval

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

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 [1]	2017 [2]
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	837.11	623.73
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	1,479.09	1,145.15

1. 2016 DSM results subject to Board approval
2. 2017 DSM results subject to audit and 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	2016 [1]	2017 [2]
Net Annual Gas Savings (millions m3)	85.1	77.3	69.9	64.6	76.4	60.1	47.7	43.5	49.0	50.5	34.6
Net Annual Gas Savings as % of Natual Gas Sales	0.7%	0.7%	0.6%	0.6%	0.7%	0.6%	0.4%	0.4%	0.4%	0.5%	0.3%
Gross Annual Gas Savings (millions m3)	86.0	122.0	117.6	98.8	114.1	92.5	66.1	60.6	67.1	90.0	67.5
Gross Annual Gas Savings as % of Natural Gas Sales	0.7%	1.0%	1.1%	0.9%	1.0%	0.9%	0.6%	0.5%	0.6%	0.8%	0.6%
Total Natural Gas Sales (millions m3) [3]	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	10,736.2	11,172.6

1. 2016 DSM results subject to Board approval
2. 2017 DSM results subject to audit and Board approval
3. Total Gas Sales include only rate classes that are eligible for DSM and subject to DSM costs

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	2016 [1]	2017 [2]
Net Cumulative Gas Savings (millions m3)	1,214.1	1,119.0	1,039.2	951.4	1,253.8	1,069.0	826.9	719.8	826.2	837.1	623.7
Net CCM Gas Savings as % of Natural Gas Sales	10.2%	9.6%	9.3%	8.9%	11.1%	10.4%	7.3%	5.8%	7.0%	7.8%	5.6%
Gross Cumulative Gas Savings (millions m3)	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	1,479.1	1,145.2
Gross CCM Gas Savings as % of Natural Gas Sales	10.4%	15.5%	16.2%	13.6%	16.0%	15.5%	10.1%	8.0%	9.5%	13.8%	10.2%
Total Natural Gas Sales (millions m3) [3]	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	10,736.2	11,172.6

1. 2016 DSM results subject to Board approval
2. 2017 DSM results subject to audit and Board approval
3. Total Gas Sales include only rate classes that are eligible for DSM and subject to DSM costs

Table 3.12 Actual Annual Gas Operating Revenue

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Operating Revenue (millions $) [1]	$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	$2,588.7	$2,788.1
Less Total Gas Cost (millions $) [2]	$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	$1,466.7	$1,640.8
Total Distribution Revenue (millions $) [3]	**$982.0**	**$997.7**	**$1,013.7**	**$961.8**	**$980.3**	**$973.3**	**$1,056.6**	**$1,045.8**	**$1,057.3**	**$1,122.0**	**$1,147.3**

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	2017 Natural Gas Volumes (millions m3)
General Service	
Rate 1	4,739.2
Rate 6	4,700.6
Total General Service	**9,439.8**
Contract Service	
Rate 100	1.2
Rate 110	798.2
Rate 115	508.6
Rate 135	66.0
Rate 145	46.1
Rate 170	312.7
Total Contract Service	**1,732.8**
Grand Total	**11,172.6**

**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 2017
Residential [1]	1,990,032
Commercial	160,724
Industrial	5,912
Total	**2,156,668**

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 2017
Rate 1	1,990,032
Rate 6	166,224
Rate 9	3
Rate 100	3
Rate 110	263
Rate 115	27
Rate 125	4
Rate 135	45
Rate 145	37
Rate 170	26
Rate 200	1
Rate 300	2
Rate 315	1
Total	2,156,668

4. 2017 DSM Program Results Summary

4.1 2017 DSM Scorecard Summary

The 2017 DSM program scorecard performance is presented in Table 4.0.

Table 4.0 2017 DSM Program Scorecard Summary

	Component	Metric	Weight	Targets			2017 Results
				Lower Band	Target	Upper Band	
Resource Acquisition	Large Volume Customers	*Cumulative Savings (million m³)* [1]	***40%***	327.1	436.1	654.1	**257.21**
	Small Volume Customers	*Cumulative Savings (million m³)*	***40%***	277.8	370.4	555.6	**288.92**
	Residential Deep Savings	*Participants* [2]	***20%***	6,837	9,116	13,674	**11,390**
Low Income	Single Family (Part 9)	*Cumulative Savings (million m³)*	***45%***	30.5	40.7	61.0	**19.60**
	Multi-residential (Part 3)	*Cumulative Savings (million m³)*	***45%***	94.8	126.4	189.6	**58.00**
	New Construction	*Participants*	***10%***	21	28	42	**11**
Market Transformation	Residential Savings by Design	*Builders*	***10%***	24	32	48	**27**
		Homes Built	***15%***	1,705	2,273	3,410	**2,570**
	Commercial Savings by Design	*New Developments*	***25%***	24	32	48	**30**
	School Energy Competition	*Schools*	***10%***	43	57	86	**65**
	Run It Right	*Participants*	***20%***	88	117	176	**29**
	Comprehensive Energy Mgmt	*Participants*	***20%***	41	55	83	**5**

1. Large volume consumers include commercial customers with a 3 year average annual consumption of greater than 75,000 m3/year or industrial customers with a 3 year average consumption of greater than 340,000 m3/year.
2. Number of participants with at least 2 qualifying measures (average annual gas savings across all participants is at least 15% of combined baseline space heating and water heating usage as calculated by HOT2000).

The 2017 weighted scorecard is the basis for the calculation of the Demand Side Management Shareholder Incentive. DSMI amounts for the 2017 program year are outlined in Section 9 of this report.

Table 4.1 2017 CCM Savings Results by Sector

Program/Sector	2017 Net CCM Results (m^3)
Resource Acquisition	
Residential	*197,298,429*
Commercial & Industrial	*348,833,581*
Resource Acquisition Total	**546,132,010**
Low Income	**77,598,313**
Combined Total	**623,730,323**

As summarized in Table 4.1, in terms of Net Cumulative Cubic Meters (CCM) savings, 2017 results totalled 623,730,323 cumulative m^3 for all offers that include CCM as a metric.

In 2017, Enbridge delivered five offers through the Market Transformation and Energy Management 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"[11] in the Draft Annual Report.

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

Table 4.2 2017 Annual and Cumulative Natural Gas Savings

	Program/Sector/Offer	Gross Annual Gas Savings (m^3)	Net Annual Gas Savings (m^3)	Gross CCM (m^3)	Net CCM (m^3)
Resource Acquisition	**Residential**				
	Home Energy Conservation	7,243,193	6,156,714	181,079,827	153,917,853
	Adaptative Thermostats	3,012,540	2,892,038	45,188,100	43,380,576
	Total Residential	**10,255,733**	**9,048,753**	**226,267,927**	**197,298,429**
	Commercial & Industrial				
	Custom Industrial	25,869,030	8,679,060	388,904,476	130,477,446
	Custom Commercial	20,444,554	6,728,646	342,793,065	119,678,605
	Run It Right	347,365	173,891	1,736,825	869,455
	Prescriptive	2,805,144	2,396,013	47,372,390	40,399,674
	Direct Install	3,930,949	3,734,401	58,964,233	56,016,021
	Energy Leaders	139,238	139,238	1,392,380	1,392,380
	Total C & I	**53,536,280**	**21,851,249**	**841,163,369**	**348,833,581**
Low Income	**Low Income**				
	Single Family (Part 9)	796,791	790,267	19,663,606	19,598,364
	Multi-Residential (Part 3)	2,944,058	2,938,314	58,057,385	57,999,949
	Total Low Income	**3,740,849**	**3,728,581**	**77,720,991**	**77,598,313**
	Grand Total	**67,532,862**	**34,628,582**	**1,145,152,287**	**623,730,323**

Table 4.2 details the annual gas savings and cumulative lifetime natural gas savings results (in cubic meters) for each of the offers in the Resource Acquisition and Low Income programs that have CCM as a performance metric. Savings results are summarized for both gross and net savings (net of applicable adjustment factors).

4.3 2017 Program Cost-Effectiveness Screening

Table 4.3 summarizes the TRC-Plus screening calculations for the 2017 Enbridge DSM Portfolio for illustrative purposes. The portfolio as a whole was cost-effective with an overall TRC-Plus ratio of 1.79.

Table 4.3 2017 TRC-Plus Screening Summary

	Program/Sector/Offer	NPV TRC Plus Benefits	Total TRC Costs	Net TRC Plus Benefits	TRC Plus Ratio
Resource Acquisition	**Residential**				
	Home Energy Conservation	26,148,934	25,190,871	958,063	1.04
	Adaptative Thermostats	12,274,024	4,828,352	7,445,673	2.54
	Residential Total	**38,422,958**	**30,019,223**	**8,403,735**	**1.28**
	Commercial & Industrial				
	Custom Industrial	21,657,048	7,182,487	14,474,561	3.02
	Custom Commercial	22,093,896	8,332,488	13,761,408	2.65
	Run It Right	177,090	771,288	-594,198	0.23
	Prescriptive	8,855,522	3,768,055	5,087,467	2.35
	Direct Install	8,302,491	1,658,305	6,644,185	5.01
	Energy Leaders	238,939	182,347	56,592	1.31
	Commercial & Industrial Total	**61,324,986**	**21,894,970**	**39,430,016**	**2.80**
	Overheads		4,967,265	-4,967,265	
	Resource Acquisition Total	**99,747,944**	**56,881,458**	**42,866,486**	**1.75**
Low Income	**Low Income**				
	Single Family (Part 9)	3,153,603	1,746,510	1,407,093	1.81
	Multi-Residential (Part 3)	10,435,457	3,266,341	7,169,116	3.19
	Overheads		1,575,817	-1,575,817	
	Low Income Total	**13,589,060**	**6,588,668**	**7,000,392**	**2.06**
	Combined RA/Low Income *	**113,337,004**	**63,470,126**	**49,866,878**	**1.79**

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

As proposed in the Guidelines, the Company is expected to use the PAC test as a secondary reference tool in assessing the programs' cost-effectiveness. Table 4.4 below summarizes the PAC screening calculations for the 2017 Enbridge DSM Portfolio. The portfolio as a whole had a positive overall PAC ratio of 1.80.

Table 4.4 2017 PAC Screening Summary

	Program/Sector/Offer	NPV PAC Benefits	Total PAC Costs	Net PAC Benefit	PAC Ratio
Resource Acquisition	**Residential**				
	Home Energy Conservation	21,330,942	22,644,994	-1,314,052	0.94
	Adaptative Thermostats	6,779,017	1,479,319	5,299,698	4.58
	Residential Total	**28,109,960**	**24,124,314**	**3,985,646**	**1.17**
	Commercial & Industrial				
	Custom Industrial	18,078,845	2,804,627	15,274,217	6.45
	Custom Commercial	17,477,366	4,435,507	13,041,859	3.94
	Run It Right	153,991	1,227,292	-1,073,300	0.13
	Prescriptive	5,992,363	1,113,533	4,878,830	5.38
	Direct Install	8,131,909	1,807,641	6,324,268	4.50
	Energy Leaders	207,773	78,613	129,160	2.64
	Commercial & Industrial Total	**50,042,247**	**11,467,213**	**38,575,034**	**4.36**
	Overheads		4,967,265	-4,967,265	
	Resource Acquisition Total	**78,152,207**	**40,558,791**	**37,593,415**	**1.93**
Low Income	**Low Income**				
	Single Family (Part 9)	2,718,095	4,539,420	-1,821,325	0.60
	Multi-Residential (Part 3)	8,272,332	2,765,831	5,506,501	2.99
	Overheads		1,575,817	-1,575,817	
	Low Income Total	**10,990,427**	**8,881,068**	**2,109,359**	**1.24**
	Combined RA/Low Income *	**89,142,634**	**49,439,859**	**39,702,774**	**1.80**

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

5. Resource Acquisition Scorecard

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

The performance metrics in Enbridge's Resource Acquisition scorecard encompass 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, and in one case, the Home Energy Conservation (HEC) offer also includes a participant metric.

RA offers focus on achieving direct, volumetric natural gas savings customer by customer that commonly involve the installation of energy efficient equipment or the implementation of operational or process improvements.

The RA scorecard includes separate CCM metrics for both large and small volume customers. The Large Volume metric includes savings from offer participants who have a three year average annual consumption of greater than 75,000 m^3/year in the Commercial sector or 340,000 m^3/year in the Industrial sector. The Small Volume metric includes savings from DSM participants with a three year average annual consumption of less than 75,000 m^3/year in the Commercial sector or 340,000 m^3/year in the Industrial sector, and also includes savings from the Residential sector.

In the Residential Sector there are two offers, HEC and Adaptive Thermostats. The HEC offer encourages participants to install energy-efficient measures such as upgrades to space and water heating equipment as well as home building envelope upgrades. The Adaptive Thermostats offer focuses on a single measure upgrade.

For Commercial customers, Custom and Prescriptive offers are available for new and existing Commercial building customers and include the installation of efficient heating, ventilating and air conditioning (HVAC) systems, operational improvements, and custom solutions specific to the customer's 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.

Results for Enbridge's 2017 RA program were divided into Large Volume and Small Volume Customers. As outlined in Table 5.0, the achievement for the Large Volume Customers metric was 257.21 million net CCM. The Small Volume Customers result was 288.92 million net CCM. The Resource Acquisition program scorecard also includes a deep savings metric specific to the Residential sector. There were 11,390 Residential Deep Savings Participants, exceeding the target.

Table 5.0 2017 Resource Acquisition Scorecard

Component	Metric	Weight	Targets			2017 Result
			Lower Band	Target	Upper Band	
Large Volume Customers	*Cumulative Savings (million m³)* [1]	***40%***	327.1	436.1	654.1	**257.21**
Small Volume Customers	*Cumulative Savings (million m³)*	***40%***	277.8	370.4	555.6	**288.92**
Residential Deep Savings	*Participants* [2]	***20%***	6,837	9,116	13,674	**11,390**

1. Large volume consumers include commercial customers with a 3 year average annual consumption of greater than 75,000 m3/year or industrial customers with a 3 year average consumption of greater than 340,000 m3/year.

2. Number of participants with at least 2 qualifying measures (average annual gas savings across all participants is at least 15% of combined baseline space heating and water heating usage as calculated by HOT2000).

Within the RA program, each of the Residential, Commercial and Industrial sectors contributed to the CCM savings achievement 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 2017 Resource Acquisition Program Sector Results

Resource Aquisition Program Sector	2017 Net CCM (m^3)	# of Projects	# of Units
Residential	197,298,429	28,347 [1]	16,957 [2]
Commercial & Industrial	348,833,581	1,418 [3]	4,460 [4]
Total Resource Acquisition	**546,132,010**	**29,765**	**21,417**

1. # of Projects summarizes the number of unique projects for HEC and adapative thermostats.
2. # of Units summarizes the number of units installed for adapative thermostats offers.
3. # of Projects summarizes the number of unique projects for custom, prescriptive, direct install, RIR, and energy leaders offers.
4. # of Units summarizes the number of units installed for prescriptive, and direct install.

All Resource Acquisition offers delivered to Enbridge customers in 2017 and discussed below will be continued in the Resource Acquisition DSM program in 2018.

5.1 Residential Resource Acquisition

Enbridge serves over 1.9 million Residential customers, which represents the largest customer segment in the Company's service area. Offers marketed to Residential customers in 2017 include Home Energy Conservation (HEC) and Adaptive Thermostats. In addition to helping homeowners understand energy improvement opportunities through the completion of a home energy audit, the HEC offer looks at whole home energy savings and encourages participants to install energy-efficient measures that generate ongoing energy savings. The Adaptive Thermostat offer provides customers with rebates to support the installation of qualified smart thermostats, which utilize sensors and wi-fi technology giving homeowners the flexibility to control their thermostat remotely through a smart device, to maintain comfort while achieving energy savings.

2017 DSM Results for Residential Resource Acquisition offers are provided in Table 5.2. Further detail on the Residential Resource Acquisition offers is provided in the following pages.

Table 5.2 2017 Residential Resource Acquisition Results

Resource Aquisition Residential Sector	2017 Net CCM (m^3)	# of Participants	# of Units	TRC-Plus Ratio	PAC Ratio
Home Energy Conservation [1]	153,917,853	11,390	-	1.04	0.94
Adaptative Thermostats	43,380,576	16,284	16,284	2.54	4.58
Total Residential	**197,298,429**	**27,674**	**16,284**	**1.28**	**1.17**

1. Number of participants with at least 2 qualifying measures (average annual gas savings across all participants is at least 15% of combined baseline space heating and water heating usage as calculated by HOT2000).

5.11 Home Energy Conservation

Objectives	The aim of the Home Energy Conservation (HEC) offer is to promote meaningful improvements to Residential customers' gas consumption and thereby help customers lower their energy bills. 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.
Target Customer	HEC is targeted to Rate 1 Residential customers.
Metrics	As part of the Resource Acquisition program, HEC has two metrics. The first metric is lifetime natural gas savings – CCM savings. The second metric is the total number of Residential participants who install at least two qualifying measures. The aggregate annual gas savings across all participants in the portfolio must achieve on average at least a 15% reduction in annual natural gas use in comparing the results of the D (pre-installation) assessment to the results of the E (post-installation) assessment as determined by HOT2000 (NRCan's) accredited energy modelling software.
Offer Description	The HEC offer is a direct-to-consumer delivered initiative. Participants work with an Enbridge partner Service Organization (SO) to undergo a preliminary energy assessment to determine the home's current energy use. The SO assigns a Registered Energy Auditor (REA) to

	audit the home and complete a blower door test to measure the home's air tightness. The REA models the home using HOT2000 and completes an energy efficiency report for the homeowner. This report details energy savings tips, information regarding the home's current energy consumption, and outlines the energy savings opportunities for the home as well as provides an EnerGuide rating. With this information, the homeowner is in a position to make informed decisions regarding potential energy efficient improvements. Participants are required to install at least two eligible measures. Once energy upgrades are completed, the REA completes a post-installation audit to model for the customer the energy savings achieved, as determined by HOT2000. Participants are eligible for a variety of incentives, including re-imbursement for the cost of the pre and post audits, and incentives towards energy upgrade implemented. Natural gas savings claims are determined based on the pre and post HOT2000 modelled consumption. REAs submit modeling simulation files along with supporting data to NRCan. Enbridge receives pre and post audit data from NRCan and compiles monthly reports. This data is tracked and reviewed with Service Organizations (SOs) for validation as required. Tracking reports summarize information regarding project specifics, including participant details, project dates, measures installed and gas savings (m^3).
2017 Results	As outlined in Table 5.3 below, the HEC offer contributed 153.9 million CCM to the Resource Acquisition Small Volume Customer metric in 2017 with a total of 11,390 participants.

Table 5.3 2017 Home Energy Conservation Results

Resource Aquisition Residential Sector	2017 Net CCM (m^3)	# of Participants	TRC-Plus Ratio	PAC Ratio
Home Energy Conservation [1]	153,917,853	11,390	1.04	0.94

1. Number of participants with at least 2 qualifying measures (average annual gas savings across all participants is at least 15% of combined baseline space heating and water heating usage as calculated by HOT2000).

2017 Commentary and Lessons Learned

- When the HEC offer was launched in 2012, efforts were strategically targeted to the Markham community, which was identified based on location, age of homes, and community interest in energy efficiency. Since 2012, the HEC offer has grown substantially from 271 participants to 11,390 participants during the 2017 program year.

- Though Enbridge's market delivery strategy continues to focus marketing and communications efforts on the home improvement contractor community, in 2017 the Company also focused efforts towards a mass media approach including TV commercials and radio advertisements. These efforts along with bill inserts were successful in increasing homeowner awareness of the HEC offer and motivating customer participation.

- In 2017, Enbridge won two marketing awards from the Association of Marketing and Communication Professionals (AMCP) recognizing the Company's mass media campaigns for the HEC offer. The MarCom Gold Award for Integrated Marketing and the dotCOMM Gold Award for Integrated Digital Marketing.

- Enbridge held fifteen retail events at various big-box store locations in 2017. Teams of program representatives were available in store to engage shoppers, discuss energy efficiency and highlight the Home Energy Conservation and Smart Thermostat offers.

- A key success in the mass media strategy in 2017 involved the creation of an interactive booth to be used for Home Shows and community events called Granny's House. This booth provided a look back in time through interactive elements, and visual demonstrations of savings potential. Granny's House featured an outdated thermostat, drafty outlets and inefficient windows as examples, to teach the importance of energy-efficient upgrades, educate homeowners ways to save energy and reduce monthly utility bills. Visitors to the booth were encouraged to take a seat on the antique couch to watch a short video promoting HEC. The new booth also generated some great media coverage that included:

    - 98.1 live radio broadcast from the booth
    - 98.5 live radio broadcast from the booth
    - Breakfast TV
    - CTV at noon
    - Toronto Sun

- On May 29th 2017, Enbridge launched the Independent Electric System Operator (IESO) Whole Home Pilot (WHP) initiative. Discussed further below in section 5.14, the Pilot provided consumers with a combined offer which promotes both gas and electric savings.

- Enbridge identified and executed various marketing opportunities to cross promote the enhanced HEC offer marketed through the Whole Home Pilot with Local Distribution Companies (LDCs). For instance, Enbridge provided training to Hydro Ottawa event staff on the electric incentives available in through this offer in advance of the Ottawa Home Show. This training allowed the Hydro Ottawa staff to inform customers of the variety of incentives available in the market from both gas and electric utilities. Enbridge also collaborated with

Alectra Utilities to promote the offer through e-blasts sent to Alectra's residential customers, Facebook Ads, Twitter posts and the Alectra Utilities website.

- As the offer has grown significantly since 2012, Enbridge continues look for opportunities to improve the customer experience. For instance, modifications were made to the HEC website to include an online participation screening form. This form is intended to streamline the confirmation of the customer's eligibility, facilitating the information needed by Service Organizations (SOs) to book the customer's energy audit faster. Also to improve the customer experience the Company held monthly call calibration sessions in an attempt to reduce the average handling time of calls received from customers. During these sessions call agents were trained on how to improve the agent escalation process and work towards first-call resolution as well as how to address the concerns of the caller in a clear and concise manner. This resulted in an average drop in the handling time by 30 seconds in 2017 despite a three-fold increase in calls over the prior year.

- Enbridge continues to work diligently with Service Organizations and Energy Auditors in order to effectively manage processes and support participation. With the significant number of participants Enbridge also continues to look for ways to enhance internal processes, in particular working with NRCan to streamline data collection as well as to improve the reconciliation process to ensure quality control.

- HEC participant feedback continues to be positive:

  "[The REA] was in a word amazing. On the first audit visit, after taking his readings, he walked us through the areas of concern for us, advised us on how to make the air sealing adjustments, prioritized the different jobs that were required and made my whole experience without frustration by showing me the products he recommended. [The REA] was quick and thorough on his second visit to measure the difference, walked us through the rebate program and gave

us realistic time lines for rebate arrival. We are very pleased with the entire process of our energy audit."

- Following a consultation process, Enbridge determined that the tiered incentive levels were confusing as customers were uncertain of the incentive they would receive once upgrades were completed. As a result, a single incentive of $1,600 towards annual gas savings was promoted effective May 29th 2017.

- Market conditions were substantially altered for the offer in Q4 of 2017 with the introduction of a prescriptive residential rebate program through the provincial government's GreenON initiative. The GreenON program offered substantial incentives to participants for the installation of windows as well as attic, wall and basement insulation. The introduction of the GreenON program in the marketplace resulted in unforeseen competition for participant attention as well as confusion among contractors and residents regarding eligibility requirements for the respective initiatives. In addition, many window and insulation contractors that had previously partnered with Enbridge through the HEC offer turned their attention to the more lucrative GreenON program. In an effort to dispel confusion, Enbridge reached out to GreenON to collectively provide clarity to the marketplace.

- The HEC offer will continue in 2018. In an attempt to decrease barriers to customer participation and diversify measure uptake as well as align this offer with Union's Home Reno Rebate program, Enbridge will re-design the HEC offer in 2018. The Company will implement a quasi-prescriptive incentive structure for this offer that aligns with the Union's Home Reno Rebate program. Enbridge will monitor the offer through the course of 2018 to determine if these design changes will result in an increase customer participation and measure uptake through higher incentives available to HEC participants.

5.12 Residential Adaptive Thermostat

Objectives	The goal of this offer is to broadly reach the mass market with a straight-forward prescriptive approach that helps customers achieve gas savings.
Target Customer	The Adaptive Thermostat offer is targeted to Rate 1 Residential customers.
Metrics	As part of the Resource Acquisition program, the primary metric for the Adaptive Thermostat offer is lifetime natural gas savings - CCM savings.
Offer Description	Customers benefit from the potential savings generated by installing and using a smart thermostat. This offer provides an easy to understand, stand-alone prescriptive opportunity for Residential Customers. A $100 incentive is provided to customers who install a qualified adaptive thermostat and apply online. To receive an incentive, customers must meet the following eligibility criteria: • Be a Residential customer in Enbridge franchise area; • Have a valid EGD account number; • Register the device to confirm installation and activation of the unit; Through partnerships with participating manufacturers, Enbridge utilizes web portals specific to each manufacturer to facilitate customer participation. These sites provide confirmation of installation and activation, as well as authentication of homeowner data allowing Enbridge to process applications. As part of the customer registration process, these portals track the thermostat connection date for each device, identifying when the thermostat was actually activated in the home.

2017 Results	The Residential Adaptive Thermostat offer was successful in 2017, as Enbridge claimed 16,284 units through the DSM program offer.

Table 5.4 2017 Residential Adaptive Thermostat Results

Resource Aquisition Residential Sector	2017 Net CCM (m^3)	# of Units	TRC-Plus Ratio	PAC Ratio
Adaptative Thermostats	43,380,576	16,284	2.54	4.58

2017 Commentary and Lessons Learned

- The Adaptive Thermostat offer continued to receive a positive response in the market in 2017 despite some confusion around similar offers introduced by the provincial government through the GreenON program late in the year.

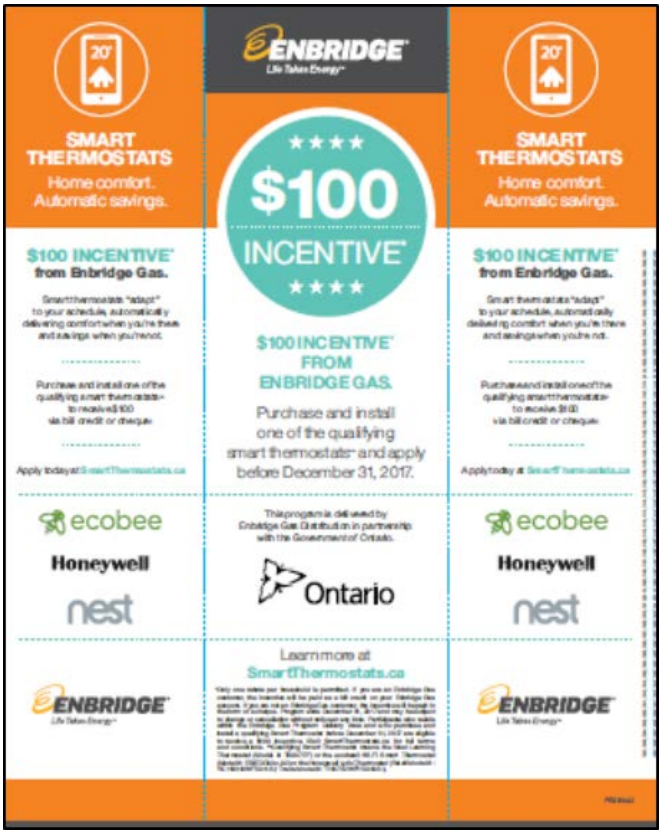
- Market conditions were substantially altered in Q4 with the arrival of competing government programs. First, GreenON announced a direct-install program available to 140,000 applicants across the province of Ontario which was fully subscribed in a matter of days. This program was followed closely by a second initiative from GreenON duplicating the $100 incentive Adaptive Thermostat offer already in market through Enbridge. Beyond impacting the participation in Enbridge's offer, this caused confusion in the market and required logistical improvements to Enbridge's program delivery including the development of a process to ensure customers only applied to one program.

- In 2016, Enbridge supported the offer in partnership with two major manufacturers of smart thermostats. In 2017, Enbridge expanded this offer to include three additional major manufactures of smart thermostats providing more choice for the retail customer. Among the additions, a direct install option for customers leveraging the contractor channel proved to be well received.

- As manufacturers introduced expanded product lines with similar technological benefits at varying price points, the offer was broadened in 2017 to allow these new smart devices to be eligible for incentives.

- Enbridge continues to work closely with smart thermostat manufacturers in an effort to optimize program delivery. This has enabled the Company to provide input into the development of manufacturer portals. The portals are designed to be convenient to participants, assist Enbridge with expedient processing of participant incentive payments and capture activation dates for smart devices.

- As we look forward to 2018 the increasing interest in smart technologies including the ability to integrate these devices with broader home automation systems as well as complementary technologies (e.g. cameras, carbon monoxide detectors, and locks) will continue to create interest. However the price point remains a potential barrier to many customers.



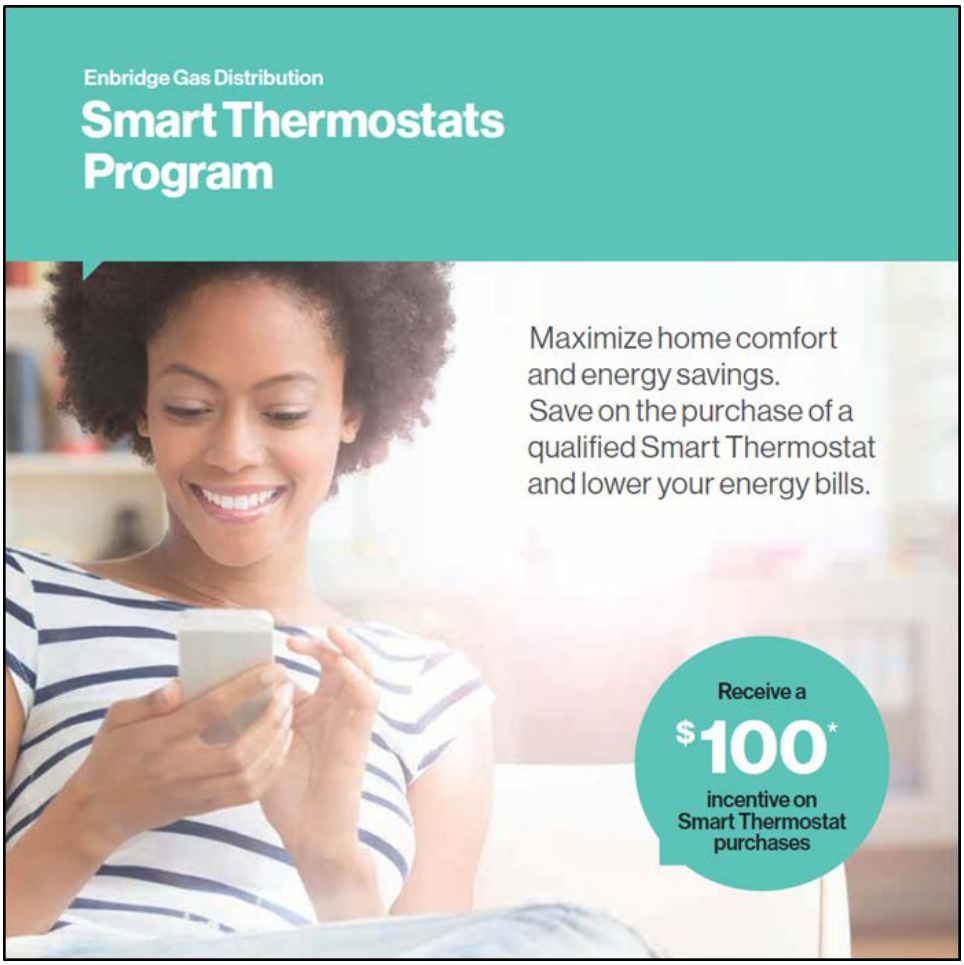
- In 2018, Enbridge will explore the addition of more qualifying smart thermostats, and market the offer in conjunction with customer buying decisions for HVAC equipment. Leveraging the HVAC contractor channel at the time the customer is upgrading HVAC equipment provides a logical opportunity to educate the consumer on the additional benefits of installing a smart thermostat.

- In addition to enhancements to Enbridge's website supporting this offer, Enbridge worked with vendors to promote the offer through in-store marketing (e.g. Home Depot) and digital advertising including online ads and YouTube videos.

- Enbridge saw success with two large campaigns in 2017. The first was an enhanced Canada Day promotion offering customers $150 incentive towards an Ecobee device. The second, in association with manufacturer's Black Friday promotions, leveraged sale prices offered by Ecobee, Nest and Honeywell.

- In Q4 of 2016 Enbridge entered into a collaboration agreement with Toronto-Hydro Electric System Limited (THESL) which was continued in 2017. This collaboration effort required both Enbridge and THESL to contribute $50 toward the $100 incentive for those participants in the THESL franchise area with air conditioning detected by the control. This collaboration, allowed Enbridge to provide rebates to more customers than it might have otherwise been able to support.

- The Residential Adaptive Thermostat offer is expected to continue in 2018 including the successful collaboration between Enbridge and THESL. Enbridge will also explore opportunities for further LDC collaboration. In addition, Enbridge is investigating point of sale incentive applications and opportunities for online marketplaces to further expand the offer in 2018.



5.13 Expansion of Residential Offers through the Green Investment Fund

In 2016, the Ontario Government allocated $100 million from the Green Investment Fund (GIF) towards helping homeowners reduce their energy bills and cut greenhouse gas emissions. In partnership with Enbridge Gas Distribution and Union Gas, this effort was intended to help homeowners conduct audits to identify energy-saving opportunities and complete retrofits. In 2016, an agreement was signed between Enbridge and the Province allocating $58 million of the GIF funding towards the expansion of the Company's HEC and Adaptive Thermostat offerings as well as the introduction of a behavioural initiative. Beyond the reach of Enbridge's DSM offer, over the three year term of the agreement this effort is targeting incremental residential homeowners.

The foundation for this effort utilizes the existing HEC offer, which was introduced in the Company's DSM portfolio and has been offered in the market since 2012. The expanded initiative leverages the existing design, promotion, delivery and execution of the DSM HEC and Adaptive Thermostat offers already established in the Residential market. For this reason, attribution of in-franchise gas customer Residential results cannot be determined merely based on the source of funding.

In addition, GIF funding will extend the market to homes beyond the Enbridge franchise area and provides for the inclusion of homes with a primary heating fuel that is non-gas (e.g. oil, propane or wood) in the HEC offer; these participants and results will be fully attributable to GIF.

Residential results attributed to GIF in 2017 are outlined in Table 5.5.

Table 5.5 2017 Residential Results Attributed to GIF

Offer	# of Participants/ Units
Home Energy Conservation	6,817 homes (6,490 gas & 327 non-gas)
Adaptive Thermostats	9,000 units

Spending in 2017 from GIF funding totalled approximately $15.97 million, the majority of which was used towards payment of customer incentives. Beyond incentives tied to these GIF results, GIF spending in 2017 related to program costs, including marketing, implementing systems and expansion to the non-gas and out-of-franchise markets.

The agreement with the Province earmarked $2.2 of the $58 million GIF funds to support a Residential behavioural initiative. The intent of this program is to influence customers to change their decisions and actions regarding energy use through customized energy reports that are sent directly to customers. Customized reports include benchmarking to the community and past performance. Also, the communications will provide energy savings tips and other tools to encourage behavioural changes, as well as promote the benefits of participation in the HEC and Adaptive Thermostat offerings. 100% of the results from the behavioural offer will be attributed to the GIF initiative. The Residential behavioural initiative was initiated late 2016, and is expected to end in late 2018.

5.14 Independent Electricity System Operator (IESO) Whole Home Pilot

As of May 29th, 2017, in partnership with the IESO, Enbridge delivered the Whole Home Pilot. Upon initiating the pilot, all eligible participants of the existing HEC offer benefited from an additional assessment of the electric energy use in the home with the opportunity to receive prescriptive incentives for electricity improvements. Incented measures included electronically communicated motors (ECM), central air conditioners,

and specified electric appliances. Beyond HEC, the pilot allowed for the accessibility of a whole home offer to residential customers with an electric primary heating fuel source.

Feedback on this pilot has been encouraging from all stakeholders. Participants have benefited from receiving one combined incentive cheque for all eligible incentives and the general consensus is that the “one stop shop” approach has increased the overall customer experience. Customers have also appreciated that the process allows for the identification of potential energy savings for both gas and electric in one visit. These audit visits also provide “leave behind” materials aimed at educating participants on how they can achieve energy savings by changing behaviours as part of their everyday routine.

Contractor feedback has also been positive. As the Whole Home Pilot leverages the existing HEC program infrastructure, contractors benefited from a reduction in the administrative burdens related to the Save on Energy Heating and Cooling incentives. Also HVAC contractors appreciated that the pilot was more inclusive regarding HVAC contractor participation than the current Save on Energy program.

In 2017, over 15,000 customers received an electric energy assessment to identify opportunities in their homes, and over 8,500 received an incentive towards an electrical energy efficiency measure.

The Whole Home Pilot will continue to be offered through Enbridge in concert with the HEC offer in 2018.

5.2 Commercial and Industrial Resource Acquisition

Enbridge serves Large and Small Volume Commercial and Industrial customers that span a wide variety of sub-sectors. Some of these include multi-residential buildings, commercial office buildings, schools/universities, hotels/motels, warehouses, retail facilities, food services, hospitals/health-care, and government/municipal facilities in the Commercial sector and agricultural, manufacturing, and automotive facilities in the Industrial sector.

Offers designed for Commercial and Industrial customers include custom, prescriptive and direct install approaches supporting customers with the installation of energy efficient equipment as well as the adoption of energy efficient practices such as operational improvements. This is accomplished through the provision of energy audits, technical support, opportunity assessment, data and consumption analysis, education initiatives, and incentives.

DSM programming available to Commercial and Industrial customers is delivered directly by Enbridge's Energy Solutions Consultants (ESCs) to customers, building owners, and facility managers and operators, as well as through supply chain channels and business partners that include contractors, service providers, distributors, engineering firms and energy service advisors.

2017 results for Commercial and Industrial Resource Acquisition offers are provided in Table 5.6. Further detail on the Commercial and Industrial Resource Acquisition offers is provided in the following pages.

Table 5.6 2017 Commercial and Industrial Resource Acquisition Results

Resource Acquisition	2017 Net CCM (m^3)	# of Projects [1]	# of Units [2]	TRC-Plus Ratio	PAC Ratio
Custom Commercial	119,678,605	646	-	3.02	6.45
Custom Industrial	130,477,446	177	-	2.65	3.94
Run It Right	869,455	59	-	0.23	0.13
Prescriptive	40,399,674	426	4,202	2.35	5.38
Direct Install	56,016,021	105	258	5.01	4.50
Energy Leaders	1,392,380	5	-	1.31	2.64
Total/Average	**348,833,581**	**1,418**	**4,460**	**2.80**	**4.36**

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

5.21 Custom Commercial

Objectives	The goal of the Commercial Custom offer is to promote energy efficiency and 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 objective is to provide technical support, business support services, and financial incentives to help customers meet energy efficiency and budgetary goals.
Target Customer	The Custom Commercial offer targets Commercial customers who are in Rates 6, 110, 115, 135, 145, and 170.
Metrics	As part of the Resource Acquisition program, the primary metric for the Commercial offer is lifetime natural gas savings - CCM savings. There are two metrics defined in the 2017 scorecard, one for Large Volume and one for Small Volume. Large Volume includes Commercial customers with a 3 year average annual gas consumption greater than 75,000 m^3/year. Small Volume includes Commercial customers with a 3 year average annual gas consumption below 75,000 m^3/year.

<table>
<tr>
<td>Offer Description</td>
<td>The Commercial Custom offer provides technical assistance and financial incentives aimed at encouraging Commercial customers to implement energy efficient technologies. The offer consists of variable incentives based on project specific details wherein custom calculations are used to estimate the savings. Enbridge provides consultative services to customers and third party service providers aimed at assessing building energy consumption and making recommendations for gas-saving measures. Upon implementing recommended energy efficiency projects, customers are eligible to receive financial incentives under this offer. Enbridge currently provides a tiered custom incentive structure for Commercial customers as described in the table below:
<table>
<tr><td>% of Annual Consumption (m^3) Saved</td><td>$/$m^3$ Incentive*</td></tr>
<tr><td>0-10%</td><td>$0.10/$m^3$</td></tr>
<tr><td>10-20%</td><td>$0.20/$m^3$</td></tr>
<tr><td>20% and above</td><td>$0.30/$m^3$</td></tr>
</table>
*All boiler retrofit projects receive either a $0.20/$m^3$ for 0-20% annual consumption (m^3) saved or $0.30/m3 incentive for 20% and above annual consumption (m^3) saved.
The Commercial Custom offer provides up to 50% of the project’s capital cost to a maximum of $100,000 per project. The objective of the tiered incentive structure is to drive completion of projects that yield incremental savings. The additional incentive for these projects should encourage the adoption of additional efficiency measures and/or the installation of the most efficient equipment possible to achieve the highest result. From the customer’s perspective, the higher incentive helps offset the increased capital requirement that may be associated with achieving greater savings, allowing the</td>
</tr>
</table>

	customer to increase the project scope and making the project(s) more feasible.
2017 Results	As summarized in Table 5.7, 646 Commercial custom projects were claimed in 2017; these projects accounted for 119.7 million CCM in natural gas savings. Custom projects traditionally drive the highest percentage of Commercial results in the portfolio.

Table 5.7 2017 Custom Commercial Results

Resource Acquisition	2017 Net CCM (m^3)	# of Projects	TRC-Plus Ratio	PAC Ratio
Custom Commercial	119,678,605	646	3.02	6.45

2017 Commentary and Lessons Learned

- A significant portion of Enbridge's Resource Acquisition results continue to be driven through delivering Custom offers. In 2017, the Commercial team's efforts were focused on engaging the small commercial sector as evidenced in the increased number of custom projects completed in the small Commercial sector.

- Enbridge's Commercial sales team is comprised of Energy Solutions Consultants (ESCs) who work with customers (including key accounts), business partners (providing services or products promoting the energy efficient technologies), and industry associations to identify and encourage energy efficient retrofits specific to the customers' needs and goals. Importantly, ESCs provide technical expertise through the Custom offer to support and influence Commercial customers and business partners to identify and implement energy efficient projects.

- Business partners continue to play a significant role in promoting the Custom Commercial offer and influencing customers to choose higher efficiency options. These business partners include contractors, distributors, manufacturers,

wholesalers, and consulting engineers. In 2017, Enbridge continued to expand the business partner network in an effort to grow program adoption and reach. Several initiatives were leveraged as a means of engaging and educating partners, including electronic communications and e-mail blasts, webinars, networking events and a dedicated micro-site with tools including online project applications, savings calculators as well as project case studies.

- In 2017, Enbridge continued to focus efforts on supporting education and building awareness of Enbridge's services and DSM support available to engage key stakeholders and organizations. These groups include:
    - American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
    - Association of Condominium Managers of Ontario (ACMO)
    - Canadian Condominium Institute (CCI)
    - Canadian Healthcare Engineering Society (CHES)
    - Centre for Energy Advancement through Technological Innovation (CEATI)
    - Continental Automated Buildings Association (CABA)
    - Eastern Ontario Landlord Organizations (EOLO)
    - Federation of Rental Providers of Ontario (FRPO)
    - Gas Technology Institute (GTI)
    - Greater Toronto Apartment Association (GTAA)
    - Hotel Engineering/Facilities Manager's Association of Toronto (HEAT)
    - Ontario Association of School Business Officials (OASBO)
    - Ontario Long-Term Care Association (OLTCA)
    - Ontario Recreation and Facilities Association (ORFA)
    - Ontario Refrigeration and Air Conditioning (ORAC)
    - Ontario Restaurant Hotel & Motel Association (ORHMA)
    - Professional Retail Store Maintenance Association (PRSM)
    - Restaurants Canada

- Building Owners and Managers Association (BOMA Toronto, BOMA Ottawa)
- The Heating, Refrigeration and Air Conditioning Institute (HRAI)
- Toronto and Region Conservation Authority (TRCA)

- In 2017, Enbridge expanded the offer to include the adoption of newer energy efficient technologies such as Advance Building Automation Systems (ABAS), CO Sensors for Parking Garages, Combination Ovens and Steam Trap Jackets. As a means of promoting the adoption of these energy efficient technologies, Enbridge held limited time campaigns. For instance, in the fall of 2017 Enbridge held a limited time campaign for stream trap jackets. This campaign was considered a success as the uptake of this technology increased among customers.

- As a means of generating awareness of Enbridge's DSM offers among commercial customers, in Q4 live on-air advertisements were broadcasted during traffic reports on the Canadian Traffic Network. The advertisements were well received by business partners and customers, resulting in an incremental increase in website visits and inquiries about Enbridge's DSM offers. Enbridge also developed a series of sector specific advertorials placed in various trade publications to increase awareness of Enbridge's DSM offers. Advertisements were placed in the following publications:
  - Canadian Property Management
  - Canadian Facility Management & Design (CFM&D)
  - Canadian Apartment
  - Canadian Healthcare Facilities
  - Condo Business
  - Canadian Restaurant and Foodservice News (CRFA)

- In addition, Enbridge ESCs were active at major events and conferences to further build DSM program awareness, hear from stakeholders, and provide customers with opportunities to discuss their challenges directly with DSM representatives. Some of these events included:
  - TRCA, Greening Health Care and Mayor's Megawatt Challenge Events
  - Federation of Rental Providers of Ontario, MAC Awards
  - Eastern Ontario Landlord Organization, Spring and Fall Networking Events
  - BOMA Toronto, PM Expo
  - Operations, Maintenance & Construction of Ontario Association of School Business Officials Annual Tradeshow
  - Hotel Engineering Association of Toronto Speaking Engagements (HEAT)
  - Ontario Recreation Facilities Association Conference (ORFA)
  - Tower Renewals and Toronto Hi-Rise Breakfast Sessions

- Municipal government customers continue to require dedicated account management. Throughout the year Enbridge representatives work closely with municipalities and their stakeholders to identify opportunities and provide technical support for energy efficiency projects to propel municipal energy management plans.

- Participants in the Company's Custom offer continue to provide positive feedback. Customers appreciated the technical expertise and unbiased advice provided by ESCs as well as the financial incentives available which help offset the cost of projects.

> *"Enbridge has been instrumental in assisting us with identifying new opportunities for retrofits and programs to reduce our energy expense. With their incentives we have been able to expedite work or get projects implemented that would have otherwise been rejected, which allows us to increase the overall value of the properties we manage"* -2017 Custom Participant

- Warehouses have traditionally been an underrepresented sector in the DSM portfolio and have been a challenge to engage. To generate interest and increase participation in the Warehouse sector for DSM offers, Enbridge developed a programmable thermostat campaign in 2017. This campaign offered warehouses a maximum incentive of $2,000 per programmable thermostat upgrade completed. This campaign resulted in over a hundred warehouses installing this measure.

- One of the major challenges to DSM project uptake in 2017 continues to be competing priorities for Commercial customers. With limited capital to invest into energy efficiency upgrades, customers must weigh a variety of options. These options may include investing in gas utility DSM initiatives to decrease natural gas consumption and/or Conservation Demand Management (CDM) initiatives to reduce higher cost electricity consumption. Potential cost savings for electricity conservation as well as larger incentives provided for CDM upgrades on a per

energy unit basis, means Commercial customers often stand to benefit more from these types of investments than from gas DSM initiatives.

- The introduction of the GreenON fund created new challenges from a competitive and speculative perspective in 2017. Although few GreenON programs were in market throughout 2017, selected established programs had an undeniable impact on our program results. In some cases projects that Enbridge initiated were ultimately implemented through the GreenON program. Despite efforts by Enbridge to work with the various GreenON program administrators to identify opportunities for collaboration, programs were generally not compatible from a cost effectiveness and/or emission reduction requirement perspective.

- Enbridge encourages energy conservation across all fuel types and explores project collaboration efforts with the applicable Local Distribution Companies (LDCs) where appropriate. Despite considerably lower funding to provide financial incentives relative to CDM programs, Enbridge recognizes the coordinated benefits to the customer of highlighting CDM incentives and accessing LDC expertise wherever efficiency opportunities are considered. Enbridge will continue to act in the best interest of its customers by leveraging all support and funding available to customers, to supplement the Company's own technical expertise and project implementation support.

- In particular, Enbridge collaborated with LDCs in some targeted areas to jointly promote energy efficiency including:
    - Powering up Durham-Save on Energy Symposium - energy conservation information and networking event sponsored by Enbridge and various LDCs (e.g. Hydro One, Veridian Connections and Whitby Hydro Electric Corporation).
    - The City of Vaughan's Windfall event, targeted towards small and medium businesses that would like to pursue energy efficiency projects but typically lack the funds and resources to do so.

- Enbridge/Union/IESO joint training for contractors and business partners on promotion and benefits of energy efficiency to customers.
- Enbridge/IESO joint training for Multi-Residential Building Managers highlighting industry best practices.

- In 2018, to maximize the benefits and convenience for customers Enbridge will continue to explore opportunities to strengthen collaboration with IESO, LDCs, municipalities and key stakeholders to promote energy conservation.

5.22 Custom Industrial

Objectives	The Industrial Custom offer is designed to capture cost-effective energy savings within the Industrial sector by delivering customized energy solutions, including providing technical and financial support to customers. Industrial Energy Solutions Consultants (ESCs) focus on

	assisting customers with the adoption of energy efficient technologies by overcoming financial, knowledge or technical barriers. This offer provides engineering technical support, business support services, and financial incentives to help customers meet production, energy efficiency, and budgetary needs. The primary objectives of this offer include: • Maximizing the energy savings potential of the Industrial sector; • Increasing adoption of energy efficient technologies among Industrial customers; • Assisting customers in overcoming implementation hurdles including financial, knowledge, and technical barriers to increasing energy efficiency; • Supporting customers' project planning by enhancing the return on investment of projects.
Target Customer	The Custom Industrial offer is available to Industrial customers (including Agricultural) in Rates 6, 110, 115, 135, 145 and 170. Custom projects encompass opportunities where savings are linked to unique industrial processes, building specifications, uses and technologies. With the Custom offer, Enbridge mainly targets Industrial customers (both large and small) whose gas usage is primarily consumed through process loads.
Metrics	As part of the Resource Acquisition program, the primary metric for the Industrial Custom offer is lifetime natural gas savings - CCM savings. For the purposes of the scorecard, Industrial customers are divided into Large and Small Volume customers, with corresponding incentives applied to each group. Large Volume Industrial customers are defined as having a 3 year average annual consumption of greater than 340,000 m^3/year. Small Volume Industrial customers are

	defined as having a 3 year average annual consumption of less than 340,000 m^3/year.
Offer Description	In the Industrial sector, offers include the Industrial Custom 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. 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. Enabling initiatives allow ESCs to work with 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. 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 facility. Five core components are common to the Custom offer: **Knowledge Development**: 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. **Opportunity Identification**: ESCs provide support to assist customers in the identification of efficiency opportunities, such as

	equipment testing and assessment and thermal imaging. **Measurement**: ESCs assist customers in selecting appropriate means of measurement to quantify key energy inputs. **Engineering Analysis**: ESCs assist customers who do not have the resources needed to conduct financial, technical and enterprise risk evaluations for potential projects. **Implementation Support**: ESCs work with customers on an implementation plan and connect them with business partners to complete the project. The following tiered incentive structure is provided with the Custom Industrial offer: • $0.20/$m^3$ for first 50,000 m^3 gas saved • $0.05/$m^3$ for gas savings above 50,000 m^3 This incentive structure is designed to provide additional support to customers (both large and small) with the implementation of smaller projects. A higher tier for smaller projects makes energy efficiency implementation for these efforts more attractive to Enbridge's Industrial customers. This is particularly true for smaller customers. Enbridge believes it is important to directly engage this under-served market in light of the Board's direction to achieve all cost-effective DSM with a reasonable rate impact. The Custom Industrial offer is largely influenced by the relationship fostered between Enbridge's ESCs and customers. ESCs are responsible for providing sound technical and business support, in addition to preparing engineering calculations, documenting substantiated savings claims and key project information. Savings for each custom project are calculated on an individual basis. Each custom project includes applicable supporting project documentation that outlines key parameters and details gas savings calculations.

2017 Results	As summarized in Table 5.8, there were 177 projects completed in the Industrial Custom offer in 2017, which contributed 130.48 million net CCM. Custom projects for Industrial customers can be varied across a wide range of technologies and improvements. In 2017, results from custom projects were led by savings from projects focused on industrial process efficiency improvements, and the installation of control systems unique to specific customers.

Table 5.8 2017 Custom Industrial Resource Acquisition Results

Resource Acquisition	2017 Net CCM (m^3)	# of Projects	TRC-Plus Ratio	PAC Ratio
Custom Industrial	130,477,446	177	2.65	3.94

2017 Commentary and Lessons Learned

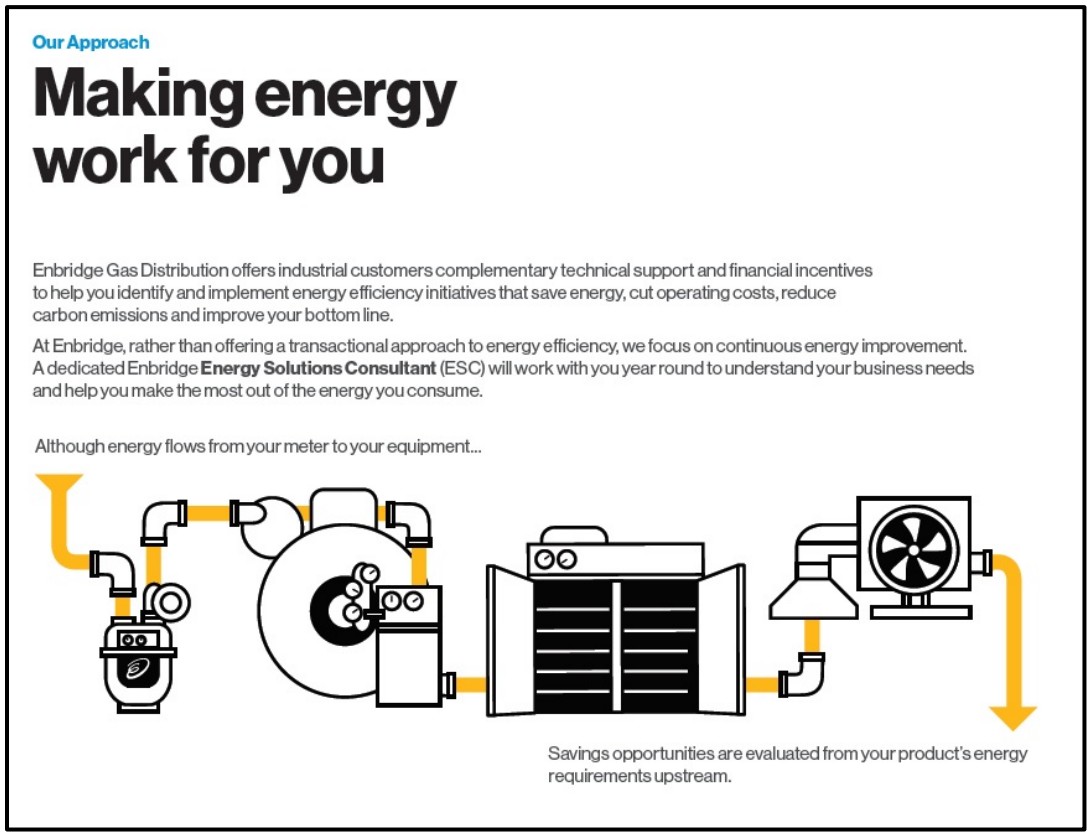
- Most of the energy utilized in the industrial sector is associated with process related consumption rather than for heating and ventilation purposes. Typically, a small portion of energy is consumed by the building itself when compared with the process equipment within the facility. Many Industrial customers do not have the technical knowledge regarding energy efficient technologies that may help improve these processes and reduce overall energy consumption. The industrial team focuses its efforts on identifying opportunities to improve customers' manufacturing efficiency through improved equipment efficiency and the optimization of process lines.

- Overall, the Custom offer remained largely unchanged in 2017 from the previous year. The two tiered incentive structure continued to support the increasingly common smaller energy efficiency projects, being undertaken by both small and large industrial customers. In terms of results, though the number of projects completed for industrial customers is similar in 2017 to the year prior, the per

project gas savings are significantly lower given the increasing number of smaller industrial customers completing smaller projects.

- Custom projects tend to be resource intensive regardless of the size of the project or the customer. These projects require extensive technical expertise and data analysis as well as the development of customer relationships over many years to gain an understanding of the customer's business.

- In 2017, Enbridge continued to promote opportunities to undertake audits (e.g., plant energy assessments) as a means to identify potential energy savings that could be realized by the customer through the implementation of recommended improvements. Enbridge provides financial incentives towards audits that can reveal potential energy savings to customers, particularly in areas that customers likely would not have otherwise explored, improving the customer's overall process efficiency of the facility.



- Enbridge continued to offer a variety of promotional and educational materials as well as forums aimed at increasing awareness of energy efficiency opportunities and benefits, educating Industrial customers and providing resources to research and evaluate potential improvement solutions. In 2017, efforts included access to the Industrial Energy Solutions Portal, quarterly newsletters, promotions in industry publications, and energy efficiency workshops.

- The energy efficiency workshops hosted by Enbridge focused on educating customers and their employees on identifying energy conservation opportunities as well as providing information to assist in the assessment of potential projects. Some workshops were filmed and the video, along with the presentation material, was made available online for customers to view at their own leisure. In some instances these workshops not only helped customers identify projects with natural gas savings, but also identified potential electric and water savings opportunities. The 2017 workshops included the following:
    - Take Control of Your Natural Gas Costs
    - Energy Management in Industrial Facilities
    - Heat Recovery
    - Heating & Ventilation

- Feedback from workshop participants continues to indicate customers value these sessions and the information provided. Workshop survey results were excellent with ratings of 90% satisfaction in terms of relevancy of the workshop content.

- Enbridge has seen some success with limited time incentive campaigns, launched to coincide with workshops. For example, increased incentives for energy efficient opportunities related to heat recovery was promoted in conjunction with the heat recovery workshop. This led to an increased number of heat recovery projects considered.

- In 2017, Enbridge participated in various industrial events such as the Canadian Manufacturers & Exporters (CME) Energy conference, Powering Up Durham - Save on Energy Symposium and Greening Healthcare to promote the Custom offer to targeted audiences.

- Though the introduction of GreenON initiatives targeted to the industrial sector in 2017 provided new funding opportunities for industrial projects, the various programs in market caused confusion for many customers and in some cases delayed decisions and implementations. Notwithstanding the financial support available, customers continued to require the technical expertise provided by Enbridge's ESCs who can be relied on to provide knowledgeable and unbiased engineering advice and guidance on business case development and project implementation.

- The Industrial Custom offer is focused on understanding customers' needs and creating solutions in line with each customer's specific goals. ESCs develop relationships with the customer over time to understand their unique processes, risk tolerances, and financial boundaries. This effort provides an unbiased resource and information source that the customer can rely on when making energy efficiency investment decisions. The Industrial Custom offer is an important component of Enbridge's DSM portfolio and will continue in 2018.

5.23 Run it Right

The Run it Right offer includes two metrics, one in each of the Resource Acquisition and Market Transformation and Energy Management (MTEM, MT, "Market Transformation") scorecards. For the purposes of this report, details regarding the Run it Right offer in 2017 are included in Section 7.4 which provide a summary of the MTEM Program.

5.24 Commercial & Industrial Prescriptive (Fixed) Incentive

Objectives	The goal of the Prescriptive offer is to reduce natural gas use through the capture of cost effective energy efficiency opportunities in new and existing Commercial and Industrial sector buildings.
Target Customer	The Commercial and Industrial Prescriptive offer is intended for Commercial and Industrial customers in Rates 6, 110, 115, 135, or 145.
Metrics	As part of the Resource Acquisition program, the primary metric for the Commercial and Industrial Prescriptive (Fixed) Incentive offer is lifetime natural gas savings - CCM savings. Commercial and Industrial customers are divided into Large and Small Volume customers. Large Volume Commercial customers are defined as having a 3 year average annual consumption of greater than 75,000 m^3/year. Small Volume Commercial customers are defined as having a 3 year average annual consumption of less than 75,000 m^3/year. Large Volume Industrial customers are defined as having a 3 year average annual consumption of greater than 340,000 m^3/year. Small Volume Industrial customers are defined as having a 3 year average annual consumption of less than 340,000 m^3/year.
Offer Description	The method of determining annual savings for measures included in the Prescriptive offer is based on substantiation documents that detail deemed cubic meter savings. The costs of energy efficient upgrades are intended to be offset by energy savings. The Prescriptive offer encompasses both pure prescriptive and quasi-prescriptive measures. Gas savings for pure prescriptive technologies are based on simple deemed values. Examples of prescriptive technologies include demand control kitchen ventilation, dishwashers, and Energy

	Star equipment. Enbridge also provides incentives for quasi-prescriptive technologies, which use simple calculations incorporating relevant inputs. These measures include demand control ventilation (DCV), infrared heaters, make-up air units, and high efficiency boilers.
2017 Results	As outlined in Table 5.9, Prescriptive offers generated 40.40 million CCM and included 4,202 units installed across Commercial and Industrial facilities.

Table 5.9 2017 Commercial and Industrial Prescriptive Results

Resource Acquisition	2017 Net CCM (m^3)	# of Projects	# of Units	TRC-Plus Ratio	PAC Ratio
Commercial/Industrial Prescriptive	40,399,674	426	4,202	2.35	5.38

2017 Commentary and Lessons Learned

- Enbridge utilized a variety of channels in 2017 to deliver the Commercial and Industrial Prescriptive Incentive offer, which included:
  - Energy Solutions Consultants (ESCs) working directly with the end use customer in order to provide expertise and education,
  - Business partners continue to be an important delivery channel in promoting the Prescriptive offer to customers as well as encouraging customers to pursue energy efficiency opportunities. Marketing through this network of partners which include service providers, contractors, associations, engineering firms and distributors, continues to yield the most significant results for this offer.

- In 2017, Enbridge marketed the Prescriptive offer to industry partners through presentations, sponsorships and events, and communication channels, including:
  - Presentations:
    - Annual General Meetings - Hotel Engineering Facility Managers Association of Toronto (HEAT)

- Sustainability Partner Meetings – Buildings Owner and Managers Association Toronto (BOMA Toronto)
- Board of Director Meetings - Ontario Restaurant Hotel & Motel Association (ORHMA) -
- Webinars – Federation of Rental-housing Providers of Ontario (FRPO)

o Sponsorships and Events:

- Fall Networking Event – Eastern Ontario Landlord Association (EOLO)
- MAC Awards - Federation of Rental-housing Providers of Ontario (FRPO)
- PM Expo – BOMA Toronto
- OMC Workshop - Ontario Association of School Business Officials (OASBO)

o Communication Channels:

- Mass marketing through the Enbridge website, email blasts, social media and bill inserts,
- Newsletters - Ontario Restaurant Hotel Motel Association (ORHMA), Ontario Refrigeration & Air Conditioning Contractors Association (ORAC), Greater Toronto Apartment Association (GTAA), and FRPO

Enbridge will continue to leverage relationships with these associations to disseminate offer information to a mass audience.

➢ Recognizing the need to identify and target smaller and harder to reach customers, the Company continued to focus on building relationships with business partners. In 2017, Enbridge utilized and expanded the business partners network database. This database includes contractors, distributors, manufacturers, and engineering firms, identified in the small Commercial and Industrial sectors, who have enrolled to receive electronic communication. Specifically, webinars and targeted emails were launched to inform channels and

customers of program offers, limited-time offers, sector specific information, and to provide updates on important industry topics (i.e. cap and trade). This initiative supported improved engagement with business partners.

- Enbridge continued to utilize limited time campaigns which featured increased fixed incentives to customers for certain technologies as a means to encourage participation in this offer. This proved successful in particular for Air Doors and Demand Control Kitchen Ventilation projects.

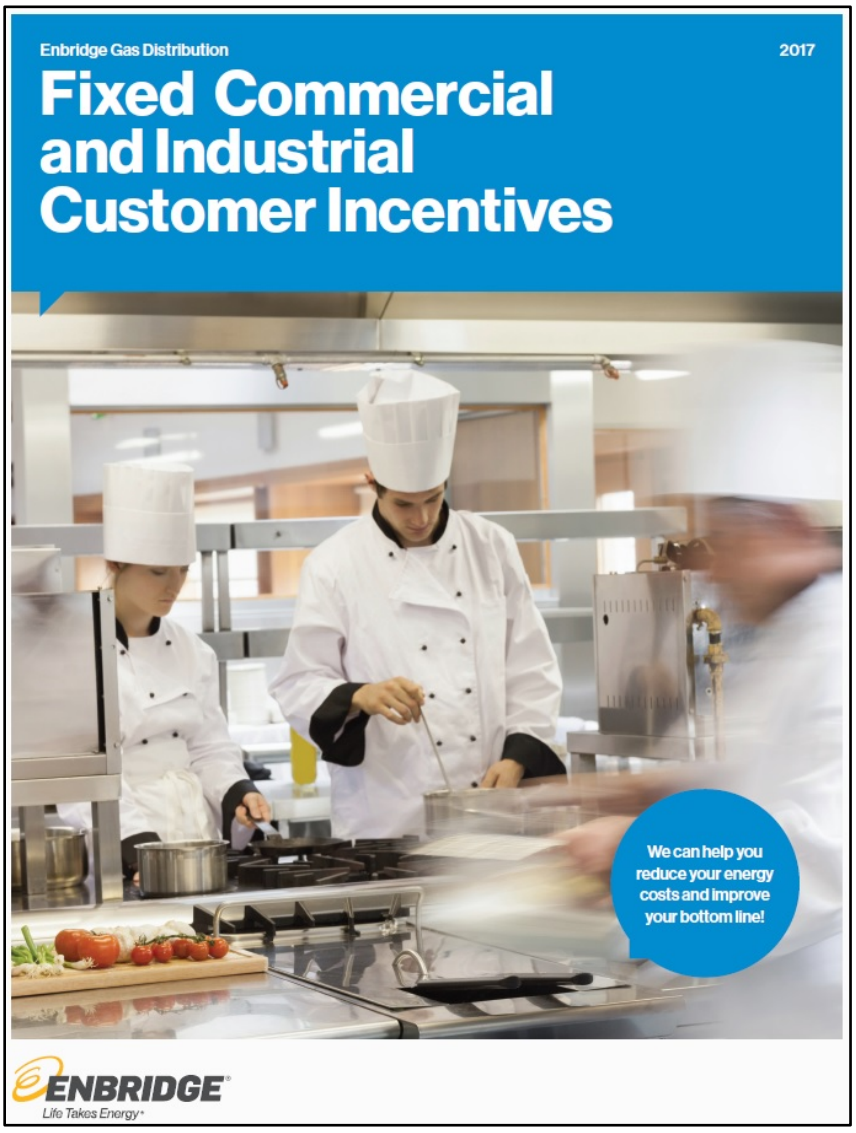
- Enbridge continued to pursue collaborative opportunities with LDCs by highlighting incentives for dual fuel saving measures.
    - In partnership with Veridian, a Demand Control Kitchen Ventilation (DCKV) campaign was launched in 2017. The campaign's objective was to create awareness of the DCKV technology and the potential savings available to food service and food sales operations in the Enbridge/ Veridian franchise areas. Enbridge utilized direct mail, email blasts and outbound calling, to contact 350 customers, these efforts resulted in over 40 leads for Enbridge.

      "[The Enbridge] Energy Solutions Consultant helped us identify energy efficiency opportunities, such as Demand Control Kitchen Ventilation, that not only resulted in natural gas and electricity cost savings, but also made our kitchen less noisy and more functional" - 2017 DCKV participant

- In 2017, Enbridge continued to provide an incentive to business partners including contractors and distributors. This incentive was offered to encourage their support of the Prescriptive offer and in acknowledgment for the additional administrative work required to secure the incentive for a customer. These business partners are an important extension in the Company's efforts to reach customers in highlighting these energy efficiency opportunities. Based on feedback received from the distributors' network, Enbridge intends to develop measure and technology specific marketing materials that are specifically

intended to assist distributors in promoting higher efficiency options to contractors and customers.

- Enbridge will continue providing support to the Commercial and Industrial sectors through delivery of the Prescriptive offer in 2018.



5.25 Commercial and Industrial Direct Install

Objectives	As an extension to the Prescriptive offer, the primary goal of the Direct Install offer is to more effectively reach the small Industrial and Commercial market segments, who remain reluctant to participate in DSM offers. The Direct Install offer, intends to expand the reach of fixed incentive DSM offers by largely supporting the cost and installation of specified measures.
Target Customer	The Commercial and Industrial Direct Install offer is intended for smaller Commercial and Industrial customers in Rates 6, 110, 115, 135, or 145, though larger customers are not precluded from participation.
Metrics	As part of the Resource Acquisition program, the primary metric for the Commercial and Industrial Direct Install offer is lifetime natural gas savings - CCM savings. Commercial and Industrial customers are divided into Large and Small Volume customers. Large Volume Commercial customers are defined as having a 3 year average annual consumption of greater than 75,000 m^3/year. Small Volume Commercial customers are defined as having a 3 year average annual consumption of less than 75,000 m^3/year. Large Volume Industrial customers are defined as having a 3 year average annual consumption of greater than 340,000 m^3/year. Small Volume Industrial customers are defined as having a 3 year average annual consumption of less than 340,000 m^3/year.
Offer Description	The Direct Install offer is a “turnkey” solution that makes it easy and affordable for the targeted customers to increase their energy efficiency. Enbridge and its selected contractors assist customers in their decision making processes, beginning with an assessment of the

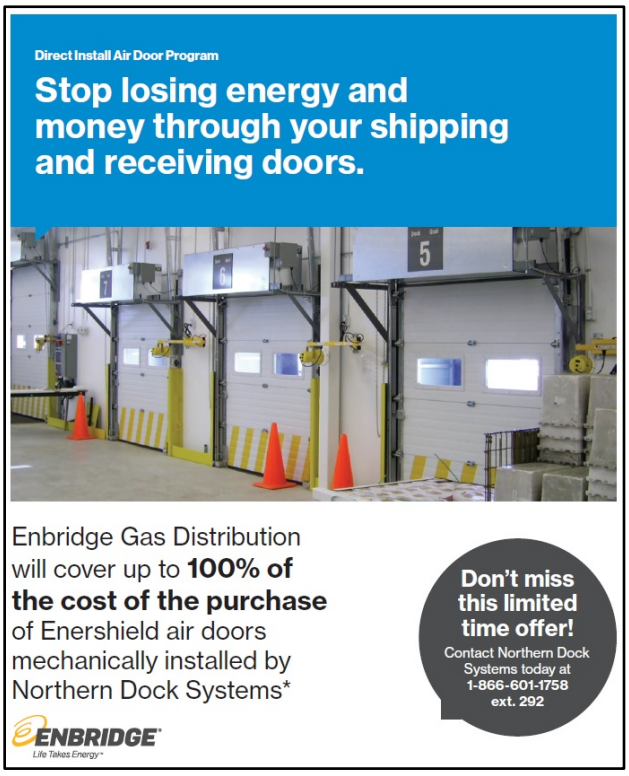
	customer's current equipment and concluding with the installation of eligible, efficient equipment. Direct Install offers are such that measures are incented up to 100% of the cost of the equipment and installation. In 2017, Enbridge's Direct Install offer focused on Air Curtains (also known as Air Doors) and single-zone Demand Control Ventilation (DCV). Air Curtains provide a stream of downward blowing air which prevents outdoor air infiltration. Air Curtains are commonly used on openings to the outdoors or to unheated portions of a building that need to remain open because of high traffic volumes or because of the inconvenience of constant door movement. They are suitable for installation in warehouses, manufacturing, industrial, or retail buildings with forced air space heating. DCVs allow for more efficient ventilation control to meet occupancy requirements of a space. This technology is used to ventilate as well as condition the air during heating or cooling periods. Sensors are used to monitor conditions and provide real-time feedback to the control. The control then triggers the fan speed, which modifies the ventilation rate to meet occupancy requirements. DCVs are well suited for buildings with varying occupancy levels, such as office buildings and retail stores.
2017 Results	As summarized in Table 5.10, the Commercial and Industrial Direct Install offer delivered a total of 105 projects, encompassing 258 units, and contributed 56.02 million net CCM.

Table 5.10 2017 Commercial and Industrial Direct Install Results

Resource Acquisition	2017 Net CCM (m^3)	# of Projects	# of Units	TRC-Plus Ratio	PAC Ratio
Direct Install	56,016,021	105	258	5.01	4.50

2017 Commentary and Lessons Learned

- The Direct Install offer continued to be an effective delivery channel to engage the Commercial and Industrial sector. In 2017, the second year in market for this offer, Enbridge re-assessed measures for suitability for the direct install approach. The Company determined that in addition to Air Curtains (Shipping/Receiving Doors), which were previously promoted in 2016, Demand Control Ventilation (DCV) also provided a good market opportunity to cost-effectively serve the smaller Commercial and Industrial market segments in particular.



- Enbridge continues to explore strategies to engage the historically hard-to-reach small Commercial and Industrial customer. Despite the existing Prescriptive offer which provides an incentive to offset the cost of Air Door/Air Curtain and DCV equipment, the upfront installation cost inherent with both Air Curtains and DCVs was often a significant barrier for uptake with smaller Commercial and Industrial

customers. In addition, those customers typically lack the technical expertise and resources required to select a quality product and qualified contractor.

- The Direct Install offer aimed to overcome those barriers. By providing an upfront financial incentive, a prequalified product, and an experienced installation contractor, Enbridge targeted smaller customers who were unaware of the Company's program and who had never participated previously.

- In addition, qualification for the Direct Install offer required that participants complete an energy efficiency audit of their facility. This upfront assessment was beneficial to the customer as the findings from the audit assisted Enbridge in the identification of further potential energy efficiency opportunities within the facility that might merit additional evaluation.

- In 2017, Enbridge utilized a push strategy (e.g., targeted emails and cold calls) to engage small Commercial and Industrial customers in the Direct Install offer. Despite significant efforts in market outreach, the market response for DCVs was much lower than anticipated. In particular, the technical specifications outlined in the supporting TRM document for the prescriptive DCVs are designed for application in single-zone scenarios (and not multi-zone); as a result, once customers underwent an assessment process, the screening requirements to ensure customer's eligibility were often not met.

- The Direct Install offer will continue in 2018. The total solution approach continues to be effective in engaging Commercial and Industrial customers who typically have budgetary, personnel, or technical knowledge constraints. In particular, this initiative provides an opportunity for the Company to engage small Commercial customers in the Retail and Food Service sectors.

- Moving forward, Enbridge will continue to evaluate other technologies to assess their suitability for a direct install approach. Beginning in 2018, Air Curtains will be expanded to include pedestrian doors as well as shipping/receiving doors.

5.26 Energy Leaders Initiative

Objectives	The intention of the initiative is to review, determine, and support areas for incremental energy efficiency activity among customers who are deemed energy leaders and are interested in exploring innovative ways to achieve energy efficiency.
Target Customer	The Energy Leaders Initiative is intended for energy leaders in the following rate classes: Rates 6, 110, 115, 135, 145, and 170.
Offer Description	The Energy Leaders initiative is intended to appeal to early adopters of new and emerging technologies. The initiative provides these early adopters increased incentives for implementing new and innovative technologies. Emerging Technology – Ice Resurfacing This alternative ice resurfacing approach is aimed at the commercial recreational ice arena sector. The ice resurfacing method uses a high precision de-aeration process to remove micro-air bubbles from water when laying or resurfacing ice in arenas. This process does not require heated water traditionally required in building or resurfacing ice pads. Ice resurfacing practices have been well established for decades in a manner that provides a high quality of ice. In exploring new resurfacing approaches and in consideration of the cost of the technology, facility managers need assurance that ice quality will not be compromised. Consequently, decision makers considering adoption for the ice resurfacing technology are cautious, as such

	strong implementation support and well demonstrated benefits are required to change long standing practices.
2017 Results	As summarized in Table 5.11, there were five Energy Leaders projects completed in 2017, which contributed 1.39 million CCM.

Table 5.11 2017 Energy Leaders Results

Resource Acquisition	2017 Net CCM (m^3)	# of Projects	TRC-Plus Ratio	PAC Ratio
Energy Leaders	1,392,380	5	1.31	2.64

2017 Commentary and Lessons Learned

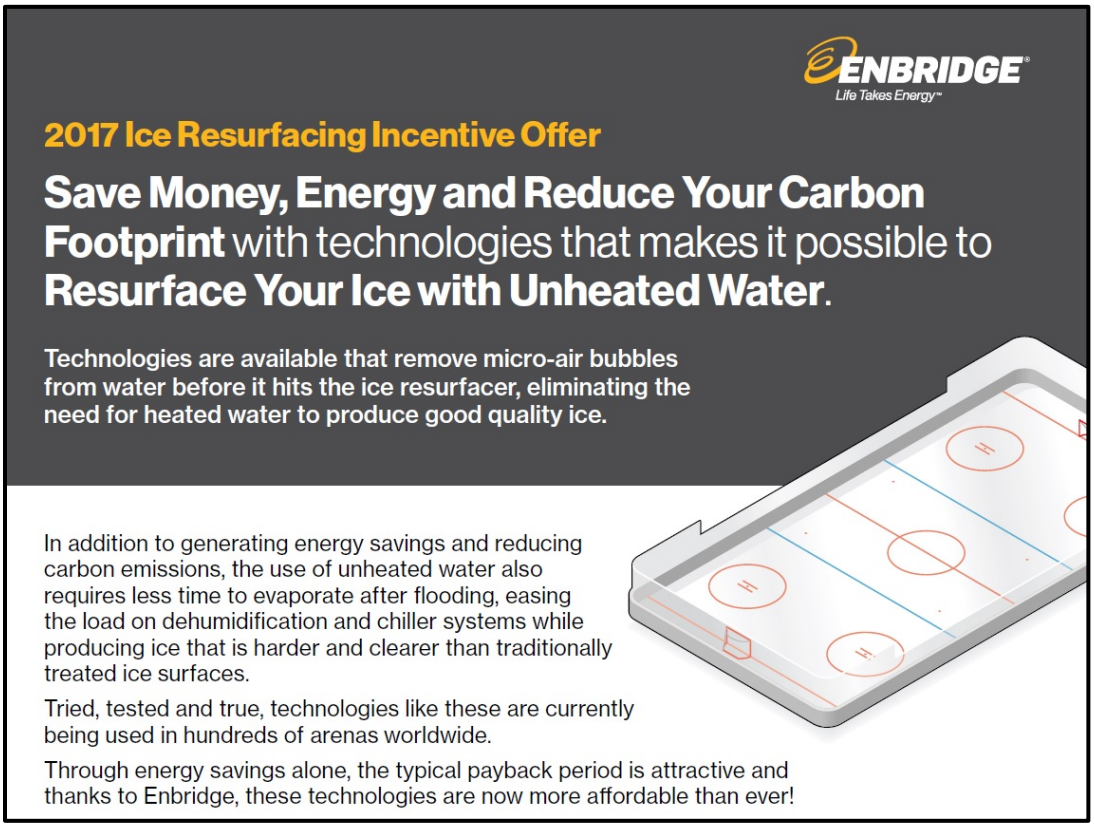
- The intent of the Energy Leaders Initiative is to investigate the implementation of emerging technologies with leading customers who are receptive to improving their energy efficiency through new opportunities, and then apply the learnings such that the technology can be delivered to a larger audience with the assurance of successful early projects.

- As this approach to ice resurfacing is still considered a new and innovative technology in Ontario, Enbridge has continued to see challenges in convincing customers to adopt this technology. Consequently, in collaboration with technology manufacturers, Enbridge ESCs focused efforts on promoting prior successful implementations and educating private arena owners and municipal facility managers on the benefits of the technology to generate interest in the adoption of this new approach. Enbridge also leveraged relationships with key industry associations such as the Ontario Recreation Facilities Association (OFRA) to support and promote this technology.

- Participant feedback for the Energy Leaders Initiative continues to be positive:

"Enbridge's Energy Leader Program contributed significantly to our implementation of the ice resurfacing projects resulting in significant savings for us. Partially incentivizing the costs made the decision to implement the projects easier." - Energy Leaders participant

- In recognition of these customers, based on the criteria established by the Energy into Action committee, Enbridge nominated an early adopter for the Energy into Action Innovation Award for Continuous Energy Improvement. Enbridge's award winning customer was recognized for its commitment and leadership in energy efficiency through the implementation of technologies and the adoption of leading edge practices.



5.27 Small Commercial New Construction

As previously communicated to the Board in 2016, the Small Commercial New Construction offer was similarly not offered in 2017.

Instead 30% of the budget allocated to the Small Commercial New Construction pilot was reallocated to support other offers in market and 70% of the budget allocation was credited back to the DSMVA.

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.

The 2017 Low Income Program is comprised of three offers: Low Income New Construction (Affordable Housing New Construction), Low-Income (Affordable Housing) Multi-Residential (targeting Part 3 buildings) and Low Income (Affordable Housing) Single Family (targeting Part 9 buildings). These offers focus on reducing 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.

Low Income offers are set apart to recognize the unique needs of their target customer base. Although the offers may result in a lower benefit/cost ratio, Total Resource Cost, than similar offers delivered to non-low income customers, they are expressly designed to address the needs of low income consumers and include other important societal benefits.

Design and delivery considerations for this segment have been unique and as such, Enbridge has adopted non-traditional approaches to effectively reach these vulnerable customers, raise customer awareness, encourage resident and building staff engagement, and in turn, build participation. 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 Local Distribution Companies (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 has led to continuous program improvement and the refocusing of program strategies to be responsive to housing providers' needs and the evolution of affordable housing.

In the past, Enbridge's Low Income offers have primarily focused on the full funding and installation of energy efficient equipment or measures. In the current DSM Multi-Year Plan, the Low Income Program was expanded to include an offer similar to Enbridge's existing Savings by Design offer. With the available government funding for low income new construction (Affordable Housing New Construction), Enbridge recognized the opportunity to work with builders of low income housing to encourage higher energy efficiency in the design of these buildings. Now in its second year in market, the Affordable Housing New Construction offer aims to work with municipalities, as well as community housing providers and affordable housing builders/developers to encourage energy efficiency in new construction projects.

The results for the Low Income program, as outlined in Tables 6.0 and 6.1, were 58 million CCM in Multi-Residential (Part 3) and 19.6 million CCM in Single Family (Part 9). The Affordable Housing New Construction offer supported 11 affordable housing developments in its second year in market.

Table 6.0 2017 Low Income Scorecard

Component	Metric	Weight	Targets			2017 Result
			Lower Band	Target	Upper Band	
Single Family (Part 9)	*Cumulative Savings (million m³)*	***45%***	30.52	40.69	61.04	**19.60**
Multi-residential (Part 3)	*Cumulative Savings (million m³)*	***45%***	94.80	126.40	189.60	**58.00**
New Construction	*Participants*	***10%***	21	28	42	**11**

Table 6.1 2017 Low Income Results

Low Income Component	2017 Net CCM (m^3)	# of Projects	# of Units	TRC-Plus Ratio	PAC Ratio
Single Family (Part 9)	19,598,364	1,352 [1]	1,297 [2]	1.81	0.60
Multi-Residential (Part 3)	57,999,949	126 [3]	1,544 [4]	3.19	2.99
Total/Average	**77,598,313**	**1,478**	**2,841**	**2.06**	**1.24**

1. # of Projects summarizes the number of unique projects for Home Winterproofing and prescriptive offers.
2. # of Units summarizes the number of units installed for prescriptive offers.
3. # of Projects summarizes the number of unique projects for custom and prescriptive offers.
4. # of Units summarizes the number of units installed for prescriptive offers.

All Low Income offers delivered to Enbridge customers in 2017 will be continued in 2018. Details regarding individual offers are discussed below.

6.1 Single Family (Part 9)

Home Winterproofing and Prescriptive Measures

Objectives	The goal of the Single Family Affordable Housing 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. The Home Winterproofing offer aims to reduce energy costs for Part 9 low-income households by increasing the energy efficiency of their homes, while addressing comfort and some health and safety matters within the homes.
Target Customer	The Home Winterproofing offer targets social housing and assisted housing, and income qualified customers residing in low-rise buildings (Ontario Building Code (OBC, the "Code") Part 9). This offer targets Rate 1 homeowners and tenants within the Enbridge franchise area

	who need assistance with their energy costs. Income verification is a requirement for participation in this offer. Eligible Enbridge customers must meet the following criteria: • Income is at or below 135% of Statistics Canada's Low Income Cut-Off (LICO) or tenants reside in social and assisted housing, regardless of gas bill payment responsibility; • Occupants of single detached and low-rise multi-family (3 stories or less) buildings; and • Private homeowner or tenant who pays their own gas bills.
Metrics	The primary metric for the Home Winterproofing offer is lifetime natural gas savings - CCM savings.
Offer Description	The offer provides a free home assessment and weatherization services (i.e., insulation and air sealing) to qualified Enbridge customers who meet income and customer eligibility criteria. As a direct install offer, there is no financial cost to the participant for the energy assessment or for the weatherization products and services provided. As a health and safety value-add on, a carbon monoxide monitor is provided to participants where one is not already present in the home. At the time of assessment, the home is also prequalified for water conservation measures (e.g., showerheads and aerators) as well as a programmable thermostat. Customers that qualify for the Board's Low Income Emergency Assistance Program (LEAP) or the Local Distribution Companies (LDCs) delivered Home Assistance Program (HAP) initiative automatically meet the income eligibility requirements of the offer. Enbridge promotes the Home Winterproofing offer through community based organizations, which have strong relationships with low income interest groups and are well entrenched and trusted within the

	communities that they serve. Enbridge delivers the offer through selected qualified Delivery Agents who are responsible for designated areas within the Company's franchise area. For each project, documentation is submitted by Delivery Agents summarizing installation site information (e.g., address, ownership, housing type) and natural gas savings (m^3) calculations. Natural gas savings claims are based on pre and post HOT2000 modelled consumption which is determined through customized energy audits conducted by energy auditors for income qualified participants. Documentation includes: • A completed pre and post audit data collection sheet • Work order summary outlining proposed upgrades • Cost estimate for suggested authorized retrofits • HOT2000 pre and post audit files • Pre and post project photos • Completed participant agreement or application form Participation is tracked by type of tenancy (i.e., social housing or privately-owned dwellings). Monthly reporting is provided by delivery agents and summarizes unit installations for any prescriptive measures installed.
2017 Results	In 2017, cumulative savings for single family (Part 9) were 19.6 million CCM, as outlined in Table 6.2. The Enbridge Home Winterproofing offer reached 1,022 low income households in 2017 as outlined in Table 6.3. In addition, some homes also received basic prescriptive measures including showerheads and aerators where appropriate.

Table 6.2 2017 Single Family (Part 9) Low Income Results

Low Income Component	2017 Net CCM (m^3)	# of Projects [1]	# of Units [2]	TRC-Plus Ratio	PAC Ratio
Single Family (Part 9)	19,598,364	1,352	1,297	1.81	0.60

1. # of Projects summarizes the number of unique projects for Home Winterproofing and prescriptive offers.
2. # of Units summarizes the number of units installed for prescriptive offers.

Table 6.3 Home Winterproofing – Breakdown of Results

Low Income Component Home Winterproofing	2017 Net CCM (m^3)	# of Projects [1]	TRC-Plus Ratio	PAC Ratio
Private	13,444,705	660	1.92	0.64
Social Housing	6,009,405	362	1.56	0.52
Total/Average	**19,454,110**	**1,022**	**1.79**	**0.60**

1. # of Projects summarizes the number of unique projects for Home Winterproofing.

2017 Commentary and Lessons Learned

- A total of 1,022 homes participated in the Home Winterproofing offer in 2017, of which 660 were private homes and 362 were social housing properties, as outlined in Table 6.3 above.

- Results in the social housing sector were below forecast due to a number of reasons. For instance, Enbridge has now fully assessed all social housing units within Ottawa Community Housing for participation. Also in 2017, some expected completions of Home Winterproofing projects were not realized due to a revised strategy by Toronto Community Housing as well as the temporary cancellation of the Home Assistance Program. In addition, forecasted results from Delivery Agents did not fully materialize. These factors contributed to the offer not achieving the target in 2017.

- Moving forward Enbridge will continue to work with business partners such as the Low-Income Energy Network (LIEN), Ontario Non-Profit Housing Association (ONPHA) as well as Co-operative (Co-op) Housing providers to promote the Home Winterproofing Offer. The Company will also be exploring opportunities to

expand relationships with Co-op Housing within the Ottawa region as well as with Tecumseh Co-op, Ahneen Co-op and John Hill Co-op. This strategy of delivering the offer in partnership with community based organizations with strong links to social service agencies as well as the communities have been found to be an effective way of connecting with this hard-to-reach customer segment. This strategy is effective due to the high level of trust built between the customer and the business partner.

We see the greatest energy savings in homes that are 35 years and older.

How to qualify

In order to qualify for this great program, you will need to meet the customer and income requirements described below:

1. Is your home heated by natural gas?
2. Are you a customer of Enbridge Gas Distribution?
3. Do you pay your own natural gas bill?

How to apply

1. Visit winterproofing.ca and complete the online Program application form then submit the form to the Program Delivery Agent in your Area. The Program Delivery Agent will contact you within a few weeks.
2. Call the Enbridge Program Delivery Agent in your area. They may be able to pre-qualify your home over the phone.
   - Signed application, proof of income
   - The account number on your gas bill
   - A copy of your last income tax assessment or benefit statement
3. Mail or fax the attached Program application form to the Program Delivery Agent in your area listed on the back of this brochure.

Yes, it's free. No catch. Just coziness.

Prepare your home for winter by applying to our Home Winterproofing Program. If you qualify, you can save and stay that much warmer during the long winter months. Now that's something to cozy up to.

Increase comfort
We want to help you afford home improvements that will keep you warm and comfortable

Be healthier
Living in drafty conditions can be hard on your health. Fewer drafts mean a more comfortable home for you and your family.

If you qualify, you could receive

New insulation and draft proofing installed by experienced professionals.

Enjoy savings of up to 30% of your energy use and lower energy bills.

This program is absolutely free to all homes that qualify. Enbridge will pay for the cost of energy saving improvements such as insulation and draft proofing preventing against cold drafts that are common in old homes. We want to help you afford home improvements that will keep you warm and comfortable.

- Despite challenges onboarding social housing providers, due to their internal board approvals and upfront engagement efforts to obtain resident support, Enbridge continues to diligently work with these stakeholders given the remaining opportunities in most regions within this segment. Enbridge hosts regular working group meetings with social housing providers to identify their needs and opportunities as well as provide information regarding the Affordable Housing offer.

- In 2017, Enbridge continued to work collaboratively with community based organizations to ensure the Company uncovered opportunities to assist customers requiring financial assistance by encouraging them to participate in the Home Winterproofing offer when applying for the LEAP program. For example, Enbridge continued successfully working with the United Way of Simcoe Muskoka. The agency promoted Home Winterproofing and assisted the customer with program enrollment through the United Way's database expediting the process to the Delivery Agent for follow-up. A total of 338 leads were generated through this initiative in 2017.

- Enbridge engaged an independent third party agency to facilitate four focus groups in Niagara Falls, Toronto, Peterborough and Ottawa to gather feedback from past Home Winterproofing participants. The overall customer experience was positive across all four markets with only minor issues related to clean up and finishes. Participants overwhelmingly indicated that they would highly recommend the offer. Many had already referred friends and neighbours to participate. Some participants also confirmed they saw improvements to home comfort and benefited from cost savings on their utility bills as a result of the upgrades.

  "Enbridge reinsulated all of my walls, which saved me a lot of money and heat. The last winter was the best I've had yet. It's improved my house tenfold"

  - Home Winterproofing Participant

- Enbridge and Toronto Hydro collaborated on joint program delivery utilizing a single delivery agent for both the Home Winterproofing and Home Assistance Programs (HAP) throughout 2017. This collaboration included two co-branding direct mail marketing campaigns of brochures that promoted both the Home Winterproofing offer as well as HAP. This combined effort supported 339 low income households.

- To continue with this collaborative approach, Enbridge explored opportunities to expand efforts with other LDCs (Veridian Connection, Peterborough Utilities, and Niagara on the Lake Hydro) in the Enbridge franchise area. Unfortunately, Enbridge was required to temporarily halt collaboration efforts with LDCs in October 2017 due to a decision by the Independent Electricity System Operator's (IESO) to re-design the Home Assistance Program (HAP) under a single province-wide delivery agent to be launched in 2018.

- In an effort to investigate new opportunities, Enbridge worked with Toronto Community Housing (TCH) on a specialized initiative utilizing external cladding technologies as a means to achieve gas savings. It is anticipated that TCH residents will benefit from this customized approach through the Home Winterproofing offer in 2018. This technology is increasingly being utilized within the social housing sector, as it is more feasible and less disruptive to residents versus traditional interior insulation upgrades.

- In 2017, Enbridge worked with Delivery Agents and external agencies to develop a multi-channel marketing plan. These efforts focused on engaging private

homeowners and tenants to encourage them to participate in the Home Winterproofing offer. This multi-channel marketing plan included:

- Bill inserts
- Website information
- Direct mail campaigns
- Conferences, Tradeshows and Social Events
- Delivery Agent Outreach
- Social Agency Campaigns
- Social Media Campaigns
- Radio Ad Campaigns

Bill inserts continue to be the number one lead generator for this offer.

- Enbridge is currently working with Ecobee and Nest to explore the possibility of adding Smart Thermostats as a measure available to participants in the 2018 Home Winterproofing offer.

6.2 Multi-Residential (Part 3)

Custom Projects and Prescriptive Measures

Objectives	The goal of the Affordable Housing (Low Income) Multi-Residential offer is to enable energy savings through a reduction of space heating demand and hot water use in Low Income Part 3 Multi-Residential buildings through the installation of thermal envelope improvements, space heating, water savings measures, and technologies.
Target Customer	The Affordable Housing Multi-Residential offer is intended for social and assisted housing providers who own and operate Part 3 buildings that provide housing to low income households. In addition, shelters and supported housing are eligible. The offer also targets eligible owners and property managers of privately-owned multi-unit residential buildings (MURBs), based on screening criteria established in collaboration with Enbridge's Low Income Consultative Working Group, which provide housing to a market that includes low income customers and families.
Metrics	The primary metric for the Affordable Housing Multi-Residential offer is lifetime natural gas savings - CCM savings.
Offer Description	The Affordable Housing Multi-Residential offer includes the following: • Custom incentives are determined based on projected annual natural gas savings at a rate of $\$0.40/m^3$ ($\$0.50/m^3$ for eligible boilers) saved, up to 50% of the cost of the retrofit. Eligible measures that would result in gas savings include, but are not limited to: o Boilers– Space and Water Heating; o Ventilation Systems; and,

	o Building Controls. As with Commercial custom projects, the savings for each custom project are calculated on an individual basis. Each custom project includes a project documentation checklist that outlines key parameters for the project and applicable supporting documentation to support gas savings calculations. • Prescriptive incentives calculated based on a fixed dollar amount. Eligible measures that would result in gas savings include: o Condensing boilers; o High efficiency boilers; o Energy recovery ventilation systems; o Heat recovery ventilation systems; and, o Condensing Water Heaters. • Free in-suite direct install measures will be as follows: o Showerheads supplied and installed; and, o Supply and installation of heat reflector panels. • Financial support is also provided to fund half the cost of an energy audit up to $5,000 per building or $0.01/$m^3$ of gas consumed in the past calendar year (whichever is less); • Free Gas Savings Opportunity Assessment (similar to an ASHRAE Level 1 Building Assessment); and, • Resident engagement programs. Enbridge outlines the following eligibility criteria for the Affordable Housing offer: • Part 3 Buildings owned and operated by social housing providers as well as privately owned buildings identified as low income; and • Social housing and assisted housing buildings as described in

	the Housing Reform Act of 2011 and 2015-2020 DSM Framework.
2017 Results	The Low Income Part 3 Multi-Residential offer achieved 58 million CCM natural gas savings in 2017.

Table 6.4 2017 Multi-Residential (Part 3) Low Income Results

Low Income Component	2017 Net CCM (m^3)	# of Projects [1]	# of Units [2]	TRC-Plus Ratio	PAC Ratio
Multi-Residential (Part 3)	57,999,949	126	1,544	3.19	2.99

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

2017 Commentary and Lessons Learned

- Based on feedback obtained from participants, this program continues to be positively received throughout the affordable housing sector. This can be attributed to:
  - Approaching the market with a customer centric approach that includes consulting and advising customers on long term energy plans
  - Undertaking site walkthroughs and providing audit funding assistance to proactively identify efficiency opportunities
  - Developing strategic partnerships with customers and providing savings and incentive estimates that will help offset capital investment to validate projects and provide assistance in developing the business case
  - Focusing on tenant engagement to ensure support of the constituents in the community

- A large portion of Part 3 participation in 2017 is a result of the on-going cultivation of collaborative and supportive relationships with staff and management throughout Municipal Social Housing providers. Enbridge continues to work closely with Toronto Community Housing (TCH) as a key partner and hosts regular working group meetings to identify needs and

opportunities for this largest housing provider in Canada. In addition, Enbridge established new partnerships with groups including Centretown Citizens Ottawa Cooperation (CCOC), Maurice Coulter Co-op, Mainstay Housing and Lanark County Housing to better understand the needs of some of these smaller organizations.

- Key stakeholders, including the Low-Income Energy Network (LIEN), Federation of Rental-Housing Providers of Ontario (FRPO), and Ontario Non-Profit Housing Association (ONPHA) continue to be valuable partners as the Company works within this unique sector. Enbridge join forces with these associations to promote programs through webinars, conference sponsorships, and speaking engagements at various events.

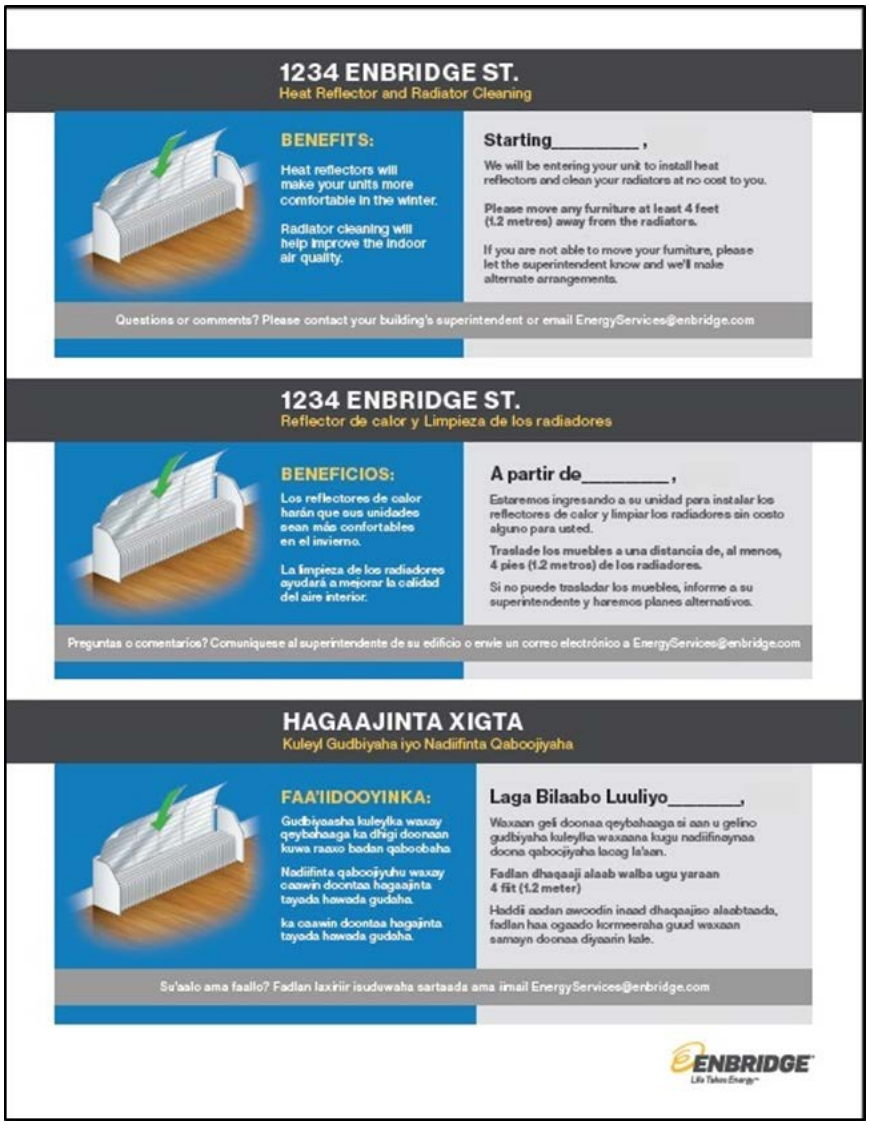
- The Company partnered with the City of Toronto Tower Renewal team to promote Enbridge's affordable housing support efforts with the STEP Assessment and High-Rise Retrofit Improvement Support (Hi-RIS) initiative. This collaboration created many opportunities for joint site visits and Enbridge participation in multiple Tower Renewal events, which provided an opportunity to further promote the offer.

- Enbridge also collaborated with Toronto Atmospheric Fund and TCH on an affordable housing multi residential smart thermostat investigation. This project aims to explore the potential of supporting this upgrade for the Affordable Housing Multi-Residential portfolio.

- Further, although this program delivers critical support for affordable housing providers by offering facilitation assistance, technical advice and financial support, the affordable housing sector continues to face additional challenges:
    - Despite offering a higher financial incentive through the Affordable Housing Multi-Residential offer relative to the Commercial offer for custom projects, the low income sector continues to face inherent financial

obstacles due to limited capital availability. With the aging affordable housing portfolio, endless upgrades are required for buildings beyond considerations for energy efficiency opportunities.

- There are often a variety of languages spoken by tenants in these multi-residential buildings and Enbridge works to ensure that the residents are informed of upcoming work. Consequently, marketing materials are produced in multiple languages to best accommodate the residents of a particular building. In the case of in-suite improvements, for example heat reflector panels, this is particularly important as contractors need access directly within the units.



- Enbridge continues to research new technologies that will benefit the affordable housing sector. In 2017 Enbridge partnered with a third party to investigate the introduction of a new savings measure, Advance Building Automation System (ABAS). Applications within the Toronto Community Housing portfolio of buildings appear to offer opportunities to support this new measure in 2018.

- Enbridge undertook a second phase of the Private Low Income Cold Water Laundry Initiative in partnership with Summerhill. The initiative intended to change tenant behavior through engagement, education, and other non-financial interventions. The initiative included four private low income buildings. Data collection is on-going and any potential next steps remain to be determined.

- Continuing on work done in 2015 & 2016 with the Toronto Chapter of the United Way and the Low Income Consultative to establish criteria for determining privately owned low income buildings in the City of Toronto, Enbridge engaged Dunsky Energy Consulting to undertake a study. This aim of this study was to establish a similar eligibility criteria for use outside of the GTA. Privately owned Part 3 multi residential building eligibility was established as follows:
    - Building owner receives rent supplements to offset the costs of tenants from the Service Manager Office (as confirmed by Service Managers who are municipalities and district social services administration boards designated under the Social Housing Reform Act in 2000 to manage social housing programs across the province);

    OR

    - Has participated in the Ontario Renovates program in the last five years (as confirmed by the Service Manager);

    OR

    - Is located in a census tract where greater than 40% of building residents are low income, and more than 50% of households are paying less than the average regional rent.

In 2018, Enbridge will continue to work on re-classifying buildings that now fall within this criteria and move them into the affordable housing portfolio.

- Reflector panel installations in this sector have been particularly successful and have provided benefits to both the tenants (in-suite) and the building as a whole beyond energy savings, in that they offer increased comfort and improved air quality due to the process of cleaning convectors.

- Enbridge looks forward to continuing to execute on opportunities to successfully deliver the Affordable Housing Multi-Residential offer in 2018.

6.3 Low Income New Construction (Affordable Housing New Construction)

Objectives	The overarching goal of the Low Income New Construction initiative marketed as the Affordable Housing New Construction offer is to promote the adoption of higher levels of energy efficiency among developers and builders of affordable housing. This offer is designed to encourage stakeholders to take a proactive role by providing financial incentives and enabling support in incorporating higher energy efficiency levels in affordable housing planning and design. The Affordable Housing New Construction offer aims to increase the efficiency of new construction developments to a level that is above current building code. Builders and developers of affordable housing are able to benefit through needed financial support to offset the costs of implementing energy efficiency. In addition, the Affordable Housing New Construction offer provides added benefit to offset the energy costs that are ultimately borne by low income residents or social housing providers.
Target Customer	The offer is specifically directed to builders and developers of residential and multi-residential affordable housing projects. Eligible participants must meet the following criteria: • Developers and builders of new “affordable housing” as qualified by a municipal, provincial and/or federal housing program. • Developers and builders of both single family Part 9 houses and multi-residential Part 3 buildings are eligible to participate.
Metrics	Affordable housing projects enrolled by builders and developers to participate in the offer are eligible to be counted towards performance targets.

Offer Description	The Affordable Housing New Construction offer was originally informed by the Company's Savings By Design offers. However, due to the wide range of builders, types and sizes of construction projects, certain offer elements have been modified to meet the needs of this particular target market. The offer provides financial incentives and extends technical support to assist affordable housing builders in exceeding the 2017 Ontario Building Code (OBC) requirements by at least 7% for multi-residential projects, or in the case of single family homes achieving ENERGY STAR for New Homes. The additional societal benefit of this offer and why Enbridge is engaging the affordable housing builder community in encouraging the adoption of energy efficiency measures and technologies is to assist with maintaining affordability for the residents of these new construction projects after they move in. In 2017 the Affordable Housing New Construction offer consisted of the following components: • Step 1 - Plan Review: The Participant provides Enbridge and its consultants copies of design plans (including mechanical, electrical and lighting drawings and specifications, as available) for review and modelling analysis. A plan review summary is generated for further discussions during the Design Consultation Process. • Step 2 - Design Consultation Phase (DCP): During the DCP, the Participant takes part in a building design team meeting to identify the optimal mix of design elements and technologies to encourage maximum energy efficiency. Incentives are provided to participants whose designs meet the prescribed level of energy efficiency determined through the DCP process. In 2017 with the introduction of the new OBC incentives were offered as follows:

- A tiered incentive for Part 3 developments ($4,000 for 7-12% above OBC, $5,000 for 13-17% above OBC, and $7,500 for 18% or more above OBC)
- $5,000 for Part 9 developments that achieve ENERGY STAR for New Homes.

At this stage, participants are enrolled and counted towards the metric for this offer. Enrollment entails a signed application with the eligible builder or developer committing to participate in the Affordable Housing New Construction offer. Reports for each DCP are maintained to document completion of the Design Consultation Phase.

- Step 3 – Multi-Residential (Part 3) Projects
  - Energy Efficiency Design Implementation: Following construction, an “as-built” energy model is completed and an energy performance report is provided to confirm incentive payout, up to a maximum of $120,000 per building as follows:

Building Energy Efficiency Achieved Above OBC	Energy Efficiency Implementation Incentive
7%-12%	$750/unit
13%-17%	$850/unit
>18%	$1,000/unit

- Step 3 – Single Family Homes (Part 9) Projects
  - Energy Performance: An incentive of $5,000 is paid to Participants whose as-built design achieves ENERGY STAR for New Homes.
- Step 4 – Multi-Residential (Part 3) Projects

	o Commissioning: A building commissioning incentive up to $15,000 is available to participants upon submission of a final commissioning report. • Step 4 – Single Family Homes (Part 9) Projects o Energy Efficiency Design Implementation: An incentive of $1,500 is available for each residential home that achieves ENERGY STAR certification, up to a maximum of $120,000 per project.
2017 Results	Enbridge was successful in supporting 11 affordable housing developments in the Affordable Housing New Construction offer in 2017 as shown in Table 6.5.

Table 6.5 2017 Low Income New Construction Results

Component	Metric	Targets			2017 Result
		Lower Band	Target	Upper Band	
Affordable Housing New Construction	*Participants*	21	28	42	**11**

2017 Commentary and Lessons Learned

- Due to the multi-year nature of participation in this offer, from enrolling a participant through to construction completion, expenditures related to a specific participant are not all fully realized within the same program year.

- Spending on this offer in 2016, the first year in market, was limited to only those costs associated with supporting participants through Step 2, the design consulting phase. However, most of the funding available to participants in this offer is directed towards financial incentives that will be paid upon building completion of the units at a later date. As a result, the majority of the 2016 budget was not paid out during the 2016 program year. This underspend resulted in a significant impact to the 2017 target for this offer based on the Board's

direction to apply the Target Adjustment Mechanism (TAM). Consequently, Enbridge's target for 2017 has been artificially inflated and is unrealistic.

- This offer, now in its second year in market was created as a response to the Federal-Provincial Investment in Affordable Housing (IAH) Program. Through the IAH Program, municipal governments own and develop their own affordable housing plans, but do not specifically prescribe how to ensure energy efficiency is a consideration for their affordable housing projects. The Affordable Housing New Construction (AHNC) offer was developed because the IAH Program presented an opportunity to educate affordable housing builders as well as support the design and construction of these newly financed projects, to achieve increased levels of energy efficiency.

- This offer continues to encourage municipalities and other affordable housing builders to take a proactive role in incorporating energy efficiency standards in their own affordable housing plans. This offer also provides the residents of newly constructed affordable housing unit with educational material on how to reduce energy use within their building though energy efficient practices and behaviours.

- As a result of learnings in the first year in market, effective 2017, a more comprehensive, interactive and collaborative in-person design charrette was introduced for multi residential projects. This move was well received by participants and deemed to be highly beneficial.

> *"It was such a wonderful and educational day that brought forward critical information for us to consider in the design to actualize our vision for a healing, therapeutic and sustainable space. Thanks for all your hard work – I'm beyond impressed at the calibre of work and that this program is even available!"*
>
> -2017 participant

- In an effort to continue to refine the offer, Enbridge continued to engage C2C Strategies to conduct interviews with program participants to determine ongoing improvements for the offer.

- The C2C Strategies report can be found in Appendix C. Findings and recommendations include:
  - Overall participants were satisfied with the offer's design. Specifically, the Design Consultation Phase was noted as extremely valuable in educating participants on how to achieve improved levels of energy efficiency through building design changes.
  - There is an opportunity for increased communication between Enbridge and participants following completion of the Design Consultation Phase and prior to construction, as well as following construction, in order to complete the cycle of learning of the design teams involved.
  - Expansion of the full day comprehensive design charrette would be beneficial to participants with Part 9 (low-rise) developments. The day-long, in-person charrette format allows more material to be covered in greater depth, and is more conducive to interaction and discussion.

- Working with our sector business partners, specifically the Ontario Non-Profit Housing Association (ONPHA) and the Low-Income Energy Network (LIEN) proved to be a successful strategy in promoting this offer to the affordable housing building community.

- In March 2017, the federal government announced $11.2 billion in investment in affordable housing over the next 11 years. This funding could influence the market to increase the number of new affordable housing units that will be constructed over the next several years. This Affordable Housing New Construction offer is a key driver in capitalizing on this opportunity to persuade these affordable housing builders to build with energy efficiency in mind.

- Moving forward in 2018, Enbridge will attempt to seize this opportunity to enroll potential affordable housing projects in the AHNC offer.

7. Market Transformation and Energy Management Scorecard

The Market Transformation and Energy Management (MTEM) program is designed with the aim of influencing consumer behaviour and attitudes in support of reducing energy consumption. MTEM activities focus on enabling fundamental changes that lead to increased acceptance and market shares of energy efficient products, services, and practices, as well as on influencing consumer behaviour and attitudes that support reductions in natural gas consumption.

Enbridge's MTEM program is comprised of five offers. Savings by Design – Residential and Savings by Design – Commercial target the new construction sector, Run it Right (RiR) and Comprehensive Energy Management (CEM) focus on supporting the adoption of a culture of energy efficiency at existing Commercial and Industrial facilities, and the School Energy Competition (SEC) aims to educate and build awareness of energy efficiency in the younger generation.

All MTEM offers are aimed at continuing to build awareness and recognition in the marketplace, with the objective of educating and influencing the respective target market groups in support of reductions in natural gas consumption. Results for Enbridge's 2017 MTEM program are provided below in Table 7.0.

Table 7.0 2017 Market Transformation and Energy Management Scorecard

Market Transformation						
Component	Metric	Weight	Targets Lower Band	Targets Target	Targets Upper Band	2017 Result
Residential Savings by Design	*Builders*	**10%**	24	32	48	**27**
	Homes Built	**15%**	1,705	2,273	3,410	**2,570**
Commercial Savings by Design	*New Developments*	**25%**	24	32	48	**30**
School Energy Competition	*Schools*	**10%**	43	57	86	**65**
Run it Right	*Participants*	**20%**	88	117	176	**29**
Comprehensive Energy Management	*Participants*	**20%**	41	55	83	**5**

7.1 Savings by Design – Residential

Objectives	The goal of the Savings by Design (SBD) Residential offer is to demonstrate to builders the potential for achieving higher levels of energy and environmental performance through the application of alternative design approaches through the use of an Integrated Design Process (IDP). 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 15% above the level prescribed in the 2017 Ontario Building Code (OBC). The Residential SBD offer is intended to help builders see the value of the IDP approach, and encourage adoption of higher efficiency design on an ongoing basis.
Target Customer	The offer targets builders and designers of new, Part 9 residential low rise houses (townhouses, semi-detached and detached homes) in the Enbridge franchise area. The intent is to engage builders who

	construct multiple homes in a given year. Ultimately, Rate 1 Residential customers who purchase these properties will be the beneficiaries of better designed, more energy efficient homes.
Metrics	There are two metrics for SBD Residential. The first metric tracks the number of eligible builders/developments that enroll and take part in the IDP process; the second metric tracks the number of homes built to the SBD specifications over the course of the year.
Offer Description	SBD Residential is designed to provide a variety of support activities for builders of new homes from the early design phase through to construction. The primary means to educate and change the marketplace remains the IDP. The SBD offer incorporates a total energy approach, as opposed to a gas only approach in encouraging builders to build to higher levels of energy efficiency. Savings by Design is a process-based approach involving: • Visioning Session – to define the builder's sustainability priorities and opportunities; • Integrated Design Process (IDP) Session – to identify and evaluate strategies and educate builder's to meet sustainability goals and the SBD energy reduction target of 15% beyond 2017 OBC through application of energy modelling; • Building Energy Modelling – to evaluate energy performance baselines and proposed improvements. This SBD consultation process involves connecting participating design teams with leading industry experts and other stakeholders to encourage improved approaches to energy and environmental performance. 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 Savings by Design team guides the builder through a design process to achieve a modelled building that performs to at least 15% better than the 2017 OBC. 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. Channel Consultants maintain regular contact with builders to follow up on builder commitments, to ensure energy audits are completed, and required documentation is submitted as required for the builders to receive incentives. Commitment letters and eligibility documents along with IDP reports are tracked for all participants and a third-party service provider undertakes testing and verification to ensure that constructed homes are built with 15% greater energy efficiency than required under the 2017 OBC to support incentive payments. As introduced in the 2015-2020 DSM Plan, beginning in 2016 the Company has established a descending incentive scale for continued participation. Performance incentives for the offer are as follows: • Builders that complete the IDP portion of the offer for the first time are eligible to receive $2,000 per home completed to the SBD standard (up to 50 homes); • Builders that complete the IDP portion of the offer for the second time are eligible to receive $1,000 per home completed to the SBD standard (up to 100 homes); • Builders that complete the IDP portion of the offer for the third time are eligible to receive $500 per home completed to the SBD standard (up to 200 homes).

	A repeated incentive over time better supports the sustainability of a market change. An incentive that is reduced each time a builder goes through the SBD process allows participants to apply the IDP across their portfolio considering different communities or developments.
2017 Results	As illustrated in Table 7.0, Residential SBD was successful in enrolling 27 participants who completed the IDP process in 2017. In addition, there were 2,570 new homes claims through this initiative that were constructed with features consistent with SBD standards in relation to the completed units metric.

2017 Commentary and Lessons Learned

- The Savings by Design (SBD) Residential offer continues to encourage the design and construction of more efficient homes. In addition to educating builders and encouraging the building of better homes, the offer supports designing and building better communities.

- The visioning session is intended to help identify the technologies suitable for each development. In turn, the appropriate panel of experts is assembled to explore opportunities and design considerations. Builders who participate in the IDP benefit from educational content focusing on the incorporation of existing and new technologies as well as design considerations customized for each project. This aspect of the SBD Residential offer continues to be received positively by participants.

  "The IDP is a requirement of Savings by Design- however, it is also an opportunity for builders. It brings together a group of individuals from different sectors to explore, evaluate and ultimately decide on the best path forward to achieve greater energy efficiency in our homes. Included in this group were: home designers, construction management staff and executive staff from [Builder]; staff members from plans examination, building inspections and

planning from the municipalities involved; energy evaluators; and building product manufacturers. Through-out the IDP, Enbridge program administrators were available to quickly answer questions. A very knowledgeable facilitator provided by Enbridge led the day-long process."

- SBD participant

- The most recent Ontario Building Code update effective January 1, 2017, introduced several changes raising the energy efficiency bar for new home construction across the province, and placed a particular emphasis on improving the building envelope as a means to enhance energy efficiency. Though the objective of the SBD offer targets a 15% above 2017 OBC goal, the SBD Residential team strives to higher standards where appropriate and in some cases in 2017 has worked with builders to attain energy efficiency improvements more than 20% better than 2017 OBC.

- A successful initiative undertaken in 2017 focused on including Municipalities in a number of the IDP sessions. Not only was feedback from these Municipalities very positive, but also this outreach allowed participating builders to benefit from more timely building permits and approvals as the Municipalities recognized the energy efficiency design considerations being proposed for developments in their communities.

- Enbridge continues to work with local and regional Home Builder Associations including the Canadian Home Builders' Association (CHBA) and the Ontario Home Builders' Association (OHBA) to promote SBD to the new builder community. In addition, the Company leverages its partnerships with Certified Energy Advisors (CEAs) to gain more trust with potential builder participants. In 2017, Enbridge increased the role of the CEAs in the IDP process in an effort to enhance the support and understanding for the builder of the modelling undertaken in the IDP session.

- The new housing market continued to be strong in Ontario in 2017 and in particular throughout the Greater Toronto Area. As a result builders have not prioritized energy efficiency with new homes being in such high demand. Nonetheless, the SBD Residential team has been successful working to influence builders to participate in the offer, highlighting that improving energy efficiency above building code can be a competitive market tool with added value to the consumer.

- SBD continues to demonstrate a unique ability to bring the various new home construction stakeholders together, providing builders with an effective and focused facilitation and encouraging builders to achieve energy efficient building goals. The SBD offer will continue to be an important part of the portfolio in 2018.

7.2 Savings by Design – Commercial

Objectives	The goal of the Commercial Savings by Design offer is to use the Integrated Design Process (IDP) to demonstrate to builders of commercial and multi-residential buildings the potential for achieving higher levels of energy and environmental performance through the application of alternative design approaches. The offer supports participants in this process 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.
Target Customer	This offer is targeted at builders and designers of new, Part 3 commercial, institutional, multi-residential or industrial 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.

Metrics	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. Eligibility criteria include the following: • Commercial, institutional, multi-residential or industrial buildings covered under the Ontario Building Code Part 3; • A minimum threshold of 50,000 square feet per project (including aggregate multi-location projects); • Building(s) must be within Enbridge's franchise area, or for aggregate projects 75% of the project square footage must be in the franchise area; and, • Building(s) must be in the design phase or earlier in the process
Offer Description	The SBD Commercial offer is delivered by an internal sales team directly to builders and developers. The offer consists of an Integrated Design Process and continues with post charrette support. The IDP is comprised of a Visioning Session and a charrette, which addresses energy efficiency, site sustainability, sales and marketing, design commissioning, energy modelling, and additional educational support as required. The IDP culminates with a final SBD report and includes the completion of an energy model. The offer also provides for performance incentives. With the finalization of the pre-construction certified energy model demonstrating that the building will be built 15% above the 2017 Ontario Building Code, along with final design stage plans and specifications, builders are eligible to receive $15,000. Upon completion of a post-construction certified model demonstrating that the building has been built 15% above the 2017 Ontario Building Code, along with the final certified commissioning report, builders are

	eligible to receive $15,000. 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. 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.
2017 Results	As illustrated in Table 7.0, Enbridge was successful in enrolling 30 new developments in 2017 that met eligibility requirements and completed the IDP process.

2017 Commentary and Lessons Learned

- Extensive promotion throughout the industry on behalf of Enbridge consultants has resulted in increased recognition of the Savings by Design (SBD) Commercial offer within the new commercial construction sector. In 2017 a greater focus on engaging architects and municipal leaders proved to be successful in identifying opportunities where SBD participation could influence projects in the early stages of design. Participation in the offer has become a marketable achievement to showcase the pursuit of energy efficiency and can be a selling feature for properties.

- The offer continues to receive positive feedback from the new construction community. For example, a leading architect firm that participated in this offer shared the following:

> *"The program brings together a great bunch of people whose focus is to stay current with issues of sustainability. Having so many like-minded people in the same room invites the discussion to go further than it would had there been only*

a single advocate in the mix. The real-time modelling allows the team to explore energy savings measures in groups or individually with immediate feedback on the energy impacts."

- SBD Participant

- In an effort to continue to build offer awareness throughout the building community, Enbridge has seen positive results highlighting past participant experiences through case studies and testimonials delivered at speaking engagements and conferences. In addition, Enbridge continues to leverage strong relationships among industry association stakeholders which provide a primary channel to promote SBD Commercial. In the six years since the offer launched, SBD Commercial has evolved to encompass projects across the building industry and across the Enbridge franchise, including multi-residential, academic, community and public buildings.

- The intent of the SBD offer is to inform builders that achieving higher energy efficiency can be sustainable and economically beneficially to the client. Builders want to take steps to be more energy efficient, particularly in light of increased pressure from local municipalities (e.g. climate change action plan), but many do not have the knowledge to construct energy efficient buildings. The Savings by Design Commercial offer provides education and expertise to highlight existing and new technologies to achieve energy efficiency for Commercial new construction stakeholders.

- Introduced in 2013, "Net Zero" is a label that is being adopted by stakeholders of the building industry, including municipalities, the Home Builders Associations, and the Canadian Green Building Council. Net Zero focuses on buildings that produce as much energy as they use. Initially, the concept of Net Zero was applied to single homes, but now includes six storey wood buildings and will eventually progress to larger buildings. Through the SBD Commercial offer, Enbridge continues to support builders in navigating a path to Net Zero. For instance, one SBD project was featured in the National Conference for Canada

Green Building Council (CaGCB) that was hosted by Enbridge, which highlighted the success of the IDP in educating the builder on how to potentially achieve Net Zero.

- In January 2017, Ontario Building Code requirements increased energy efficiency by approximately 13% from the 2012 Ontario Building Code. As a result, Enbridge changed the offer requirement to 15% greater energy efficiency than required under the 2017 OBC.

- In 2017, Savings by Design was recognized as a leader in promoting energy efficiency and sustainability in Ontario. Enbridge received a number of awards including the Ontario Energy Association (OEA) award for innovation in energy efficiency and sustainability as well as a Special Recognition Award for Excellence in Conservation from the Ontario Sustainable Energy Association (OSEA).

- SBD Commercial Offer continues to be successful and will continue in 2018. Moving forward Enbridge will attempt to increase participation for this offer by engaging architects through multi-media channels such as the Ontario Architects Association Conference.

7.3 School Energy Competition

Objectives	This offer is aimed at educating and empowering students to take action on energy use within their schools, homes and communities. The offer builds on the premise that students are the future leaders of society and influencing energy management awareness, education, and behavior from a young age will help to permeate deeper values of conservation in society.
Target Customer	This offer is targeted to primary and secondary schools, which are primarily Rate 6 customers.
Metrics	Participants eligible for this offer are schools that register, implement activities, and have access to an Energy Management Information System (EMIS) to track natural gas consumption. Participating schools must be part of a school board within one of the publicly funded systems in the Enbridge franchise area in Ontario.
Offer Description	The School Energy Competition (SEC) was launched in 2016 to increase engagement in conservation initiatives. The offer focused on students and teachers, providing them with information on energy use generally, and natural gas in particular, including safety, conservation, and greenhouse gas emissions. Educational efforts are intended to build awareness of energy efficiency and begin to influence behavioural modification. Enbridge sponsors a school competition to encourage participation through a combination of engaging activities

	and educational challenges. The objective is to have students gain a deeper understanding of how their school consumes energy and how their actions can help reduce energy consumption at school and at home. Marketed under the Energy School Challenge (the "Challenge"), which engages schools in a friendly competition, the offer has five main elements: i. Education – The educational component consists of curriculum developed for elementary and secondary school grade levels focusing on real world energy consumption. The curriculum covers topics ranging from natural gas safety to understanding how consumers utilize and are billed for natural gas. An interactive website provides participants with energy efficiency tips at school and at home. In addition, educational materials about residential energy use are available for students to highlight how they use energy in their own homes. ii. Behavioural Change – Community based social marketing (CBSM) research indicates that goal-setting and providing rewards and community awareness is an effective behaviour change tool. In addition to promoting events such as Sweater Day in schools to encourage reduction in heating, specific actions and topic areas targeted include: o Building envelope – reducing consumption via windows/door openings; o Safety – natural gas safety in schools and homes; o Water conservation; and, o Utilization of the interactive website to keep students engaged in the competition. iii. Implementation of Activities – Participants are encouraged to complete an Activities List to achieve points in the Challenge. Activities included: o Participation in or staging an event for Earth Day;

	o Completion of home energy audits by students; o Creation of an Energy Savings Plan for the school o Creation of a Communications Strategy to implement the energy savings plan, utilizing various posters, assemblies, or guest speakers to encourage energy and water conservation; o Participation in Earth Hour events; and, o Submissions for Enbridge to utilize and promote participating schools' engagement on social media iv. Monitoring – Participants confirm they have access to an EMIS. EMIS information provides historical consumption comparisons for participating schools. v. Performance – Through the Competition each school is awarded points and is scored on the completion of activities. Enrollment entails a signed application from the school board and a website registration for the individual school (the participant).
2017 Results	As detailed in Table 7.0 above, 65 schools participated in 2017, representing five different school boards across the Enbridge franchise.

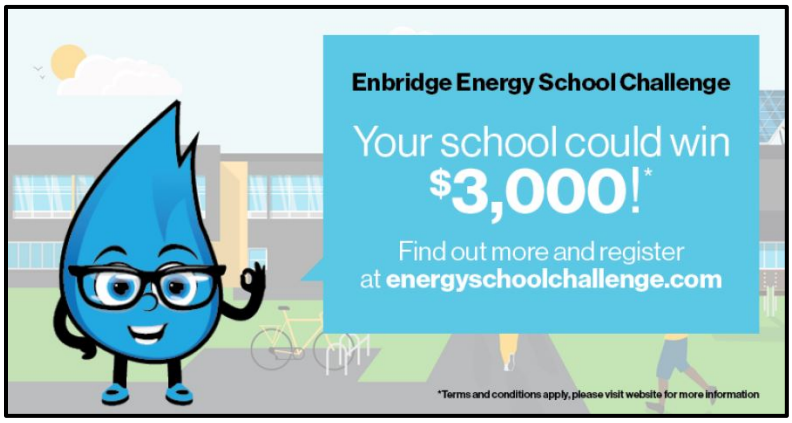
2017 Commentary and Lessons Learned

- In 2017, a total of 65 schools registered in the School Energy Competition (SEC) offer from five school boards across the Enbridge franchise area as outlined in Table 7.0.

- In the previous program year, only included secondary schools participated in the SEC offer. However, as outlined in the original plan, in 2017 Enbridge targeted both elementary and secondary schools.

- The winners were selected based on their final points achievement in the Challenge. The top elementary and secondary schools completed various recommended activities, including:
    - Conducting a School Energy Audit;
    - Creating a Communications Strategy;
    - Encouraging energy savings at home through the promotion of a home energy audit
    - Completing an Art Project; and,
    - Developing an Energy Savings Action Plan;

- In order for schools to participate in the Challenge, Enbridge has to obtain school boards endorsement prior to offer enrollment. In 2017, to increase potential enrollment of participants, Enbridge engaged school boards earlier in the year to allow schools adequate time to register for the Challenge.



- The school board previously provided authorization on a program year basis for schools to participate. Going forward, to streamline the registration process, the Company will investigate the possible extension of the school board's application agreement on a multi-year basis.

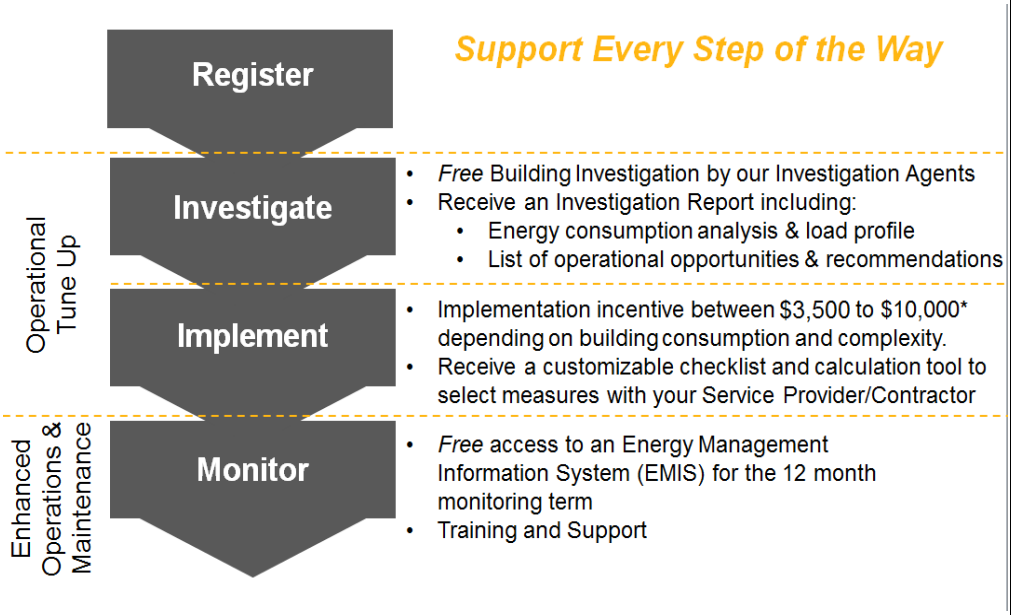
- Following the initial launch of the offer, Enbridge has come to appreciate that the students have limited ability to impact the energy consumption in their schools.

Therefore, Enbridge will place emphasis on the activity portion of the Challenge to encourage and empower students to make a positive change regarding energy use.

- The SEC offer will continue in 2018. Moving forward, Enbridge will expand and leverage existing partnerships to broaden awareness of the offer to increase school enrollment and participation.

7.4 Run it Right

Objectives	The goal of the Run it Right (RiR) offer is to engage Commercial and smaller Industrial customers in the pursuit of enhanced energy performance. RiR supports this outcome through the identification of low cost/no cost operational improvement opportunities, monitoring, measurement, and benchmarking. Along with energy savings opportunity assessments and the identification of low cost/no cost operational improvement measures, this offer promotes the awareness and visibility of building consumption patterns through an Energy Management Information System (EMIS). Ultimately, this offer aims to lead customers toward data-driven decision-making. The objective of RiR is to align with the Board's identified priority for the utility's Multi-Year 2015-2020 DSM Program, as outlined in the Framework, specifically implement DSM programs that are evidence-based and rely on detailed customer data.
Target Customer	This offer is available to customers in the Rate 6, 110, 115, 135, 145, and 170 classes. More specifically, the offer is designed for energy managers and building operators of commercial and small industrial buildings where daily consumption data is accessible.

Metrics	As part of the MTEM scorecard, the RiR offer includes a participant metric. In addition, gas savings resulting from operational improvements identified through this offer also contribute to the CCM metric in the RA scorecard in the year following implementation.
Offer Description	Run it Right supports building managers through the identification and implementation of no cost/low cost operational improvements and facilitates continuous monitoring to increase and maintain efficiency. Efforts can help lower operating costs, improve occupant comfort and functionality of building systems, as well as identify future capital improvements. The RiR offer is designed to motivate customers to optimize the operation of their buildings. 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 future capital investments.  Following enrollment, Enbridge's Investigation Agents take participants through a facility investigation. Upon completion, an Investigation Report is generated outlining facility specific measures (low cost/no cost operational improvements) recommended for the

	achievement of energy savings. In support of this effort, Enbridge provides incentives to offset the implementation cost of identified improvements. RiR participants have access to an EMIS, which allows for the analysis of consumption data (relative to a baseline) to illustrate the impact of improvements over a one year monitoring period. Ongoing consumption data tracking occurs through a 3rd party EMIS for all participants. Customers are deemed a "participant" in Enbridge's RiR offer for the purpose of the MTEM scorecard once they have entered the monitoring stage of the offer. Gas savings results associated with improvements undertaken by RiR participants who previously completed the implementation of measures are included in the CCM metric of the Resource Acquisition scorecard in 2017. Applicant information includes site address and building details, also consumption information is tracked. In addition, details regarding recommendations made by the investigation agent conducting the assessment, milestone dates, measures implemented and incentive amounts are recorded. A third party firm is retained to determine the claimed savings for the RiR offer. Gas consumption data for 12 months prior to implementation (the base year) is used as the base case. Gas consumption is then monitored for 12 months following implementation (the reference year). Gas savings results are weather normalized and are based on a standardized statistical regression analysis for each participant. Final regression analysis reports for each participant are completed and calculated savings are tracked.
2017 Results	As outlined in Table 7.0 above, for 2017 results, 29 participants enrolled in the offer, completed their implementation and proceeded to the monitoring stage of RiR. Gas savings achieved through the

	operational improvements implemented by these customers will be assessed following their respective 12 month monitoring periods. For RiR participants who enrolled in the offer and implemented measures in 2016, a total of 869,455 net CCM of natural gas savings was achieved contributing to the RA scorecard CCM metric. These gas savings were achieved by 59 eligible participants with an average of 2.9% savings per project. A further 26 participants were ultimately deemed ineligible for savings determinations attributable to RiR as these customers either: i) undertook capital projects (seven participants); or, ii) the consumption data did not provide statistical confidence required for regression analysis (19 participants).

2017 Commentary and Lessons Learned

- RiR is a highly resource intensive offer demanding a significant commitment from customers as well as Enbridge staff. Beginning with customer engagement and the determination of suitability following enrollment, customers undergo an investigation of their facility(ies), and an investigation report is completed. Based on this assessment, customers are encouraged to implement recommended measures, and can then proceed to the monitoring stage. EMIS access is arranged as necessary and consumption monitoring is completed.

- Customers have responded positively to RiR, as participation encourages the achievement of gas savings through the implementation of low cost/no cost operational improvements. Though these behavioural and operational improvements do not generally drive significant gas savings relative to capital improvements and despite the perceived ease of identifying such opportunities, the improvements recommended through the RiR identification process would have gone undiscovered without this focus on building optimization.

- In order to quantify only those gas savings resulting from these improvements, customers are expected to not undertake capital improvement projects during the monitoring period. This can prove challenging since the offer spans multiple years. However, it is important to recognize that beyond the CCM savings generated through RiR participation, the education provided to participants, their increased understanding of energy usage, and the identification of further potential energy efficiency opportunities, provide value in influencing customers towards energy awareness.

- Previously, Enbridge has utilized contracted Investigation Agents to complete the building investigation required with RiR participation. Effective 2017, delivery of the offer was modified to allow a broader number of third party efficiency partners, to work with customers to undertake the investigation required in the RiR offer. Marketing literature such as brochures, infographics and flyers were provided to facilitate RiR delivery by efficiency partners. In addition Enbridge utilized training webinars to outline the various phases of the offer as well as detailing process execution for efficiency partners.

- Assessing and interpreting metered data to determine RiR savings remains challenging. Although metered data reflects building consumption, it does not necessarily reflect building and operating conditions that can change daily, monthly, or yearly. Because operational improvements only generate small savings relative to capital improvements, isolating those savings can be challenging using metered data.

- In addition to providing important educational benefits and training for building operators, the objective of the RiR offer aligns with one of the Board's identified priorities outlined in the current Framework, specifically, "Implement DSM programs that are evidence-based and rely on detailed customer data." Despite the fact that this offer continues to present a number of operational challenges, the RiR offer will continue as part of the 2018 portfolio.

7.5 Comprehensive Energy Management

Objectives	The goal of Enbridge's Comprehensive Energy Management (CEM) offer is to help customers reduce operational costs by presenting energy as a controllable input cost, and seek to create a sustainable culture of energy efficiency. This offer intends to build and expand on the Company's existing offers to guide and help customers with a structured approach to identifying, quantifying and implementing energy efficient measures.
Target Customer	The CEM offer is targeted to Commercial and Industrial consumers in the rate classes 6, 110, 115, 135, 145, and 170. The primary target market is Industrial and Institutional customers.
Metrics	As part of the MTEM scorecard, the CEM offer has a participant metric. In addition, gas savings results identified through participation in CEM also contribute to the CCM metric in the RA scorecard following implementation.
Offer Description	As a facilitator and educator, Enbridge leads and assists customers through a set of tools, guidelines, resources and technical expertise, to support a sustainable culture of energy efficiency for the client. Enbridge works with participants in the offer by examining their unique energy usage, creating an energy model, and guiding customers to undertake recommended actions suitable to their operation, including: • Make energy usage a specific performance goal; • Provide resources to follow through with energy management; • Create energy or sustainability teams (at least one dedicated energy manager or champion who allocates some time towards energy efficiency activities); • Demonstrate commitment to improve operations and

	maintenance practices; • Provide the data for Enbridge to create an energy consumption model and be willing to invest in energy management tools, as applicable, to better control and manage their energy; and, • Participate in training to support sustained energy management. Energy Solution Consultants (ESCs) have established relationships with the majority of the target customer base. Therefore, the ESCs serve as the primary point of contact for customers. Through the CEM offer, ESCs further engage with participants both at the energy manager and senior management levels to develop and reinforce their corporate energy plans and identify energy goals. Depending on the requirements of each CEM participant, ESCs help customers justify energy management activities and resource needs based on their business. CEM offers financial incentives as follows: • Funds to offset the cost of energy assessments and monitoring systems where necessary • Incentives for gas savings achieved through identified projects • Funds to promote energy awareness and encourage energy efficiency training
2017 Results	As outlined in Table 7.0, five participants enrolled in the CEM offer in 2017.

2017 Commentary and Lessons Learned

- In 2017 for the Comprehensive Energy Management (CEM) offer, Enbridge's ESCs enrolled five customers to participate. Each participant undergoes a detailed analysis of the energy consumption of their facility which is completed by

Enbridge. Based on the energy use, production data and weather data each facility a representative energy model is created. The energy model is utilized to determine where energy management efforts should be focused as well as identify specific opportunities for potential improvements in energy consumption.

- The main objective of the CEM offer is to assist customers reduce operational costs through energy management practices by presenting energy as a controllable input cost. As a starting point, participation in CEM provides customers with a roadmap to guide them through energy based decisions and to support building a culture of sustained energy efficiency at the customer facility. However, commitment to energy efficiency investments is often dependent on the customer's operational cycle, which can be several years. Energy management is a transformational process, which requires a multi-year commitment in effort, time, and funding. Thus ESCs will continue to work with participants to support actionable energy improvements beyond the first year of participation in this offer.

- In some cases, where energy use is complex, Enbridge recommends there is value in installing an EMIS system. Over the past two year Enbridge has provided funding to support the installation of an EMIS for a number of the CEM participants. Enbridge has learned, however, that some customers have had difficulty obtaining corporate approval for the funding of these systems despite the assistance of Enbridge incentives, particularly when compared to undertaking other capital investments. In these cases, for modelling and monitoring purposes, Enbridge and the customer have alternatively utilized existing on-site metering and data collection infrastructure. Though not optimal, this has lessened some of the financial requirement while still engaging the customer in energy management practices.

- To create natural gas consumption models on a facility level Enbridge has used the existing energy consumption data of the participant's facility, looking forward,

ESCs will continue to focus efforts on the identification of additional metering structure required to create energy models on a smaller scale. It is anticipated this initiative may have a greater effect in allowing detailed day-to-day operations to be analyzed and further identify opportunities for energy efficient improvements.

- Ontario electricity customers pay a global adjustment on their electricity bills. As this charge is becoming increasingly significant in cost, affected customers are often understandably paying relatively less attention to their natural gas consumption and costs. In an effort to address this barrier, Enbridge ESC's also work with customers to investigate the electric savings potential that might also be realized through participation in the CEM offer.

- Customers often do not recognize the value of adopting a formal energy management plan. Looking forward, Enbridge will need to continue to leverage opportunities to educate target customers about CEM and the benefits of creating a sustainable culture of energy efficiency. In 2017, Enbridge gave presentations on the CEM offer at the following events:
    - Dollars and Sense Workshop on Energy Management
    - The Canadian Manufacturers & Exporters (CME) Energy Conference
    - The Greening Healthcare workshop
    - Powering Up Durham – Save on energy Symposium
    - Enbridge hosted Customer Workshops

  Enbridge also focused on engaging customers to participant in the CEM offer through advertisements in trade magazine.

- Customer response to the CEM offer continues to be positive. In particular, one 2017 participant, a strong advocate for the CEM offer, agreed to participate in the Energy Summit conference as well as Enbridge customer workshops highlighting the benefits of creating a sustainable culture of energy efficiency that could be achieved through participation in the CEM offer.

- As the Company's intention is to change energy management in participant's facilities from a transactional activity to a transformational one, Enbridge will continue to refine this offer and determine how to best assist customers. Enbridge will accomplish this by making energy a visible, and therefore controllable, input for the customer. The CEM offer will continue in 2018.

8. Lost Revenue Adjustment Mechanism Variance Account

The Lost Revenue Adjustment Mechanism (LRAM) allows the Company to recover the lost distribution revenue associated with DSM activity. The LRAMVA 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, 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 using the volumetric impact of the measures implemented on a monthly basis over the course of the program year. The LRAMVA 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). The 2017 LRAM calculation is provided in Table 8.0.

Table 8.0 2017 LRAM Calculation

2017 Draft Annual Report LRAM Calculation

Based on 52,513,236 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	2,698,098	481,108	(2,216,991)	1.8530	($41,080)	$8,915
Rate 115	2,157,728	122,987	(2,034,740)	0.9782	($19,905)	$1,203
Rate 135	85,369	172,348	86,979	1.6703	$1,453	$2,879
Rate 145	384,545	1,686	(382,858)	1.9652	($7,524)	$33
Rate 170	575,188	72,037	(503,150)	0.7217	($3,631)	$520
Totals	5,900,927	850,166	($5,050,761)		($70,687)	$13,550

Amount to be paid back to Ratepayers $70,687

** 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 (DSMI)

Enbridge earns a shareholder incentive based on its performance against targets outlined for Resource Acquisition, Low Income and Market Transformation scorecards. Based on the approved maximum DSMI outlined in EB-2015-0049, Table 9.0 summarizes how the maximum incentive available in 2017 is allocated across each program.

Table 9.0 2017 DSM Maximum Incentive Allocation

Program	Maximum Incentive Available
Resource Acquisition	$7,025,881
Low Income	$2,228,894
Market Transformation	$1,195,225
	$10,450,000

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

Table 9.1 2017 Resource Acquisition Scorecard & DSMI

Resource Acquisition						
Component	Metric	Weight	Targets			2017 Result
			Lower Band	Target	Upper Band	
Large Volume Customers	*Cumulative Savings (million m³)*	**40%**	327.1	436.1	654.1	**257.21**
Small Volume Customers	*Cumulative Savings (million m³)*	**40%**	277.8	370.4	555.6	**288.92**
Deep Residential Savings	*Participants*	**20%**	6,837	9,116	13,674	**11,390**
		Total Weighted Scorecard Target Achieved				**79.8%**
		Scorecard Incentive Achieved				**$537,831**

Table 9.2 2017 Low Income Scorecard & DSMI

Low Income						
Component	Metric	Weight	Targets			2017 Result
			Lower Band	Target	Upper Band	
Single Family (Part 9)	*Cumulative Savings (million m³)*	**45%**	30.5	40.7	61.0	**19.60**
Multi-Residential (Part 3)	*Cumulative Savings (million m³)*	**45%**	94.8	126.4	189.6	**58.00**
New Construction	*Participants*	**10%**	21	28	42	**11**
		Total Weighted Scorecard Target Achieved				**46.3%**
		Scorecard Incentive Achieved				**$0**

Table 9.3 2017 Market Transformation Scorecard & DSMI

Market Transformation						
Component	Metric	Weight	Targets			2017 Result
			Lower Band	Target	Upper Band	
Residential Savings by Design	*Builders*	**10%**	24	32	48	**27**
	Homes Built	**15%**	1,705	2,273	3,410	**2,570**
Commercial Savings by Design	*New Developments*	**25%**	24	32	48	**30**
School Energy Competition	*Schools*	**10%**	43	57	86	**65**
Run it Right	*Participants*	**20%**	88	117	176	**29**
Comprehensive Energy Management	*Participants*	**20%**	41	55	83	**5**
		Total Weighted Scorecard Target Achieved				**67.2%**
		Scorecard Incentive Achieved				**$0**

Table 9.4 2017 DSMIDA Summary

Program	DSMIDA by Program
Resource Acquisition	$537,831
Low Income	$0
Market Transformation	$0
TOTAL	**$537,831**

10. 2017 Budget and Program Spending

10.1 Budget

Table 10.0 provides the 2017 DSM budget as outlined in the 2015-2020 Multi-Year DSM Plan (EB-2015-0049). The Board approved a 2017 budget of $62,933,844 in its Decision on January 20th, 2016.

Table 10.0 2017 DSM Plan Budget

Program	Program Budget	Overheads	Total Budget
Resource Acquisition	$34,384,381	$5,104,327	$39,488,708
Low Income	$10,908,121	$1,619,299	$12,527,420
Market Transformation	$5,849,381	$868,335	$6,717,716
Total Program Budget	**$51,141,883**	**$7,591,961**	**$58,733,844**
Portfolio Overheads			$4,200,000
Total 2017 DSM Budget			**$62,933,844**

10.2 2017 Spending

Table 10.1 2017 OEB Approved Budget vs. Spending

Program	OEB Approved Budget (Built Into Rates)	2017 Spending	Variance
Resource Acquisition	**$39,488,708**	**$40,203,504**	**$714,796**
Home Energy Conservation	*$15,180,000*	*$22,644,994*	*$7,464,994*
Residential Adaptive Thermostats	*$1,525,000*	*$1,479,319*	*-$45,681*
Commercial & Industrial Custom	*$7,157,145*	*$7,240,134*	*$82,989*
Commercial & Industrial Prescriptive	*$2,241,134*	*$1,113,533*	*-$1,127,601*
Commercial & Industrial Direct Install	*$5,060,872*	*$1,807,641*	*-$3,253,231*
Small Commercial New Construction	*$1,305,566*	*$0*	*-$1,305,566*
Energy Leaders (Large & Small C/I)	*$400,000*	*$78,613*	*-$321,387*
Run it Right (RA)	*$1,434,480*	*$872,005*	*-$562,475*
Comprehensive Energy Management (RA)	*$80,184*	*$0*	*-$80,184*
Overheads	*$5,104,327*	*$4,967,265*	*-$137,062*
Low Income	**$12,527,420**	**$9,391,524**	**-$3,135,896**
Home Winterproofing	*$6,290,000*	*$4,539,420*	*-$1,750,580*
Low-Income Multi-Residential - Affordable Housing	*$3,418,121*	*$2,765,831*	*-$652,290*
Low-Income New Construction	*$1,200,000*	*$510,456*	*-$689,544*
Overheads	*$1,619,299*	*$1,575,817*	*-$43,482*
Market Transformation	**$6,717,716**	**$5,768,248**	**-$949,468**
Residential Savings by Design	*$3,250,000*	*$2,596,284*	*-$653,716*
Commercial Savings by Design	*$950,000*	*$1,210,688*	*$260,688*
School's Energy Competition	*$600,000*	*$460,396*	*-$139,604*
Run it Right (MT)	*$285,520*	*$421,777*	*$136,257*
Comprehensive Energy Management (MT)	*$763,861*	*$234,085*	*-$529,776*
Overheads	*$868,335*	*$845,018*	*-$23,317*
Program Cost Subtotal	**$51,141,883**	**$47,975,175**	**-$3,166,708**
Overhead Subtotal	**$7,591,961**	**$7,388,101**	**-$203,860**
Residential Savings by Design Incentive Accrual [1]	$0	$1,620,000	$1,620,000
Commercial Savings by Design Incentive Accrual [1]	$0	$60,000	$60,000
Low-Income New Construction Incentive Accrual [1]	$0	$648,500	$648,500
Accrued Incentives Subtotal	**$0**	**$2,328,500**	**$2,328,500**
Program Costs Total	**$58,733,844**	**$57,691,776**	**-$1,042,068**
Porfolio Overheads	**$4,200,000**	**$2,080,992**	**-$2,119,008**
Grand Total	**$62,933,844**	**$59,772,768**	**-$3,161,076**

1. Accrued Incentive Amounts reflect updated direction provided by the Board outlined in EB-2017-0127/0128, Report of the Ontario Energy Board: Mid-Term Review of the DSM Framework for Natural Gas Distributors (2015-2020), November 29, 2018, page 16.

As outlined in Table 10.1 above, total spending in 2017 amounted to $59,772,768. Total spending includes accrued amounts for future incentive payment commitments for applicable offers.

10.3 Collaboration and Innovation Fund

In the 2015-2020 Multi-Year Decision, released January 20, 2016, the Board approved Enbridge's proposal for a $6 million Collaboration and Innovation Fund (CIF) to be spent over the term of the 2015-2020 Multi-Year DSM Plan[12]. The purpose of the CIF is to designate funding to support the mandate of pursuing greater integration and coordination with industry partners including electric Local Distribution Companies (LDSs) on collaborative pilots, programs and projects. In addition, the CIF also allows the Company to pursue innovation initiatives that have the potential to drive meaningful energy savings and greenhouse gas (GHG) reductions.

In 2016, as detailed in the 2016 DSM Annual Report[13], the Company leveraged the CIF to develop and implement various collaborative pilots and innovation initiatives that focused on raising the level of awareness and engagement on joint gas and electric programming or testing energy use designs or concepts. This work set the foundation for future CIF efforts.

In 2017, the Company continued many of the initiatives started in 2016 and was able to expand its portfolio of collaborative initiatives and innovative projects. 2017 spending in the Collaboration and Innovation Fund was $486,247.

Table 10.2 below provides an outline of the CIF initiatives that were undertaken by Enbridge throughout the 2017 program year. The chart below includes only the collaborative or innovative efforts that received funding from the CIF in 2017 and is not a comprehensive list of all of Enbridge's collaborative or innovative initiatives.

[12] Decision and Order (EB-2015-0049); Ontario Energy Board, pg. 82.
[13] EB-2018-0301, Exhibit B, Tab 2, Schedule 1, 2016 DSM Annual Report, November 17, 2018, page 131

Table 10.2 CIF Overview

Partner	Customer Segment/ Topic	Overview
IESO and Union Gas	Commercial & Industrial	Enbridge, Union Gas and the IESO partnered to deliver a joint training incentive initiative. Through this collaboration, customers received an incentive for participation and completion of Energy Manager Certification, Building Operator Certification and/or Dollars to $ense Energy Management Workshop. Participants use the knowledge gained to directly influence the decision to improve the energy performance of the buildings they manage.
Multiple LDCs	Commercial	Enbridge participated in a bi-annual energy conservation information and networking event with electric LDCs from the Greater Toronto and Hamilton Areas. These events connect customers, industry partners and utilities to share industry trends and enhance knowledge sharing and networks. Enbridge participated to provide perspective and influence to a predominately electric conference for a more holistic energy understanding.
Multiple LDCs	Commercial & Industrial	LDCs initiated various information and networking events such as Energy into Action, Energy into Action Niagara and Power-Up Durham. These events targeted Commercial and Industrial customers as well as business partners. At these events, Enbridge promoted a customer centric approach to energy efficiency as well as information regarding programs offered by Enbridge.
Alectra Utilities and	Net Zero Energy	Researching the benefits of a comprehensive integration of gas and electricity systems using new

Partner	Customer Segment/ Topic	Overview
City of Markham	Emission Technology Research	technologies such as air source heat pumps and micro Combined Heat and Power (MCHP) to reduce energy demand and lower carbon emissions in the residential sector.
Multiple Industry Partners	Geothermal Heat Pumps	Enbridge, San Diego Homes, and the IESO embarked on a pilot aimed to test and measure the performance of geothermal heat pumps for the residential new construction market. Consistent with the objective of the Savings by Design offers, this pilot encourages residential developers to construct projects more energy efficient than required by the building code.
Multiple Industry Partners	Multi-Residential	Energy Star multi-family building pilot is a three year pilot led by Enerquality and supported by Enbridge, IESO as well as Natural Resources Canada. This pilot aims to design, develop and implement a third party energy efficiency certification program for mid to high-rise residential buildings in Ontario. This pilot aligns with Enbridge's holistic building approach to energy efficiency programming.
London Hydro and Union Gas	Residential & Commercial	The customer energy management initiative seeks to expand London Hydro's smart phone application to allow customers to access both their electricity and natural gas consumption on a real time basis. This application will enhance customer awareness of natural gas consumption and potentially positively influence the customer's behavior towards energy efficiency and conservation programs.

10.4 Demand Side Management IT (DSMIT)

Enbridge continued working towards the goal of implementing a new IT application throughout 2017. Having completed the RFP and blue print exercises in 2016, the Company selected a vendor through a competitive bidding process in order to start the design and development phases of the project in 2017. The main elements for the design and development phases included:

Design Phase:

- Technical design
- Mapping requirements to functions
- Creating the solution architecture
- Creating the data migration and data management plan
- Creating the integration plan
- Creating the test strategy

Development Phase:

- Field mapping and schema design
- Screen designs
- System template creation
- Initialize meta data
- Data migration and integration working sessions

Financial Summary:

As per the Decision, Enbridge has an annual $1 million chargeback for DSMIT. In 2017, Enbridge spent $3,496,000 on DSMIT (combined Capital and O&M), primarily on the technical design and development project phases.

Consistent with how the Company recovers capital costs, we have not reflected the impact of project related capital costs within our annual DSM financial results to date.

The Company plans to include the annual revenue requirement impact of the DSMIT capital costs within annual DSM financial results, once the system goes live. Therefore, only the DSMIT O&M amounts have been included as part of the financial results in 2016 and 2017.

As outlined in Tables 10.3 and 10.4, Enbridge spent $100,000 in 2016 and expected the bulk of the expenditure to take place in 2017. In reality, the most significant portion of project related costs will occur in both 2017 and 2018. In 2018 the Company forecasts project costs to be approximately $2,885,000 (combined Capital and O&M).

Since spending for a project of this nature is not linear, it is understood that some years will have a significant underspend and some years will have a significant overspend. These imbalances will flow through the DSMVA as a credit or debit to ratepayers. The current spending is forecast to result in a revenue requirement beyond the original forecasted DSM IT Chargeback of $5 million over the Multi-Year Plan.

Table 10.3 DSMIT Capital Costs Summary

	2016 Actual	2017 Actual	2018 Forecast
Capital Costs	$7,000	$3,392,000	$2,765,000

Table 10.4 DSMIT O&M Costs Summary

	2016 Actual	2017 Actual	2018 Forecast
O&M Costs	$100,000	$104,000	$120,000

10.5 Demand Side Management Variance Account

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."[14]

In addition, as outlined by the Board in its Mid-Term Report, Enbridge was instructed to use the DSMVA to track future financial commitments for offers with deferred customer incentives.

The DSM budget built into rates for the 2017 calendar year was $62,933,844. This amount was approved by the Board in its Decision and Order in EB-2015-0049 on January 20th, 2016.

In 2017, the full OEB approved budget was not spent. The total amount of unspent dollars, pre accrual, in the DSMVA is $5,489,576. Of this amount, $2,328,500 represents amounts accrued for incentive payment commitments to be paid out in future years and tracked in the DSMVA. $3,161,076 is to be refunded to ratepayers.

Table 10.5 DSMVA Summary: 2017 Spending vs. DSM Budget Built Into Rates

DSM Budget Previously Built Into Rates	A	$62,933,844
2017 DSM Spending	B	$57,444,268
DSMVA (Pre Accruals)	C=B-A	-$5,489,576
Deferred Incentive Accruals	D	$2,328,500
DSMVA amount to be Returned to Ratepayers	=C+D	-$3,161,076

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

Table 10.5 shows the variance between the approved DSM budget built into rates and the 2017 DSM spending, including accrued amounts for future incentive payment commitments(as summarized previously in Table 10.1).

10.6 Demand Side Management Cost-Efficiency Incentive Deferral Account

As noted in the OEB's revised Decision and Order, dated February 24, 2016, "The purpose of the DSMCEIDA is to record, as a credit in Deferral Account No. 179-046, the differences between Enbridge Gas Distribution Inc.'s (Enbridge or the Company) annual approved DSM budget and the actual amounts spent to achieve the total aggregate annual lifetime savings (cumulative cubic meters of natural gas, or CCM) targets made up of all 100% CCM targets across all programs, in accordance with the program evaluation results."[15]

For the 2017 program year, Enbridge is not proposing any amount be recorded in the DSMCEIDA.

[15] EB-2015-0049, Decision and Order, OEB, February 24, 2016, page 6.

10.7 DSM Rate Allocation

Table 10.6 illustrates the allocation to rate classes of the various 2017 deferral and variance accounts.[16]

Table 10.6 2017 Rate Allocation

Rate Class	DSMIDA	LRAMVA [1] [2]	DSMVA [3]	TOTAL
Rate 1	$368,699	N/A	$7,293,405	$7,662,104
Rate 6	$145,663	N/A	-$5,464,346	-$5,318,683
Rate 9	$19	$0	-$588	-$569
Rate 100	$0	$0	$0	$0
Rate 110	$12,176	-$41,080	-$474,429	-$503,333
Rate 115	$4,901	-$19,905	-$835,304	-$850,308
Rate 125	$707	$0	-$22,045	-$21,338
Rate 135	$3,168	$1,453	$84,253	$88,874
Rate 145	$743	-$7,524	-$1,589,743	-$1,596,525
Rate 170	$1,462	-$3,631	-$2,143,167	-$2,145,336
Rate 200	$245	$0	-$7,642	-$7,397
Rate 300	$47	$0	-$1,470	-$1,423
Total	**$537,831**	**-$70,687**	**-$3,161,076**	**-$2,693,932**

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. DSMVA rate allocation amounts include the impact of accrued incentives

[16] 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

For prescriptive input assumptions related to the calculation of savings claims and the calculation of the DSM Shareholder Incentive:

- (EB-2016-0246) Technical Reference Manual/Applications and Decisions – Union Gas Limited & Enbridge Gas Distribution Inc. (Joint Filing) – Input Assumptions

This filing can be found on the OEB website:

https://www.oeb.ca/industry/policy-initiatives-and-consultations/natural-gas-demand-side-management-dsm

For custom measure life values related to the calculation of savings claims and the calculation of the DSM Shareholder Incentive:

- Final Report: Custom Measure Life Review, Michaels Energy, May 10, 2018

This report can be found on the OEB website:

https://www.oeb.ca/industry/policy-initiatives-and-consultations/natural-gas-demand-side-management-dsm-evaluation

Appendix B: 2017 Avoided Costs

The 2017 Avoided Costs used in the determination of 2017 results are included here for reference in the following charts:

Year	2017 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	0.1510	0.1548	0.1682	0.1803	0.1650	0.1761	0.1533	0.1568
2	0.1607	0.3067	0.1863	0.3564	0.1778	0.3442	0.1661	0.3139
3	0.1926	0.4790	0.2107	0.5449	0.2141	0.5357	0.1920	0.4855
4	0.1850	0.6354	0.2041	0.7175	0.2035	0.7077	0.1856	0.6425
5	0.1906	0.7878	0.2102	0.8856	0.2096	0.8753	0.1912	0.7953
6	0.1963	0.9362	0.2165	1.0493	0.2159	1.0385	0.1969	0.9442
7	0.2022	1.0807	0.2230	1.2088	0.2223	1.1975	0.2028	1.0893
8	0.2082	1.2215	0.2297	1.3641	0.2290	1.3524	0.2089	1.2305
9	0.2145	1.3587	0.2366	1.5154	0.2359	1.5032	0.2152	1.3681
10	0.2209	1.4922	0.2437	1.6628	0.2430	1.6501	0.2216	1.5021
11	0.2275	1.6223	0.2510	1.8063	0.2502	1.7931	0.2283	1.6326
12	0.2344	1.7490	0.2586	1.9461	0.2578	1.9325	0.2351	1.7597
13	0.2414	1.8724	0.2663	2.0822	0.2655	2.0682	0.2422	1.8835
14	0.2486	1.9926	0.2743	2.2149	0.2734	2.2004	0.2494	2.0041
15	0.2561	2.1097	0.2825	2.3440	0.2817	2.3292	0.2569	2.1216
16	0.2638	2.2237	0.2910	2.4698	0.2901	2.4546	0.2646	2.2360
17	0.2717	2.3348	0.2997	2.5924	0.2988	2.5767	0.2726	2.3474
18	0.2798	2.4430	0.3087	2.7117	0.3078	2.6957	0.2808	2.4560
19	0.2882	2.5484	0.3180	2.8280	0.3170	2.8116	0.2892	2.5617
20	0.2969	2.6510	0.3275	2.9412	0.3265	2.9245	0.2979	2.6646
21	0.3058	2.7509	0.3374	3.0515	0.3363	3.0344	0.3068	2.7649
22	0.3150	2.8483	0.3475	3.1589	0.3464	3.1415	0.3160	2.8626
23	0.3244	2.9431	0.3579	3.2635	0.3568	3.2458	0.3255	2.9577
24	0.3341	3.0355	0.3687	3.3654	0.3675	3.3474	0.3352	3.0504
25	0.3442	3.1254	0.3797	3.4647	0.3785	3.4463	0.3453	3.1406
26	0.3545	3.2131	0.3911	3.5613	0.3899	3.5427	0.3556	3.2285
27	0.3651	3.2984	0.4028	3.6555	0.4016	3.6365	0.3663	3.3142
28	0.3761	3.3815	0.4149	3.7472	0.4136	3.7279	0.3773	3.3976
29	0.3874	3.4625	0.4274	3.8365	0.4260	3.8170	0.3886	3.4788
30	0.3990	3.5413	0.4402	3.9235	0.4388	3.9037	0.4003	3.5579

The Nominal Inflation Rate used in the table is 2.0%
The Real Discount Factor used in the table is 4.0%

2017 Water and Electricity Avoided Costs

Year	Water Heating				Space Heating				Combined Space & Water Heating				Industrial			
	Electricity (¢/Kwh)		Water ($/1000 litre)		Electricity (¢/Kwh)		Water ($/1000 litre)		Electricity (¢/Kwh)		Water ($/1000 litre)		Electricity (¢/Kwh)		Water ($/1000 litre)	
	Rate	NPV	Rate	NPV	Rate	NPV	Rate	NPV	Rate	NPV	Rate	NPV	Rate	NPV	Rate	NPV
1	0.1354	$0.14	0.9114	$0.91	0.1354	$0.14	0.9114	$0.91	0.1354	$0.14	0.9114	$0.91	0.1354	$0.14	0.9114	0.9114
2	0.1354	$0.26	0.9116	$1.77	0.1354	$0.26	0.9116	$1.77	0.1354	$0.26	0.9116	$1.77	0.1354	$0.26	0.9116	1.7735
3	0.1355	$0.38	0.9118	$2.59	0.1355	$0.38	0.9118	$2.59	0.1355	$0.38	0.9118	$2.59	0.1355	$0.38	0.9118	2.5888
4	0.1355	$0.50	0.9119	$3.36	0.1355	$0.50	0.9119	$3.36	0.1355	$0.50	0.9119	$3.36	0.1355	$0.50	0.9119	3.3600
5	0.1355	$0.61	0.9121	$4.09	0.1355	$0.61	0.9121	$4.09	0.1355	$0.61	0.9121	$4.09	0.1355	$0.61	0.9121	4.0893
6	0.1355	$0.71	0.9123	$4.78	0.1355	$0.71	0.9123	$4.78	0.1355	$0.71	0.9123	$4.78	0.1355	$0.71	0.9123	4.7792
7	0.1356	$0.81	0.9125	$5.43	0.1356	$0.81	0.9125	$5.43	0.1356	$0.81	0.9125	$5.43	0.1356	$0.81	0.9125	5.4316
8	0.1356	$0.90	0.9127	$6.05	0.1356	$0.90	0.9127	$6.05	0.1356	$0.90	0.9127	$6.05	0.1356	$0.90	0.9127	6.0488
9	0.1356	$0.99	0.9129	$6.63	0.1356	$0.99	0.9129	$6.63	0.1356	$0.99	0.9129	$6.63	0.1356	$0.99	0.9129	6.6324
10	0.1356	$1.07	0.9131	$7.18	0.1356	$1.07	0.9131	$7.18	0.1356	$1.07	0.9131	$7.18	0.1356	$1.07	0.9131	7.1845
11	0.1357	$1.14	0.9133	$7.71	0.1357	$1.14	0.9133	$7.71	0.1357	$1.14	0.9133	$7.71	0.1357	$1.14	0.9133	7.7066
12	0.1357	$1.22	0.9134	$8.20	0.1357	$1.22	0.9134	$8.20	0.1357	$1.22	0.9134	$8.20	0.1357	$1.22	0.9134	8.2005
13	0.1357	$1.29	0.9136	$8.67	0.1357	$1.29	0.9136	$8.67	0.1357	$1.29	0.9136	$8.67	0.1357	$1.29	0.9136	8.6676
14	0.1358	$1.35	0.9138	$9.11	0.1358	$1.35	0.9138	$9.11	0.1358	$1.35	0.9138	$9.11	0.1358	$1.35	0.9138	9.1093
15	0.1358	$1.42	0.9140	$9.53	0.1358	$1.42	0.9140	$9.53	0.1358	$1.42	0.9140	$9.53	0.1358	$1.42	0.9140	9.5272
16	0.1358	$1.47	0.9142	$9.92	0.1358	$1.47	0.9142	$9.92	0.1358	$1.47	0.9142	$9.92	0.1358	$1.47	0.9142	9.9224
17	0.1358	$1.53	0.9143	$10.30	0.1358	$1.53	0.9143	$10.30	0.1358	$1.53	0.9143	$10.30	0.1358	$1.53	0.9143	10.2962
18	0.1359	$1.58	0.9145	$10.65	0.1359	$1.58	0.9145	$10.65	0.1359	$1.58	0.9145	$10.65	0.1359	$1.58	0.9145	10.6497
19	0.1359	$1.63	0.9147	$10.98	0.1359	$1.63	0.9147	$10.98	0.1359	$1.63	0.9147	$10.98	0.1359	$1.63	0.9147	10.9841
20	0.1359	$1.68	0.9149	$11.30	0.1359	$1.68	0.9149	$11.30	0.1359	$1.68	0.9149	$11.30	0.1359	$1.68	0.9149	11.3004
21	0.1359	$1.72	0.9151	$11.60	0.1359	$1.72	0.9151	$11.60	0.1359	$1.72	0.9151	$11.60	0.1359	$1.72	0.9151	11.5995
22	0.1360	$1.77	0.9153	$11.88	0.1360	$1.77	0.9153	$11.88	0.1360	$1.77	0.9153	$11.88	0.1360	$1.77	0.9153	11.8824
23	0.1360	$1.80	0.9155	$12.15	0.1360	$1.80	0.9155	$12.15	0.1360	$1.80	0.9155	$12.15	0.1360	$1.80	0.9155	12.1500
24	0.1360	$1.84	0.9156	$12.40	0.1360	$1.84	0.9156	$12.40	0.1360	$1.84	0.9156	$12.40	0.1360	$1.84	0.9156	12.4031
25	0.1361	$1.88	0.9158	$12.64	0.1361	$1.88	0.9158	$12.64	0.1361	$1.88	0.9158	$12.64	0.1361	$1.88	0.9158	12.6425
26	0.1361	$1.91	0.9160	$12.87	0.1361	$1.91	0.9160	$12.87	0.1361	$1.91	0.9160	$12.87	0.1361	$1.91	0.9160	12.8689
27	0.1361	$1.94	0.9162	$13.08	0.1361	$1.94	0.9162	$13.08	0.1361	$1.94	0.9162	$13.08	0.1361	$1.94	0.9162	13.0830
28	0.1361	$1.97	0.9164	$13.29	0.1361	$1.97	0.9164	$13.29	0.1361	$1.97	0.9164	$13.29	0.1361	$1.97	0.9164	13.2855
29	0.1362	$2.00	0.9166	$13.48	0.1362	$2.00	0.9166	$13.48	0.1362	$2.00	0.9166	$13.48	0.1362	$2.00	0.9166	13.4771
30	0.1362	$2.03	0.9167	$13.66	0.1362	$2.03	0.9167	$13.66	0.1362	$2.03	0.9167	$13.66	0.1362	$2.03	0.9167	13.6583

The Nominal Inflation Rate used in the table is 2.0%

The Real Discount Factor used in the table is 4.0%

Appendix C: Enbridge Gas Distribution Inc. Affordable Housing New Construction Program – Stakeholder Research and Analysis, Phase 2 of 2, C2C Strategies

engage wisely

Enbridge Gas Distribution Inc.

Affordable Housing New Construction Program

Stakeholder Research and Analysis

Phase 2 of 2

Final REPORT

7 December 2017

Prepared by:
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www.c2cstrategies.ca

Table of Contents

INTRODUCTION

The Affordable Housing New Construction Program (Program) was rolled out in 2016 as part of Enbridge Gas Distribution's (Enbridge) 2016-2020 natural gas demand side management (DSM) Low Income Program portfolio. The Program was implemented by way of a 'soft launch' during the first half of 2016 with participants brought in through Enbridge's regular DSM work in the social and affordable housing, and building development sectors.

C2C Strategies was asked by Enbridge to undertake an early review of the Program during Fall 2016 by conducting a series of interviews with soft launch participants. The purpose of the research was to assess the incentive approach, program delivery effectiveness and participants' general experience with the Program during the soft launch period. A report of these research findings is contained in a Phase 1 Final Report dated December 2016.

Participants' experience with the Program was limited during the earlier research period. No Participant had completed a full cycle of the Program at that time. That is, no Housing Provider had completed construction of their affordable housing project and applied for their final Energy Efficiency Design Implementation or Commissioning Incentive (if a Part 3 project).

Over the past 12 months Enbridge has made minor modifications to the Program process[1] based on Phase 1 findings, and has further added new and repeat affordable housing Participants to the Program. This report contains findings from Phase 2 of stakeholder research that builds on earlier research efforts, which includes a review of ongoing experience of the Program by existing and new Program participants.

Findings from this qualitative research initiative are expected to inform continuous improvement of the Program methodology and approach.

[1] The process and approach adopted for Part 3 buildings now more closely aligns with the Enbridge Savings by Design green building initiative.

RESEARCH METHODOLOGY

Similar to the research conducted in 2016, Enbridge identified six different projects that are currently enrolled in the Program as the basis for Phase 2 review. The projects included a sample of both Part 3 multi-residential buildings and Part 9 single family dwellings. For this research C2C conducted one-on-one telephone interviews with seven individuals, including

- Participants who were the project owners (also known as Housing Providers); and/or
- Selected members of a Participant's consulting, project management, or architectural design team.

Unlike Phase 1 research, interviewees did not include consultant representatives working on behalf of Enbridge to provide technical energy modeling support in the delivery of the Program.

The research approach consisted of a telephone interview lasting approximately 30 minutes and was conducted in a conversational style guided by questions designed to elicit interviewee perspectives on the following topics:

- Level of knowledge of the Program generally, the participation process and incentive structure.
- Experience to date with various Program elements.
- Thoughts, ideas and suggestions for building Program awareness and marketing.

Respondents were assured of confidentiality in respect to their specific input.

The following table outlines each Interviewee's association with a building project and experience with a relative AHNC incentive stream:

Table 1

Interviewee	Interviewee Project Role	Part 9 Incentive Stream	Part 3 Incentive Stream
1	Housing Provider	Project A Project B	Project A Project B
2	Construction Manager	Project B	Project B
3	Project Manager/Architect	–	Project C
4	Project Manager	–	Project D
5	Housing Provider	–	Project E
6	Project Manager/Architect	–	Project E
7	Project Manager/Architect	–	Project F

Evident from the table above is that two of the participants have housing developments that include both multi-residential buildings and low-rise single family homes. In these cases, the housing development is enrolled in the AHNC program's Part 3 stream for the multi-residential buildings and the Part 9 stream for the low-rise single family homes. Therefore, only two of the seven interviewees were able to share thoughts on their experience with the Part 9 application stream.

Due to the small sample size underpinning the research it is important to note that results are not to be construed in any way as statistically significant.

RESEARCH FINDINGS

Phase 1 research produced a sufficiently detailed process map constructed from a Program participant perspective. Phase 2 revealed no changes necessary to the defined process but provided deeper insight on perceptions held by interviewees about the incentives and how they were earned by participating in the program process.

1. Application Process

As in earlier research, interviewees described the application process as *simple and straightforward*, *easy*, and *very good*. This round of research emphasized that regardless of project size, Housing Providers or project owners did not fill out the application themselves. In two projects, the forms were signed by the Housing Provider, but submitted by a member of their design team. In another case it appeared that the energy efficiency consultant submitted the application on behalf of the Housing Provider.

In all of these cases the supporting consultants voluntarily assumed the administrative responsibility of project enrollment in the Program, and would presumably retain accountability for completing administrative requirements (e.g., applications for incentives) at each stage of program completion on behalf of their client, the Housing Provider.

2. Design Consultation Phase

All interviewees had completed a full cycle of the Plan Review and Design Consultation Phases (DCP). EnerQuality facilitated the technical modeling for Part 9 projects while Sustainable Buildings Canada (SBC) did the same for Part 3 projects; which the Weidt Group previously supported during the Phase 1 research period.

Although Enbridge selected two of the seven interviewees for their involvement in the Part 9 application stream, the projects they were involved in consisted of both single-family townhomes (Part 9) and mid-rise condominiums (Part 3). Interestingly, when prompted about their experience with the energy modeling process they both chose to speak more about the Part 3 process. Each had varying memory of their experience with the Part 9 modeling experience, which is reported in detail after the Part 3 feedback below.

a) Part 3 DCP Feedback

All interviewees gave positive feedback on participating in the Design Consultation Phase particularly with the change of facilitators for Part 3 buildings from the Weidt Group to Sustainable Buildings Canada. Interviewees listed two key outcomes from the workshop:

1. Focused technical learning for all members of a project team.
    - *Yeah that was very well done and that was a more beneficial way of doing it then the bundled approach that they had previously done.*

- *It was really, really, well done. From the mechanics of it, it was really well arranged.*
- *They truly were detail experts. It was clear what they were telling us was good solid information. So that did help us in our decision-making going forward.*
- *It also gave us a bunch of really great context for further advice because we've been reaching out to a few of the experts asking follow-up questions on some of the topics that were discussed during the charette.*
- *We didn't want to be lectured on what they thought we should be doing. We didn't want to get into that scenario, so they were really good about staying on point, which they did.*
- *I was kind of impressed with it. I don't know, I guess I was expecting a lot of criticism, this isn't going to work, and that's not right, and why are you doing this kind of thing. I kinda had that fear in mind. But it wasn't quite that way at all. They kind of accepted the fact that we had done certain things and that we could make improvements, and that wasn't so hard to take.*
- *It's been brought to our attention that there is a new way of dealing with things.*

2. An opportunity to communicate the value of improved building performance to Housing Providers.

- *The architect made a comment at the end of it all going forward from that point, he said "You know, it's going to make it a lot easier for me to make the pitch to the owner", us, "that if we do this it's going to cost a bit more, but now demonstrate there are some energy efficiencies from sustainability and some pay back from these design improvements".*
- *There was a breakout session about indoor air quality and materials, and things like that and occupant health. That was really great for them [Housing Provider]. They really liked that.*

> ***Key Finding***: All interviewees indicated that DCP planning meetings and design charette/workshops implemented by SBC were of high quality. The single project-focused approach was noted as effective in delivering high value learning and outcomes to all attendees.

b) *Part 3 DCP Areas for Improvement*

Minor areas of the DCP process were identified for continued monitoring. First, as found during Phase 1, interviewees again stated the importance of getting into the Program early, at a time when the design is still at a high level.

- *Generally for the program when we had this workshop I think we had it a little bit late in the design process. I'm not sure why the lag occurred. We had already submitted for a building permit. And we were on the verge of tendering.*[2]
- *The key is to get in early, work through the design, look at aspects of the design that are subject to incentives, apply them to the contract documents, put out for tender, and at that point in time you know exactly what you're supposed to get. And then commission that.*
- *It helped us define our systems because at the time we hadn't yet had that discussion at our project steering committees. So it was the right time to start that conversation.*

Second, a few interviewees mentioned that the day long workshop began with some highly idealistic energy designs as one described "*What they [SBC experts] would recommend if there was no budget*", which left some feeling disheartened initially. As one person noted, "*We don't have endless pockets of money*." It was recounted how architects/designers were "*feeling a little bit beat up*" as they were questioned about the designs they submitted for the workshop. As the day progressed SBC experts did, as noted above, temper designs "*to attempt to give a more realistic, palatable range of upgrades"* for modeling purposes, which in turn led to positive outcomes.

It is unclear if SBC was consistent in its approach to narrowing the scope of review for design charette purposes during participant pre-workshop meetings, or whether choosing to start the day with a visionary design was a way of maximizing attendee learning about advanced energy performance options. Regardless of the reasons, it points to an opportunity for SBC to clarify with the project lead during the Plan Review Meeting what would be an appropriate starting design point for the day (i.e., idealistic or budget constrained), and then follow up after the Design Consultation Charette with a participant feedback form that would inform continuous improvement of their workshop design approach and process. Negativity at the start of a day can potentially cause disengagement by workshop attendees, which fortunately did not seem to occur.

[2] This quote came from a project manager who was not aware that the housing provider was pursuing participation in the program; and that a design workshop would be conducted where design changes might be recommended. This lack of awareness resulted in a misalignment of process for the project manager who was moving ahead with the existing design for building permit application purposes.

Key Finding: Consistent with Phase 1 findings, maximum benefit from the Design Consultation Phase with the assigned technical consultant is derived when a project is at its early design stage.

Opportunity: Initiate ongoing continuous improvement by having technical consultants obtain feedback from DCP participants after the Design Consultation Charette on the approach, learning, and arrangements.

c) Part 9 DCP Feedback

Despite probing, minimal feedback was obtained from either of the two Part 9 project interviewees as to their experience with the Part 9 DCP facilitator, EnerQuality. What was uncovered was a situation where the Part 9 project owner/Housing Provider already had a pre-established energy consultant on board as part of the design team prior to enrolling in the AHNC Program. This building performance consultancy was working with the Housing Provider on a larger project of which the Part 9 buildings were only one element. Subsequent to enrolling in the Program for the Part 9 stream of incentives, and after being contacted by EnerQuality, there was initial confusion about who could/should conduct energy modeling for the Part 9 design for the purposes of the Program. At this point the Housing Provider came to the realization that having two energy modelers working on the Part 9 design was not ideal, and they were able to work out an arrangement with EnerQuality to utilize the energy consultant[3] already under contract to support the project.

Key Finding: Identified a need for Program flexibility to accommodate participants' pre-established contracts for in-house energy modeling expertise.

Opportunity: Add a question to both Part 9 and Part 3 application forms to determine if there are pre-existing arrangements or relationships with energy performance consultants.

[3] This consultant was not part of the EnerQuality roster of Certified Energy Advisors.

3. Energy Efficiency Design Implementation and Commissioning

Of the six projects covered within this body of research, only one had completed a full cycle of the Program on a post- construction basis. This participant had since applied and received a post-construction Energy Efficiency Design Implementation Incentive for their Part 3 project. All other projects were in various post-DCP stages with most having received, and one waiting delivery of the formal report containing modeling outcomes/recommendations determined from the one-day design charette. Timing of workshop report delivery was noted within 4-6 weeks after the session.

a) Adoption of design recommendations

In regard to attitudes and expectations of adopting design recommendations that would improve energy efficiency results, most interviewees provided some indication of intention, or qualified intention to build to the recommended design options discussed during the charette.

- *I believe all were being considered. We are just starting the process of actually tendering out the work now. So a lot of the feasibility of these recommendations will be determined through the tendering process.*
- *It helped us confirm our wall assembly, our mechanical systems and our storm water approach. Truthfully we're still working on some of them. A few things are still fluid.*
- *I think it was beneficial. I know our architect was going to try to implement some of the building science components that were brought up. Some items we just couldn't implement because they didn't make sense financially or didn't make sense size-wise for the site.*

In one case – for unknown reasons – the project was subject to a redesign after having completed the charette. According to this interviewee it put into question *the feasibility of the options that were presented in the report.* This situation pointed to the *fluid* nature of design decisions as a project evolved, highlighting an extreme example where participation in the Program might potentially be stymied. In this circumstance would the participant be eligible for another design consultation charette based on the significantly revised initial design? Or would the Program design accommodate some form of additional support to the participant by the technical consultant (i.e., SBC or EnerQuality) to help move the project through the rest of the Program as designed?

> ***Key Finding***: Participation in the Design Consultation Phase has created a solid platform for participants to move ahead with at least some number of recommended energy efficiency design and equipment changes.

b) Commissioning

When asked their thoughts about the timing of equipment commissioning (pre or post-occupancy) and the influence of associated Program incentives on those decisions, the responses from interviewees were consistently vague.

- *It's really early in the project. We've got so many other issues that were dealing with that are more current that we probably won't get to deciding that until a little later.*
- *I haven't given that some thought. Generally in our contract documents the general contractor is responsible, along with their respective trade, to make sure everything is fully operational, balanced, and then test results sent over to engineering when they're confirmed.*
- *In the past we have done the commissioning pre-occupancy. The program hasn't influenced my thoughts on this one way or the other.*
- *No thought on that yet. Definitely something that we're thinking about, just that we haven't got a detailed plan for that yet.*

From these comments, it appears that when Part 3 projects are in the design stage, building commissioning is perceived as being too far in the future for the availability of a Commissioning Incentive to have much impact on decisions regarding the timing for equipment commissioning. That said, some interviewees did mention that if payment was made based on when commissioning would be completed, then a Housing Provider would certainly be interested in receiving payment earlier rather than later.

- *People always perform better if they have deadlines to do things. I think any time there is money on the table especially for a non-profit group, then that's good incentive.*
- *In terms of the timing of the commissioning of a building, generally you want to commission prior to occupancy so I don't think it impacts highly on commissioning. But it's definitely a further incentive. Any added costs an owner would incur and if that cost can be either recovered or reduced there would be added benefit.*

> ***Key Finding***: At this time, receipt of the Commissioning Incentive has little influence on the timing of equipment commissioning. When given more thought, interviewees saw commissioning on a pre-occupancy basis slightly more desirable as it would put money into the hands of Housing Provider earlier.

4. Program Knowledge and Support

Knowledge of the program was rated as moderately clear to newly enrolled participants. Similar to Phase 1 findings, it wasn't until interviewees had actively participated in the DCP - particularly the charette - that they fully understood how all program steps fit with the incentive structure and were matched to completion of certain project milestones. They explicitly mentioned appreciation of having individuals to ask questions of, and some acknowledged that an Enbridge representative was in attendance for at least part of the day.

- *The second time going through this program I felt like I had a better understanding of what to expect. But that could be because it was my second time going through it even though the process was different.*
- *Not having participated in the program before, we really didn't know what to expect so it [access to energy modeling] wasn't as big a motivator. I would say in the future it would be more of a motivator.*
- *I didn't know what to think. To be honest I didn't really know what we were walking into. But it was really well run. It was really good.*

From a process perspective, one of the interviewees felt they could have benefitted from more pro-active interaction with the Enbridge representative. The representative was always available to answer questions, but once things were passed to SBC, they said it "*felt strange not to have Enbridge involved*." And that "*Enbridge could've taken a little bit stronger facilitation approach [to the Program]*." This interviewee was a repeat participant, had experience with the former Part 3 energy modeling provider, had projects that were currently enrolled in both Part 9 and Part 3 streams, and had an energy consultant already contracted as part of their design team prior to applying to the Program. They felt that proactive process leadership by the Enbridge representative might have mitigated confusion around who could provide energy modeling advice on their Part 9 project (as described earlier on page 7), and provided them with clarity on the new process for Part 3 projects given the change in energy modeling consultants to SBC.

Aside from these process 'hiccups', all interviewees felt that there was adequate support from Enbridge and that DCP experience had provided them with useful resources and available expertise as they moved forward on their projects.

- *Each of the presenters had a deck of slides, a PowerPoint presentation that they sent to us after the charette so that that was very useful.*
- *It [the charette] also gave us a bunch of really great context for further advice because we've been reaching out to a few of the experts asking follow-up questions on some of the topics that were discussed during the charette. So that's been a really great resource.*

- *What I did afterwards, because there were things they brought up that I wasn't that familiar with that I thought well, I could investigate that. So I investigated a few things, some products … some design features that they talked about and felt much more comfortable. When I actually saw the products they were talking about, and read about them, I realized that they weren't just selling me something. This is something that legitimately had benefit.*

In summary, interviewees provided a few suggestions that might help to support the broader process for future Program participants:

- *If they had a one pager, like a cheat sheet of the overall program guidelines, I would share those with the design team.*
- *Maybe more of a loose schedule of expectations and milestones. It keeps people, not necessarily the consulting team, but maybe more the owners involved and up to speed on what they may expect to have happen.*
- *The City of Toronto has a Hydro program that has incentives. So that was a bit of a question and the relationship between this [City of Toronto] program, the Enbridge program, energy modeling, and the energy modeling that would be needed to be done for the building permits submission.*
- *They followed up and actually encouraged you to apply for that incentive which is important because everybody's really busy. And you just put stuff on the back burner and if you don't have someone who reminds you, sometimes you just don't get around to it.*

Key Finding: The level of Program knowledge and support currently provided appears to be adequate from interviewees' perspectives. It is unclear, however, whether accountability for assisting participants through the complete program process should be held by the Enbridge-contracted energy modeling firms (SBC/EnerQuality) or Enbridge directly.

Opportunity: More frequent periodic follow-up by the Enbridge representative with Program participants would be viewed as pro-active.

5. Program Incentive Structure

Interviewees generally noted that the Program's phased incentive structure was sound.

- *Being able to get incentives back no matter what. We're not going to lose money on [participating in] the Program, which was good.*
- *When I'm building my financial performance, I'm not factoring the Enbridge program into anything like a financial calculation line. When we get those incentive dollars that's going to be great, but timing around it isn't something that we're overly concerned about. It's going to be bonus.*

To further explain this last quote, the interviewee explained that in their case the capital dollars were approved and received upfront to construct the building; which is why incentive dollars would not play a big role in the project moving ahead. They were more interested in the potential energy savings obtained by building a "*good product*", which would help defray ongoing operating costs. In their words: "*We have a mortgage and we have to pay the bills. There's nobody coming in after us to bail us out if things go sideways*."

What did become apparent was how the incentive structure appealed differently to different Program participants. As mentioned in the Application Process section (see p. 4) a Program applicant might be a Housing Provider, but the Project Manager would hold administrative responsibility for tracking of project documentation and milestones for the purposes of filing for incentive payments. Among the interviewee group this Project Manager tended to be a member of the design team.

When considering the suite of Program incentives in terms of those earned from participating in the design process, separate from those earned after construction following validation of equipment installation and performance, the interest in either group of incentives was clearly different between Housing Providers and design team members. Design team members perceived direct value in receiving compensation for the additional upfront work required during early project stages, while Housing Providers were seen to reap the implementation incentives and sustained rewards of energy savings.

Table 2

Incentive Type	Part 3 Project	Part 9 Projects
Design Incentives: Seen as most beneficial by design team members	Technical Assistance Incentive	Technical Assistance Incentive
Validation Incentives: Seen as most beneficial by Housing Providers	Energy Efficiency Design Implementation Incentive Commissioning Incentive	Energy Performance Incentive Energy Efficiency Design Implementation Incentive

- *Obviously for the owner the second [validation incentives] is the most important one. But for the architects the consulting fee incentive is a good thing because often our fees are stretched and it's good if were doing extra work like this. To know that we can get those fees covered.*
- *I think consideration of some of the work and effort between ourselves and the engineering consultants and getting consideration for that work was very good incentive all around.*
- *So in terms of the real savings at the end, only the owners know what the real efficiency savings are.*
- *I don't think the client would have proceeded down this road if there wasn't some incentive. I think we could've talked to them about energy efficiency and then tried to get better than standard building code requirement, but they would've not paid as much attention to it.*
- *If we are able to achieve the energy savings that we're currently targeting, we're receiving a pretty decent incentive return. And we're getting a building that's supposedly more energy efficient. So it's better for the long run costs as well.*

From a Housing Provider's perspective, participating in the Program is considered an investment of time (theirs and their project team) and possibly more money in the upgrades that might be required to deliver improved performance in energy efficiency. It was common knowledge among the building community that "*purchasers are fairly unwilling to pay any extra for that additional efficiency that they could realize as the inevitable owner*".

- *If there were more incentives I would apply more resources and it would be a more robust program. As it is now the scale has such a wide variance that if we're not going for that maximum building energy efficiency then the effort needs to be proven.*

The combination of moving through both a design stage with expected implementation of increased energy efficient options has, however, provided Housing Providers with early evidence of a reasonable return on investment.

- *With a design that's 24 ½% over and above the base, we've been able to get the maximum incentive dollars. So that was great just from a budget point of view. It's the sort of thing that we talked about when we talk to stakeholders to say that, it's a point of pride to say that we were successful through this process of building information modeling and we can demonstrate this. That's a great sell for us.*

Consistent with earlier research, financial incentives were found to be always welcomed with one interviewee stating the obvious, "*It's an affordable housing project, so it's constrained with the funding.*"

Key Finding: Phase 2 research provides additional evidence that a 2-phase design-implementation incentive approach is effective for bringing improved energy efficiency options into the affordable building community. This 'systems' approach appeals in different ways to different Program participants.

6. Developing Program Awareness

There appears to be minor confusion in a few interviewees' minds about the Program's brand, with some participants using the words "*Save on Energy*" or "*Save on design*" when referring to an Enbridge Program. In another instance where an interviewee had two Projects – A and B as noted in Table 1 (p. 2) – enrolled in both streams of incentives, the interviewee thought only their mid-rise Part 3 buildings were participating in the Enbridge Program. This lapse in memory that their Part 9 projects were also enrolled in the Program may be in part due to EnerQuality managing the application process behind the scene for the Housing Provider in a situation where the energy consultant was not part of EnerQuality's official roster.[4] It is also possible that brand affirmation would only occur after incentives are received, given that most interviewees has not yet applied for any; that said, additional monitoring of brand awareness might be desired.

The learning opportunity derived from participation in the Program process has clearly been high among all members of a project team: encompassing individuals in construction, building design, and building owners and their staff. A few interviewees indicated that communication to all project team members of post-construction evaluation reports and validation of final building energy performance outcomes was desired. This comprehensive sharing of final results with Program participants would serve to complete the learning cycle, further providing positive reinforcement of the Program's effectiveness and creating buy-in of participants as informal ambassadors to the Program.

Even after having participated only in the Program's early phase (the DCP), there is clear evidence that informal ambassadors exist.

- *I think the program itself, I would certainly recommend it to others. It's a very easy exercise and I think there's a definite reward at the end of it too.*
- *I have recommended to other clients that they should think about it. Even in the private sector we do have clients who are going after affordable funding.*

[4] This situation was described earlier in the DCP Feedback section on page 7.

- *From a colleague in my office. It wasn't in the affordable housing program. It was the other save on design program that he has done and he found out about the affordable housing.*

When asked what more Enbridge could do to expand awareness of the Program, one suggested scheduling "*lunch and learns*" with design professionals and architects. Rather than this target audience, another interviewee emphasized the importance of focusing on Housing Providers.

- *I think you need to educate, better educate those clients. They are the risk takers. We're going to follow what they've asked us to do within reason and we understand the benefits.*
- *There's a group of people in the building committee that come from different factions and experiences, don't quite understand the building industry in general, are little concerned about cost. Almost making them understand the value, although there is an initial upfront cost to some of this equipment and or lighting etc. but the long-term benefits are huge.*

Key Finding: Experience with the DCP enhanced participants' learning of building energy saving strategies and options to such a positive extent that it naturally created informal ambassadors for the Program: individuals who can speak to the Program's effectiveness.

Opportunity: Suggest to Housing Providers that post construction evaluation results are shared with all project team members (i.e., architect, engineers, etc.) to promote and crystallize benefits and learning.

CONCLUSION

For the participant that had completed a full Program cycle from design right through to validation of results following construction of their Part 3 project, the Affordable Housing New Construction Program had delivered on all fronts. For others, experiential learning of the Program process and participation in the Design Consultation Phase had exceeded their collective expectations, which was highly positive. They indicated that the time invested was well worth the learning and project improvement outcomes.

The simple project process was defined as design, plan, build to plan, and receive incentives. This research has revealed that in reality, for some projects, designs change after the DCP. These situations highlighted a need for clarification on how these projects could proceed towards completion of Program requirements if the recommended design options resulting from the DCP were no longer applicable. This appeared to be the first case of it's kind in the current life of the AHNC Program and helpful to informing how added flexibility might be incorporated into the process.

In summary, Phase 2 research speaks to a Program design and incentive structure that currently meets and exceeds the expectations of the affordable housing construction community.

About C2C Strategies

C2C Strategies assists not for profit, corporate, and government clients to connect with diverse communities through innovative and efficiently delivered engagement strategies.

Our operating principles are built on:

- Relationships – We firmly believe that long term relationships are developed from thoughtful and considerate actions.
- Collaboration – Keeps the lines of communication open, allowing us to work in a focused and productive way with clients and their stakeholders.
- Co-creation – Is the space in which we build new paths forward together.
- Innovation – Transcends current thinking to establish "next" practices that will carry into the future.

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