

2018 Demand Side Management Annual Report - Union Rate Zones

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Enbridge Gas Inc.
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Executive Summary

Enbridge Gas Inc. (“Enbridge Gas” or “the Company”) reports 1.1 billion lifetime cubic meters of natural gas saved from its DSM activities in 2018 within the Union rate zones.¹ These savings are a direct result of the Company’s ongoing efforts delivering resource acquisition programs to residential, commercial, and industrial customers. Results attributable to market transformation programs are not included in this total, as results for these programs are not measured by cubic meters of natural gas saved.

A summary of the Company’s 2018 DSM results, budgets, and spend for the Union rate zones is provided in Table ES.1 below.

Table ES.1 2018 DSM Results, Budgets, and Spend Summary

ITEM	UNION RATE ZONES
Net Cumulative Natural Gas Savings	1,124,517,262 m ³
Budget	\$63,272,305
Actual Spend	\$69,122,921
Shareholder Incentive Achievement	\$6,366,226
Lost Distribution Revenue	\$159,308

¹ EGD rate zone results are provided in a separate report.



1. Introduction

Enbridge Gas has been designing and delivering DSM programs within OEB frameworks for nearly 25 years. Between 1995 and 2018, Enbridge Gas has saved its customers 27.6 billion lifetime cubic meters of natural gas and 51.7 million tonnes of greenhouse gas emissions, the equivalent of taking 11.2 million cars off the road for a year.²

As outlined in the OEB's Demand Side Management Framework for Natural Gas Distributors (2015-2020) (EB-2014-0134) ("DSM Framework"), the Board indicated it "is of the view that it is in the best position to coordinate the evaluation process throughout the DSM framework period"³. As such, the 2018 audit and evaluation process was completed concurrently with the 2017 audit and evaluation process, to leverage time and resource efficiencies. Due to the simultaneous nature of the 2017 and 2018 audits, the development of the Company's 2018 draft annual reports was not appropriate, as the previous year's evaluation and audit process had not concluded. Without the conclusion of the 2017 evaluation and audit process, certain 2018 results could not be reported even in pre-audit/draft format, as 2018 targets rely on final 2017 results.

With the conclusion of the 2017 and 2018 evaluation and audit processes on March 13, 2020, the Company developed final 2018 annual reports for the EGD rate zone and the Union rate zones, separately. While the 2018 reports are more concise than the Company's typical annual reports, they include all elements required by the OEB's DSM Guidelines.

This 2018 Annual Report provides a summary of Enbridge Gas' DSM results for the Union rate zones during the 2018 program year, in the following format:

- OEB data reporting requirements (Section 2);
- Highlights of any major offering changes and lessons learned from the 2018 program year, and future changes for 2019 (Section 3);
- Results, including scorecard results, shareholder incentive achievement, lost distribution revenue calculations, cost-effectiveness results, budgets and spending (Section 4).

² Figures include results from the EGD rate zone and the Union rate zones.

³ DSM Framework, p. 30



2. OEB Data Reporting Requirements

Table 2.0 Annual and Long-Term DSM Budgets (\$ million)

PROGRAM	2015 ¹	2016 ²	2017 ²	2018 ²	2019 ³	2020 ³	TOTAL (6YEARS)
Residential	\$3.163	\$8.612	\$11.369	\$13.908	\$13.908	\$13.908	\$64.867
Commercial/Industrial	\$10.859	\$19.316	\$22.035	\$22.726	\$22.403	\$22.403	\$119.743
Low-Income	\$6.839	\$11.407	\$12.343	\$13.571	\$14.145	\$15.005	\$73.310
Large Volume	\$4.534	\$4.000	\$4.000	\$4.000	\$4.000	\$4.000	\$24.534
Market Transformation	\$1.379	\$1.703	\$2.338	\$2.338	\$2.338	\$2.338	\$12.434
Performance-Based	-	\$0.548	\$0.843	\$1.088	\$0.833	\$1.053	\$4.365
Portfolio Level	\$4.717	\$11.235	\$5.642	\$5.642	\$5.642	\$5.642	\$38.520
Inflation	\$2.497						\$2.497
Total³	\$33.988	\$56.821	\$58.570	\$63.272	\$63.269	\$64.350	\$340.270

¹2015 includes budget amounts for the Achievable Potential Study, Future Infrastructure Planning Study and DSM Tracking and Reporting System Upgrades

²2016-2020 includes budget amounts for pilots and DSM Tracking and Reporting System Upgrades

³The total budget shown for 2019-2020 does not include budget related to the Residential Adaptive Thermostat offering approved through the Mid-Term Review. Expenditures for this offering will be tracked in the DSMVA

Table 2.1 Actual Annual Total DSM Costs (\$ million)

RATE CLASS	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
M1	N/A	\$12.107	\$12.743	\$11.348	\$11.498	\$13.502	\$13.657	\$15.415	\$16.752	\$23.338	\$37.204	\$41.948
M2	\$11.619	\$2.486	\$2.023	\$2.117	\$4.097	\$4.968	\$5.818	\$6.728	\$4.958	\$6.505	\$8.166	\$7.851
M4	\$1.488	\$1.353	\$0.828	\$1.098	\$1.817	\$3.319	\$3.244	\$3.296	\$3.645	\$3.808	\$5.892	\$6.775
M5	\$0.294	\$1.044	\$1.226	\$1.086	\$3.150	\$2.660	\$3.484	\$2.394	\$1.421	\$2.453	\$1.459	\$0.657
M7	\$0.886	\$0.116	\$0.256	\$1.474	\$1.304	\$0.538	\$0.571	\$2.143	\$3.370	\$3.760	\$1.258	\$2.714
T1	\$3.147	\$3.988	\$5.596	\$3.965	\$7.749	\$6.111	\$2.265	\$1.078	\$0.889	\$1.409	\$2.578	\$1.962
T2	N/A	N/A	N/A	N/A	N/A	N/A	\$3.365	\$2.875	\$2.673	\$3.758	\$3.006	\$3.375
Rate 01	\$2.229	\$2.162	\$2.093	\$1.869	\$3.050	\$3.532	\$3.560	\$4.161	\$3.555	\$4.447	\$6.209	\$7.403
Rate 10	\$1.612	\$1.371	\$2.292	\$0.510	\$1.109	\$1.939	\$1.637	\$1.613	\$0.953	\$1.322	\$2.144	\$1.686
Rate 20	\$0.323	\$0.496	\$0.771	\$0.881	\$1.030	\$1.607	\$1.573	\$1.791	\$1.005	\$0.806	\$1.554	\$0.842
Rate 100	\$1.535	\$4.542	\$3.950	\$4.471	\$1.614	\$2.305	\$1.828	\$1.517	\$0.799	\$0.541	\$0.809	\$0.963
Total	\$23.133	\$29.664	\$31.778	\$28.818	\$36.418	\$40.481	\$41.001	\$43.011	\$40.019	\$52.146	\$70.277	\$76.178

*Figures include all DSM spend, shareholder incentive, and lost distribution revenue



Table 2.2 Historic Annual Total DSM Spending (\$ million)

ITEM	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total DSM Spending ¹	\$16.13	\$20.26	\$22.04	\$21.61	\$27.97	\$31.32	\$32.84	\$33.71	\$32.39	\$50.67	\$64.58	\$69.12

¹Total DSM spending includes direct, indirect, incremental projects and DSMVA where applicable

Table 2.3 DSM Spending as a Percent of Distribution Revenue

ITEM	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total DSM Spending (\$ million) ¹	\$16	\$20	\$22	\$22	\$28	\$31	\$33	\$34	\$32	\$51	\$65	\$69
Total Distribution Revenue (\$ million) ²	\$655	\$675	\$658	\$699	\$713	\$727	\$772	\$778	\$800	\$812	\$834	\$893
DSM Spending as a % of Distribution Revenue	2%	3%	3%	3%	4%	4%	4%	4%	4%	6%	8%	8%

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

²Distribution Revenue is equal to the gas distribution margin, and is the gas sales and distribution revenue less the cost of gas; where gas sales and distribution revenue is the sum of the delivery revenue and gas supply revenue (and earning sharing, if applicable)

Table 2.4 Historic Annual DSM Shareholder Incentive Amounts Available and Earned

ITEMS	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 ¹	2018 ²
DSM Shareholder Incentive Earned (\$ million)	\$6.23	\$8.70	\$8.75	\$6.58	\$7.64	\$8.21	\$7.78	\$8.99	\$7.47	\$4.12	\$5.52	\$6.37
DSM Shareholder Incentive Available (\$ million)	\$8.50	\$8.70	\$8.92	\$8.94	\$9.24	\$10.45	\$10.68	\$10.82	\$11.00	\$10.45	\$10.45	\$10.45

¹2017 Shareholder Incentive subject to Board approval

²2018 Shareholder Incentive subject to Board approval

Table 2.5 DSM Shareholder Incentive Earned as a Percent of DSM Spending

\$ MILLIONS	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 ²	2018 ³
DSM Shareholder Incentive Earned (\$ million)	\$6.23	\$8.70	\$8.75	\$6.58	\$7.64	\$8.21	\$7.78	\$8.99	\$7.47	\$4.12	\$5.52	\$6.37
Total DSM Spending (\$ million) ¹	\$16.13	\$20.26	\$22.04	\$21.61	\$27.97	\$31.32	\$32.84	\$33.71	\$32.39	\$50.67	\$64.58	\$69.12
Shareholder Incentive Earned as a % of DSM Spending	39%	43%	40%	30%	27%	26%	24%	27%	23%	8%	9%	9%

¹Total DSM spending includes direct, indirect and DSMVA where applicable

²2017 Shareholder Incentive subject to Board approval

³2018 Shareholder Incentive subject to Board approval



Table 2.6 Annual and Long-Term Natural Gas Savings Targets¹

SCORECARD	2015	2016	2017	2018	2019 ²	2020
Resource Acquisition	816,561,818	1,120,259,599	976,464,106	818,345,497		
Low-Income	43,600,000	59,238,065	80,179,602	68,750,915	<i>Targets are formulaic based on past year's performance</i>	
Large Volume	1,236,097,404	890,890,721	463,100,400	195,727,941		

¹Values are cumulative m³ gas savings at the target (100%) band

²2019 targets require OEB-approved 2018 DSM audited results

Table 2.7 Total Annual and Cumulative Natural Gas Savings for 2018 (Gross and Net) (10³m³)

SCORECARD	DRAFT ANNUAL NATURALGAS SAVINGS		DRAFT CUMULATIVE NATURALGAS SAVINGS	
	GROSS	NET	GROSS	NET
Resource Acquisition	105,514	55,433	1,809,039	976,938
Low-Income	2,752	2,679	59,729	58,344
Large Volume	52,604	8,056	582,380	89,197
Performance-Based	4	8	18	39
Total	160,874	66,176	2,451,166	1,124,517



Table 2.8 Total Historic Annual Natural Gas Savings (Gross and Net) (10³m³)

ITEM	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 ¹	2018 ²
Total <u>Net</u> Annual Natural Gas Savings	55,852	61,852	92,604	121,116	139,027	137,438	179,967	131,825	125,077	55,970	70,010	66,176
Total <u>Gross</u> Annual Natural Gas Savings	Not reported for 2007-2011					282,177	370,474	267,465	255,169	188,741	183,240	160,874

¹2017 DSM results subject to Board approval

²2018 DSM results subject to Board approval

Table 2.9 Total Historic Cumulative Natural Gas Savings (Gross and Net) (10³m³)

ITEM	2007-2011	2012	2013	2014	2015	2016	2017 ¹	2018 ²
Total <u>Net</u> Cumulative Natural Gas Savings	Not reported for 2007-2011	2,336,351	2,820,834	1,889,459	1,750,765	959,435	1,182,739	1,124,517
Total <u>Gross</u> Cumulative Natural Gas Savings	Not reported for 2007-2011	4,777,826	5,752,390	3,752,366	3,482,496	2,758,895	2,886,615	2,451,166

¹2017 DSM results subject to Board approval

²2018 DSM results subject to Board approval

Table 2.10 Total Annual Natural Gas Savings as a Percent of Total Annual Natural Gas Sales (Gross and Net)

ITEM	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<u>Net</u> Annual Natural Gas Savings (10 ³ m ³)	55,852	61,852	92,604	121,116	139.0	137,438	179,967	131,825	125,077	55,970	70,010	66,176
<u>Net</u> Annual Natural Gas Savings as a % of Natural Gas Sales	0.42%	0.47%	0.75%	0.95%	1.02%	1.03%	1.29%	0.93%	0.93%	0.43%	0.56%	0.50%
<u>Gross</u> Annual Natural Gas Savings (10 ³ m ³)	Not reported for 2007-2011					282,177	370,474	267,465	255,169	188,741	183,240	160,874
<u>Gross</u> Annual Natural Gas Savings as a % of Natural Gas Sales						2.11%	2.65%	1.88%	1.90%	1.46%	1.48%	1.22%
Total Natural Gas Sales (10 ³ m ³) ¹	13,158,018	13,231,158	12,327,846	12,778,870	13,654,990	13,396,120	13,992,688	14,204,104	13,404,980	12,935,767	12,408,726	13,210,007

¹Total Natural Gas Sales only includes rate classes eligible for DSM and subject to DSM costs



Table 2.11 Total Cumulative Natural Gas Savings as a Percent of Total Annual Gas Sales (Gross and Net)

ITEM	2017-2011	2012	2013	2014	2015	2016	2017	2018
Net Cumulative Natural Gas Savings (10 ³ m ³)	Not reported for 2007-2011	2,336,351	2,820,834	1,889,459	1,750,765	959,435	1,182,739	1,124,517
Net Cumulative Natural Gas Savings as a % of Natural Gas Sales		17.44%	20.16%	13.30%	13.06%	7.42%	9.53%	8.51%
Gross Cumulative Natural Gas Savings (10 ³ m ³)	Not reported for 2007-2011	4,777,826	5,752,390	3,752,366	3,482,496	2,758,895	2,886,615	2,451,166
Gross Cumulative Natural Gas Savings as a % of Natural Gas Sales		35.67%	41.11%	26.42%	25.98%	21.33%	23.26%	18.56%
Total Natural Gas Sales (10 ³ m ³) ¹		13,396,120	13,992,688	14,204,104	13,404,980	12,935,767	12,408,726	13,210,007

¹Total Natural Gas Sales only includes rate classes eligible for DSM and subject to DSM costs

Table 2.12 Actual Annual Gas Operating Revenue (\$ million)

ITEM	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Gas Sales and Distribution Operating Revenue	\$1,811	\$1,852	\$1,684	\$1,493	\$1,468	\$1,365	\$1,621	\$1,755	\$1,675	\$1,529	\$1,873	\$1,813
Less Total Cost of Gas	\$1,156	\$1,177	\$1,026	\$794	\$755	\$638	\$849	\$977	\$875	\$717	\$1,039	\$920
Total Distribution Revenue¹	\$655	\$675	\$658	\$699	\$713	\$727	\$772	\$778	\$800	\$812	\$834	\$893

¹Distribution revenue is equal to the gas distribution margin and is the gas sales and distribution revenue less the cost of gas; where gas sales and distribution revenue is the sum of the delivery revenue and gas supply revenue (and earning sharing, if applicable)

Table 2.13 Total Natural Gas Sales (Volumes) (10³m³)¹

ITEM	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Natural Gas Sales	13,158,018	13,231,158	12,327,846	12,778,870	13,654,990	13,396,120	13,992,688	14,204,104	13,404,980	12,935,767	12,408,726	13,210,007

¹Only includes rate classes eligible for DSM and subject to DSM costs



Table 2.14 Number of Customers by Customer Type

CUSTOMER TYPE	2015	2016	2017	2018
Residential	1,026,656	1,042,748	1,076,703	1,064,172
Low-Income ¹	289,569	294,108	303,685	300,151
Commercial	120,237	121,385	124,469	121,971
Industrial	457	473	486	472
Wholesale	5	6	6	7
Total	1,436,924	1,458,720	1,505,349	1,486,773

¹Low-Income customers are estimated to be 22% of all Residential customer

Table 2.15 Number of Customers by Rate Class

RATE CLASS	2018
General Service	
M1	1,127,353
M2	7,469
O1	349,354
10	2,118
Total	1,486,294
Contract	
M4	208
M5	38
M7	30
T1	37
T2	24
20	44
100	13
Total	394
Non-DSM Rate Classes	
M9	3
M10	3
T3	1
25	78
Total	1,486,773



3. Programs and Offerings

This section provides highlights of any major offering changes and lessons learned from the 2018 program year, and future changes for 2019.

3.1 RESIDENTIAL PROGRAM

- Enbridge Gas' partnerships with the Government of Ontario and IESO, which began in 2016 and 2017 respectively, concluded during the 2018 program year. As a result of the conclusion of these partnerships, non-Enbridge Gas natural gas homes and homes heated by fuels other than natural gas were no longer eligible to enroll in the home retrofit offering. For 2019 offering details without the inclusion of these partnerships, refer for the Company's 2019 DSM Annual Report.
- In December 2017, the Government of Ontario launched the GreenON Rebates ("GreenON") program funded through the Green Ontario Fund, which provided rebates for the purchase and installation of home upgrades, such as insulation and energy efficient windows. Enbridge Gas and IESO established a process to ensure that homeowners did not receive both a GreenON and Home Reno Rebate incentive for the same upgrade. In October 2018, however, it came to the Company's attention that homeowners were receiving conflicting communications, which led to homeowner frustration. Enbridge Gas and the IESO worked quickly and effectively to resolve the issue. This experience highlights the importance of coordination between program administrators when there are multiple offerings in the market and how addressing issues quickly and collaboratively is critical.
- As of January 1, 2019, Union Gas Ltd. and Enbridge Gas Distribution amalgamated to become Enbridge Gas Inc. From the customer's perspective, the residential home retrofit offerings of the legacy utilities will be harmonized in 2019 to facilitate clarity and consistency across Ontario.
- In its January 15, 2018 mid-term review submission for the Union rate zones, the Company proposed the development of a new adaptive thermostat offering within its Residential Program. As per the direction from the Board in its November 29, 2018 Mid-Term Report, the Company began delivering the offering in 2019. For details on the new offering, refer to the Company's 2019 DSM Annual Report.

3.2 LOW-INCOME PROGRAM

- Enbridge Gas relies on experienced Delivery Agents ("DAs") to deliver the low-income home retrofit offering, including providing energy assessments, installing measures, and calculating savings. There were two DAs contracted by Enbridge Gas in early 2018. In July, their contracts expired, and through a competitive RFP process, Enbridge Gas contracted with the successful bidder, GreenSaver as the new, sole DA for the offering.
- In 2018, Enbridge Gas included the installation of adaptive thermostats to the low-income home retrofit offering.
- There was no uptake for the Furnace End-of-Life Upgrade Offering in 2018. This is likely due to the low incentives associated with the offering and an exhausted pool of interested social or assisted housing providers within the Union rate zones.



3.3 COMMERCIAL/INDUSTRIAL PROGRAM

- In 2018, the Commercial/Industrial Direct Install Offering was expanded into three additional geographic regions: Hamilton, London, and Kingston. As a result, a second vendor was engaged to serve these participants. Furthermore, the incentive structure was changed slightly in 2018. Previously, the participant received 90% of the total cost to install. In 2018, the participant received 80% of the total cost plus an additional incentive of \$750 per door when a customer signs an agreement and confirms participation within 30 days of receiving a quote. While the total incentive received by the participant did not change substantially, the 30-day offer helped encourage customers to move forward with the project.
- Low uptake for the prescriptive foodservice instant rebate offer was identified due in part to resistance from sales staff at the local store level (caused by a misalignment with the sales staff commission structure). A midstream approach to the foodservice market may be more appropriate and will be explored for the 2019 program year.
- Enbridge Gas partnered with IESO's Save on Energy program to offer joint training incentives. Participants could receive incentives for attending Dollars to \$ense Energy Management Workshops, Building Operation Certification, and Certified Energy Manager Training. The overall goal of this initiative is to promote education in the area of energy efficiency, which in turn can lead to additional energy efficiency projects.
- Enbridge Gas expects a change to the custom incentive structure in 2019, as meter installation has become more expensive.

3.4 LARGE VOLUME PROGRAM

- In 2018, more funding was allocated to feasibility and process improvement studies in order to influence customers to investigate changes and upgrades that would result in natural gas savings. Furthermore, Enbridge Gas no longer supports the restoration of wet and damaged insulation to its original condition as this is now considered standard practice.
- Enbridge Gas expects a change to the incentive structure in 2019, as meter installation has become more expensive.

3.5 MARKET TRANSFORMATION PROGRAM

- In 2018, Enbridge Gas designed a pilot for the Optimum Home Offering to address the needs of small to mid-size builders (6-30 builds annually). The pilot will be a streamlined delivery model of the Optimum Home Offering. Enbridge Gas will measure its success based on the same metrics as the original offering. This pilot will be launched in the spring of 2019.
- A limited time offer was launched for the Commercial Savings by Design Offering in early Q3 to increase participation and to encourage participants to progress through the offering. The limited time offer had a positive result and was a helpful tool in achieving the 2018 participant target.

3.6 PERFORMANCE-BASED PROGRAM

- Enbridge Gas' ability to connect with the decision maker and maintenance personnel during site visits has proven to be critical. Although it is the customer's decision who will engage with Enbridge Gas through the offering process, Enbridge Gas has put efforts towards ensuring the appropriate contact is available, in order to improve results.
- In 2019 the program screened below the 1.0 TRC-Plus threshold due to natural gas savings results being significantly lower than forecasted. Enbridge Gas is assessing potential changes to improve cost-effectiveness.



4. Results and Spend

4.1 SCORECARD RESULTS AND SHAREHOLDER INCENTIVE

Enbridge Gas is eligible to earn a shareholder incentive of up to \$10.45M for the Union rate zones, for DSM results measured against the Union rate zones' Resource Acquisition, Low-Income, Performance-Based, Large Volume, and Market Transformation Scorecards. The DSM shareholder incentive is established by the OEB to "effectively motivate the gas utilities to both actively and efficiently pursue DSM savings and to recognize exemplary performance."⁴ The maximum incentive available is allocated to each scorecard based on the allocation of budget to each scorecard. For more information on the DSM shareholder incentive, refer to Section 5.0 of the DSM Framework and Section 5.0 of the DSM Guidelines.

In 2018, Enbridge Gas earned \$6.4M in DSM incentive for the Union rate zones, as outlined in Table 4.0 below.

Table 4.0 2018 DSM Maximum Scorecard Incentive Allocation & Achievement by Scorecard

SCORECARD	MAXIMUM DSM INCENTIVE	DSM SHAREHOLDER INCENTIVE ACHIEVED
Resource Acquisition	\$6,584,609	\$5,809,659
Low-Income	\$2,564,994	\$350,811
Large Volume T2/R1000	\$725,357	\$0
Market Transformation	\$423,984	\$205,755
Performance-Based	\$151,056	\$0
Total	\$10,450,000	\$6,366,226

Detailed scorecard results for the Union rate zones are provided in Table 4.1 to Table 4.5 below.

Table 4.1 2018 Resource Acquisition Scorecard Results

METRICS	METRIC TARGET LEVELS			WEIGHT	ACHIEVEMENT
	LOWER BAND	TARGET	UPPER BAND		
Cumulative Natural Gas Savings (m ³)	613,759,123	818,345,497	1,227,518,245	75%	976,937,927
Home Reno Rebate Participants (Homes)	6,007	8,010	12,014	25%	16,118
Total Scorecard Target Achieved					140%
Scorecard Utility Incentive Achieved					\$5,809,659

⁴ Report of the Board: DSM Framework for Natural Gas Distributors (2015-2020), EB-2014-0134, p. 20.



Table 4.2 2018 Low-Income Scorecard Results

METRICS	METRIC TARGET LEVELS			WEIGHT	ACHIEVEMENT
	LOWER BAND	TARGET	UPPER BAND		
Single Family Cumulative Natural Gas Savings (m ³)	30,755,897	41,007,862	61,511,794	60%	32,052,375
Social and Assisted Multi-Family Cumulative Natural Gas Savings (m ³)	17,418,195	23,224,260	34,836,389	35%	19,718,214
Market Rate Multi-Family Cumulative Natural Gas Savings (m ³)	3,389,095	4,518,793	6,778,190	5%	6,573,109
Total Scorecard Target Achieved					84%
Scorecard Utility Incentive Achieved					\$350,811

Table 4.3 2018 Large Volume Scorecard Results

METRICS	METRIC TARGET LEVELS			WEIGHT	ACHIEVEMENT
	LOWER BAND	TARGET	UPPER BAND		
Cumulative Natural Gas Savings (m ³)	146,795,956	195,727,941	293,591,911	100%	89,196,896
Total Scorecard Target Achieved					46%
Scorecard Utility Incentive Achieved					\$0

Table 4.4 2018 Market Transformation Scorecard Results

METRICS	METRIC TARGET LEVELS			WEIGHT	ACHIEVEMENT
	LOWER BAND	TARGET	UPPER BAND		
Optimum Home: Participating Builders (Regional Top 10)	6	8	12	10%	8
Optimum Home: Prototype Homes Built	45%	60%	90%	30%	83%
Optimum Home: Percentage of Homes Built (>15% above OBC 2017) by Participating Builders	3.75%	5.00%	7.50%	10%	3.97%
Commercial Savings by Design: New Developments Enrolled by Participating Builders	14	19	29	50%	18
Total Scorecard Target Achieved					107%
Scorecard Utility Incentive Achieved					\$205,755



Table 4.5 2018 Performance-Based Scorecard Results

METRICS	METRIC TARGET LEVELS			WEIGHT	ACHIEVEMENT
	LOWER BAND	TARGET	UPPER BAND		
RunSmart Participants	33	44	66	10%	44
RunSmart Savings (%)	1.47%	1.96%	2.93%	40%	0.51%
Strategic Energy Management (SEM) Participants	2	3	5	10%	3
Strategic Energy Management (SEM) Savings (%)	4%	5%	8%	40%	3.86%
Total Scorecard Target Achieved					59%
Scorecard Utility Incentive Achieved					\$0

Natural gas savings results by offering for the Union rate zones is provided in Table 4.6 below.

Table 4.6 2018 Gross and Net Natural Gas Savings

PROGRAM	OFFERING	UNITS	GROSS ANNUAL NATURAL GAS SAVINGS (M ³)	NET ANNUAL NATURAL GAS SAVINGS (M ³)	GROSS CUMULATIVE NATURAL GAS SAVINGS (M ³)	NET CUMULATIVE NATURAL GAS SAVINGS (M ³)
Residential	Home Reno Rebate	16,118	8,637,765	8,205,877	215,944,134	205,146,928
Residential Total		16,118	8,637,765	8,205,877	215,944,134	205,146,928
Commercial/Industrial	C/I Prescriptive	3,195	11,164,741	10,318,033	220,660,622	204,967,606
	C/I Custom	358	82,136,252	33,512,717	1,318,801,709	515,872,191
	C/I Direct Install	222	3,575,523	3,396,747	53,632,845	50,951,203
Commercial/Industrial Total		3,775	96,876,515	47,227,497	1,593,095,176	771,791,000
Low-Income	Home Weatherization	1,885	1,278,623	1,278,504	31,816,819	31,815,336
	Furnace End-of-Life Upgrade	-	-	-	-	-
	Indigenous	61	9,941	9,932	237,146	237,039
	Multi-Family	303	1,463,575	1,390,397	27,675,077	26,291,324
Low-Income Total		2,249	2,752,139	2,678,833	59,729,042	58,343,698
Large Volume	Direct Access	43	52,604,257	8,055,743	582,379,894	89,196,896
Large Volume Total		43	52,604,257	8,055,743	582,379,894	89,196,896
Market Transformation	Optimum Home	-	NA	NA	NA	NA
	Commercial Savings by Design	-	NA	NA	NA	NA
Market Transformation Total		-	NA	NA	NA	NA
Performance-Based	RunSmart	-	-8,420	-4,210	-42,100	-21,050
	Strategic Energy Management	-	11,958	11,958	59,791	59,791
Performance-Based Total		-	3,538	7,748	17,691	38,741
Portfolio Total		22,185	160,874,215	66,175,698	2,451,165,937	1,124,517,262



4.2 LOST REVENUE ADJUSTMENT MECHANISM

The Lost Revenue Adjustment Mechanism (“LRAM”) allows the Enbridge Gas to recover the lost distribution revenue associated with DSM activity in the Union rate zones. For more information on the LRAM, refer to Section 11.3 of the DSM Guidelines.

In 2018, lost distribution revenues associated with DSM activity for the Union rate zones was \$0.159M, as outlined in Table 4.7 below.

Table 4.7 2018 LRAM Statement

	LRAM VOLUMES (10 ³ M ³)	DELIVERY RATES (\$/10 ³ M ³)	REVENUE IMPACT
	(A)	(B)	(A) X (B)
South - M4 Industrial	8,301	\$15.47	\$128,384
South - M5 Industrial	305	\$27.19	\$8,296
South - M7 Industrial	2,914	\$3.39	\$9,883
South - T1 Industrial	1,402	\$1.09	\$1,534
South - T2 Industrial	4,893	\$0.26	\$1,262
South Total	17,814		\$149,359
North - 20 Industrial	1,789	\$5.37	\$9,607
North - 100 Industrial	155	\$2.20	\$342
North Total	1,945		\$9,949
TOTAL	19,759		\$159,308

4.3 COST-EFFECTIVENESS RESULTS

Cost-effectiveness screening for the 2015-2020 DSM Framework uses the “TRC-Plus” test. A secondary reference tool is the Program Administrator Cost (“PAC”) test. The cost-effectiveness tests are performed at the program and portfolio level.

Table 4.8 and Table 4.9 provide the program and portfolio TRC-Plus and PAC results, respectively, for the Union rate zones.

In 2018, the Performance-Based Program screened below the 1.0 TRC-Plus threshold. This is due to natural gas savings results for RunSmart Offering participants being significantly lower than forecasted. Enbridge Gas is reviewing the design of the offering to improve cost-effectiveness. Similarly, natural gas savings from the Strategic Energy Management Offering were lower than initially forecast, as some participants limited their efficiency improvements due to competing financial priorities.



Table 4.8 2018 TRC-Plus Summary

PROGRAM	NPV TRC-PLUS BENEFITS	TRC-PLUS PROGRAM COSTS	INCREMENTAL COSTS	TOTAL TRC COSTS	NET TRC-PLUS	TRC-PLUS RATIO
Residential Program	\$58,056,000	\$5,926,000	\$38,594,000	\$44,520,000	\$13,536,000	1.30
Commercial / Industrial Program	\$153,554,000	\$5,496,000	\$53,057,000	\$58,553,000	\$95,001,000	2.62
Low-Income Program	\$13,411,000	\$4,381,000	\$5,940,000	\$10,321,000	\$3,090,000	1.30
Large Volume Program	\$16,745,000	\$481,000	\$6,309,000	\$6,790,000	\$9,955,000	2.47
Performance-Based Program	\$313,981	\$605,204	\$0	\$605,204	-\$291,223	0.52
Total DSM Portfolio	\$242,079,981	\$16,889,204	\$103,900,000	\$120,789,204	\$121,290,777	2.00

Table 4.9 2018 PAC Summary

PROGRAM	NPV PAC BENEFITS	PAC PROGRAM COSTS	NET PAC	PAC RATIO
Residential	\$39,023,000	\$27,216,000	\$11,807,000	1.43
Commercial / Industrial	\$138,823,000	\$18,931,000	\$119,892,000	7.33
Low-Income Program	\$11,110,000	\$10,806,000	\$304,000	1.03
Large Volume Program	\$15,187,000	\$2,822,000	\$12,365,000	5.38
Market Transformation Program	NA	NA	NA	NA
Performance-Based Program	\$282,759	\$694,395	\$411,635	0.41
Total DSM Portfolio	\$204,425,759	\$60,469,395	\$143,956,365	3.38

4.4 BUDGETS AND SPENDING

Total 2018 DSM spend for the Union rate zones was \$69.1M, compared to an OEB-approved budget of \$63.3M. See Table 4.10 for more details. As per the OEB’s Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), Enbridge Gas was eligible to overspend by up to 15% of the total OEB-approved budget. The ability to overspend “is meant to allow the natural gas utilities to aggressively pursue programs which prove to be very successful”.⁵ For more details refer to Section 11.2 of the DSM Guidelines.

⁵ DSM Guidelines, pp. 38



Table 4.10 Summary of 2018 Budget and Spending

	2018 SPEND	2018 BUDGET	VARIANCE	BUDGET TRANSFERS	DSMVA
	A	B	C=A-B	D	E=C-D
Program Budget					
Resource Acquisition Scorecard					
Residential Program*	\$24,798,507	\$13,048,697	\$11,749,810	\$2,613,609	\$9,136,200
Residential Evaluation**	\$2,417,700	\$859,000	\$1,558,700	\$1,558,700	\$0
Commercial/Industrial Program*	\$18,930,699	\$22,536,584	-\$3,605,885	-\$3,451,783	-\$154,102
Commercial/Industrial Evaluation**	\$0	\$189,000	-\$189,000	-\$189,000	\$0
Low-Income Scorecard					
Low-Income Program*	\$10,650,530	\$13,345,006	-\$2,694,476	-\$439,138	-\$2,255,339
Low-Income Evaluation**	\$155,925	\$225,948	-\$70,023	-\$70,023	\$0
Large Volume Scorecard					
Large Volume Program*	\$2,821,881	\$3,937,000	-\$1,115,119	-\$306,181	-\$808,939
Large Volume Evaluation**	\$0	\$63,000	-\$63,000	-\$63,000	\$0
Market Transformation Scorecard					
Market Transformation Program*	\$2,156,909	\$2,301,250	-\$144,341	-\$144,341	\$0
Market Transformation Evaluation**	\$0	\$36,820	-\$36,820	-\$36,820	\$0
Performance-Based Scorecard					
Performance-Based Program*	\$694,395	\$1,053,000	-\$358,605	-\$291,400	-\$67,205
Performance-Based Evaluation**	\$0	\$35,000	-\$35,000	-\$35,000	\$0
Programs Sub-total	\$62,626,545	\$57,630,305	\$4,996,240	-\$854,375	\$5,850,616
Portfolio Budget					
Research	\$672,614	\$1,000,000	-\$327,386	-\$327,386	\$0
Evaluation**	\$868,505	\$1,300,000	-\$431,495	-\$431,495	\$0
Administration	\$3,858,510	\$2,842,000	\$1,016,510	\$1,016,510	\$0
Pilot Programs	\$192,887	\$500,000	-\$307,113	-\$307,113	\$0
Portfolio Sub-total	\$5,592,517	\$5,642,000	-\$49,483	-\$49,483	\$0
Incremental DSM Projects 2018 Budget Spend					
Achievable Potential Study	\$0	\$0	\$0	\$0	\$0
Open Bill Project	\$821,395	\$0	\$821,395	\$821,395	\$0
Future Infrastructure Planning Study	\$82,464	\$0	\$82,464	\$82,464	\$0
Total 2018 DSM Budget (before Adjustments)	\$69,122,921	\$63,272,305	\$5,850,616	\$0	\$5,850,616

*Program costs include incentives, promotion and administration costs

**Costs related to the OEB staff coordinated evaluation and audit process are not provided detailed by program. These costs are recorded at the portfolio level.

Included in the spend amounts above are customer incentives deferred to future years, for offerings where incentives are paid when future milestones/activities are reached. The deferred amounts will be used when the customer incentive commitment is due. For more information on customer incentive deferrals, please refer to Section 5.3.2 of the OEB's Mid-Term Report.

Specifically, the amounts are:

- Commercial Savings by Design Offering: \$149,760



Appendix A: 2018 Avoided Costs

The inflation factor used is 1.27%. The discount rate is 5.32%. Avoided costs are presented in nominal dollars.

GAS AVOIDED COSTS						
YEAR	RESIDENTIAL/COMMERCIAL				INDUSTRIAL	
	BASELOAD (\$/M ³)		WEATHER SENSITIVE (\$/M ³)		BASELOAD (\$/M ³)	
	RATE	NPV	RATE	NPV	RATE	NPV
1	0.17996	0.17996	0.23988	0.23988	0.17785	0.17785
2	0.15852	0.33047	0.21454	0.44358	0.15747	0.32736
3	0.15705	0.47206	0.21264	0.63527	0.15654	0.46849
4	0.15713	0.60655	0.21372	0.81821	0.15661	0.60254
5	0.16092	0.73734	0.21853	0.99582	0.16040	0.73290
6	0.17882	0.87533	0.23747	1.17907	0.17829	0.87048
7	0.17621	1.00443	0.23594	1.35194	0.17567	0.99919
8	0.18850	1.13556	0.24931	1.52537	0.18795	1.12994
9	0.21431	1.27712	0.27622	1.70782	0.21375	1.27113
10	0.21577	1.41244	0.27882	1.88269	0.21521	1.40610
11	0.20897	1.53688	0.27316	2.04535	0.20840	1.53020
12	0.20940	1.65527	0.27475	2.20069	0.20882	1.64827
13	0.20817	1.76702	0.27473	2.34817	0.20759	1.75971
14	0.21756	1.87791	0.28532	2.49359	0.21697	1.87030
15	0.22886	1.98866	0.29786	2.63774	0.22826	1.98077
16	0.23484	2.09657	0.30511	2.77794	0.23424	2.08840
17	0.23554	2.19934	0.30709	2.91192	0.23493	2.19090
18	0.23632	2.29723	0.30918	3.04000	0.23570	2.28854
19	0.24238	2.39257	0.31656	3.16451	0.24175	2.38363
20	0.24858	2.48540	0.32413	3.28555	0.24795	2.47622
21	0.25494	2.57580	0.33187	3.40323	0.25430	2.56639
22	0.26145	2.66382	0.33979	3.51763	0.26080	2.65419
23	0.26812	2.74953	0.34790	3.62884	0.26747	2.73969
24	0.27497	2.83298	0.35620	3.73695	0.27430	2.82295
25	0.28198	2.91425	0.36471	3.84205	0.28131	2.90401
26	0.28916	2.99337	0.37340	3.94422	0.28848	2.98295
27	0.29652	3.07040	0.38231	4.04354	0.29583	3.05980
28	0.30406	3.14540	0.39143	4.14010	0.30336	3.13463
29	0.31178	3.21843	0.40075	4.23396	0.31107	3.20749
30	0.31970	3.28952	0.41031	4.32520	0.31898	3.27842



AVOIDED CARBON COSTS		
RESIDENTIAL/COMMERCIAL/INDUSTRIAL		
YEAR	(\$/M ³)	
	RATE	NPV
1	0.02	0.02000
2	0.04	0.05798
3	0.06	0.11207
4	0.08	0.18055
5	0.10	0.26182
6	0.10	0.33899
7	0.10	0.41225
8	0.10	0.48182
9	0.11	0.55448
10	0.11	0.62347
11	0.11	0.68897
12	0.11	0.75116
13	0.11	0.81021
14	0.12	0.87137
15	0.12	0.92945
16	0.12	0.98459
17	0.12	1.03694
18	0.13	1.09079
19	0.13	1.14193
20	0.13	1.19047
21	0.13	1.23657
22	0.14	1.28370
23	0.14	1.32846
24	0.14	1.37095
25	0.15	1.41417
26	0.15	1.45522
27	0.15	1.49419
28	0.15	1.53119
29	0.16	1.56866
30	0.16	1.60424



YEAR	ELECTRICITY AVOIDED COSTS (\$/KWH)		WATER AVOIDED COSTS (\$/1000L)	
	RATE	NPV	RATE	NPV
1	0.16137	0.16137	0.85365	0.85365
2	0.16342	0.31653	0.86449	1.67447
3	0.16549	0.46572	0.87547	2.46372
4	0.16759	0.60918	0.88659	3.22262
5	0.16972	0.74712	0.89785	3.95233
6	0.17188	0.87975	0.90925	4.65397
7	0.17406	1.00728	0.92080	5.32862
8	0.17627	1.12991	0.93250	5.97733
9	0.17851	1.24782	0.94434	6.60108
10	0.18078	1.36119	0.95633	7.20085
11	0.18307	1.47020	0.96848	7.77755
12	0.18540	1.57503	0.98078	8.33206
13	0.18775	1.67582	0.99323	8.86525
14	0.19014	1.77273	1.00585	9.37794
15	0.19255	1.86591	1.01862	9.87090
16	0.19500	1.95552	1.03156	10.34490
17	0.19747	2.04167	1.04466	10.80068
18	0.19998	2.12451	1.05793	11.23892
19	0.20252	2.20417	1.07136	11.66031
20	0.20509	2.28076	1.08497	12.06549
21	0.20770	2.35441	1.09875	12.45508
22	0.21034	2.42522	1.11270	12.82969
23	0.21301	2.49331	1.12683	13.18990
24	0.21571	2.55878	1.14114	13.53625
25	0.21845	2.62173	1.15564	13.86928
26	0.22123	2.68227	1.17031	14.18949
27	0.22404	2.74047	1.18518	14.49740
28	0.22688	2.79643	1.20023	14.79346
29	0.22976	2.85025	1.21547	15.07813
30	0.23268	2.90199	1.23091	15.35186