

**EB-2021-0002**

**ENBRIDGE DSM PLAN**

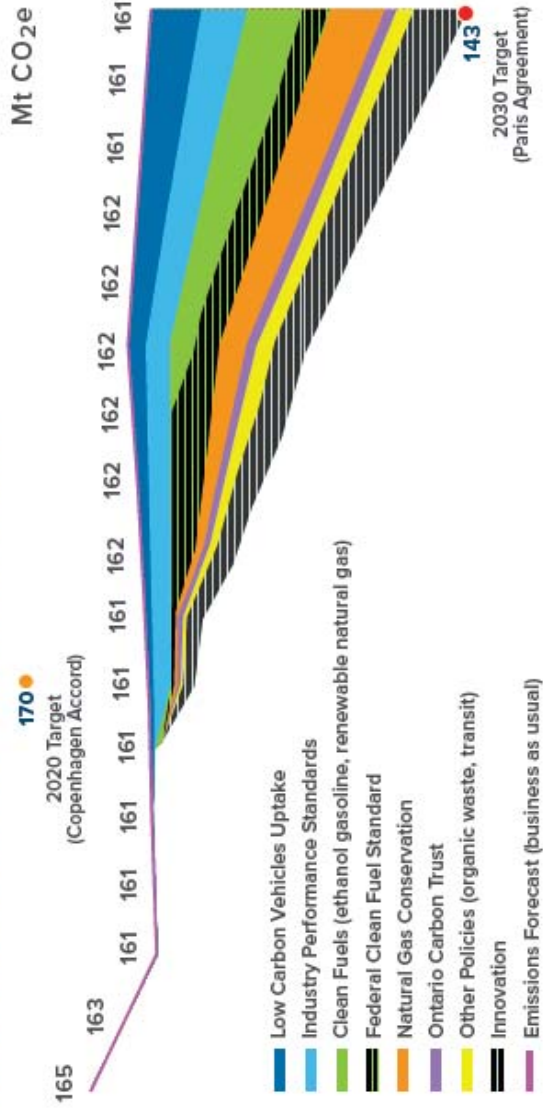
**SEC CROSS-EXAMINATION MATERIALS**

# Made in Ontario Environment Plan

## Explicit support for Utilities' gas conservation programs



Path to Meeting Ontario's 2030 Emission Reduction Target



“The Natural Gas Conservation action reflects programs that are well established in Ontario to conserve energy and save people money. **This case assumes a gradual expansion of programs delivered by utilities**, which would be subject to discussions with the Ontario Energy Board.” (**emphasis added**)

- Reduction from baseline shows “Natural Gas Conservation” as one category/wedge and no other category makes mention of utilities gas conservation programs

“The chart above shows where we expect Ontario’s emissions to be **if we take no action** (161 megatonnes) compared to where we expect our emissions to go if we take actions in specific sectors.” (**emphasis added**)



# **2017-18 Natural Gas Demand Side Management Custom Studies Executive Summary**

Ontario Gas DSM Evaluation Contractor

Ontario Energy Board

March 13, 2020

SAFER, SMARTER, GREENER

To verify the impacts of the Enbridge Gas Distribution, Inc. (Enbridge) and Union Gas Limited (Union) demand side management (DSM) programs, the Ontario Energy Board (OEB) undertakes various annual evaluation studies.<sup>1</sup> The 2017-2018 Natural Gas Demand Side Management Custom Savings Verification report and 2018 Natural Gas Demand Side Management Free Ridership Based Attribution Evaluation report are two such studies.<sup>2</sup> The results of the studies are summarized in this document.

In the 2017 and 2018 calendar years, Enbridge and Union delivered ratepayer funded DSM programs to residential, multifamily, low income, commercial, and industrial customers.<sup>3</sup> Included within the programs offered throughout 2017 and 2018 were custom programs available to commercial and industrial customers that encouraged them to reduce their energy consumption by providing customer-specific energy efficiency and conservation solutions.

The custom commercial and industrial DSM programs offered by the utilities provide financial incentives, technical expertise, and guidance with respect to energy-related decision-making and business justification to help customers prioritize energy efficiency projects against their own internal competing factors. Multi-residential buildings — other than low-income buildings, which are dealt with separately — are eligible to participate in both Union and Enbridge's custom commercial programs.

The OEB evaluates the custom commercial and industrial program results annually as the programs have significant OEB-approved savings targets. Based on the results of the utilities' programs, the utilities may be eligible for performance incentives. The portion of shareholder incentives that come from the custom commercial and industrial programs is based on the amount of verified net natural gas savings achieved by each utility relative to the OEB-approved targets.

- **Verified savings** are utility draft program savings that are audited and confirmed by an independent third party. The process and results of the verification are described in the 2017-2018 Natural Gas Demand Side Management Custom Savings Verification report. The result of the analysis is a ratio that represents the percentage of utility-draft energy savings that are verified by the auditor.
- **Net savings** are those that are caused, or influenced, by the utility. The process and results of the net savings assessment are described in the 2018 Natural Gas Demand Side Management Free Ridership Based Attribution Evaluation report. The result of the analysis is a ratio that represents the percentage of verified savings that were caused by the utility.

The two ratios are applied to the utility draft savings to produce final verified net natural gas savings according to the equation in the following figure.

<sup>1</sup> Enbridge Gas Distribution Inc. and Union Gas Limited amalgamated effective January 1, 2019 to become Enbridge Gas Inc.; however, because the programs will continue to be implemented individually through the remainder of the current framework, the EC will also evaluate each program by utility.

<sup>2</sup> All DSM evaluation results can be found on the OEB's [website](#).

<sup>3</sup> The OEB issued its Decision and Order on Enbridge and Union's multi-year DSM Plans on January 20, 2016 (EB\_2015-0029/EB-2015-0049)

### Equation to determine verified net savings



This summary reports the verification ratio and net savings ratio. The two ratios are applied to the utility draft savings to produce final verified net savings in the annual verification report for each program year. The custom program results are combined with the results from other utility programs in a “scorecard”. The utilities’ scorecard results determine overall performance and if the utility is eligible for a shareholder incentive.

The following table shows the verification ratio and the net savings ratio from these studies.

### Results from the 2017-18 custom DSM evaluation studies<sup>4</sup>

Program	Verification Ratio	Net Savings Ratio
Enbridge Commercial and Industrial Custom	105%	38%
Union Commercial and Industrial Custom	91%	50%
Union Large Volume	90%	14%

## 1.1 Findings

Key findings from the 2017-2018 Natural Gas Demand Side Management Custom Savings Verification study include:

- Both utilities generally calculate sound draft savings estimates, resulting in high verification ratios, largely using engineering approaches. None of the three program verification ratios were statistically different from 100%. Much of the variation in verification ratios among projects is driven by factors that the utilities only partially control, such as changes in operating conditions, changes in operating hours and changes in production levels. In some cases, the utility can control these types of discrepancies with more thorough documentation, but some changes can be difficult to anticipate when calculating savings before the project is installed.
- Both utilities could provide better supporting documentation of assumptions and inputs in their savings estimates and each could benefit from investing in a modern program tracking database with document storage capabilities

Key findings from the 2018 Natural Gas Demand Side Management Free Ridership Based Attribution Evaluation study include:

- Overall the study found somewhat higher net savings ratios than the last study, which was conducted in 2015.
- Enbridge has been successful in influencing vendors to recommend more energy efficient options to their commercial and multi-residential customers.

<sup>4</sup> This table presents the sample weighted overall results which differ slightly from the official domain results in the 2017 and 2018 Annual Verification Reports. The official domain results are the ones that are applied to determine shareholder incentive.

- Union has been successful in influencing agricultural customers to adopt energy efficiency upgrades in greenhouses.
- Enbridge has been successful in increasing net savings for industrial customers.
- The net savings ratio for the Large Volume programs is low, though the program remains cost effective, meaning the benefits resulting from the program outweigh the cost of implementing it even with low net savings ratios.
- The primary source of influence for both utilities is in convincing customers to install energy efficiency measures sooner than they would have without the program.

## **ABOUT DNV GL**

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# 2017 C&I PRESCRIPTIVE VERIFICATION



## FINAL REPORT — MEASUREMENT OF NTG FACTORS AND GROSS SAVINGS VERIFICATION



**Submitted to:**  
Ontario Energy Board



**Submitted by:**



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June 7, 2019





# 1 EXECUTIVE SUMMARY

This report has been prepared for the Ontario Energy Board (OEB) and provides the results of the gross savings verification and net-to-gross ratios (NTGRs), by Priority Measure Group, for the commercial and industrial prescriptive programs in Enbridge Gas Distribution Inc.'s (Enbridge) and Union Gas Limited's (Union) natural gas demand-side management (DSM) portfolio delivered in 2017. The combined study produced gross impact verification, free ridership (FR) and participant spillover (SO) ratios.<sup>9</sup>

## 1.1 EVALUATION OBJECTIVES

The overall goals of the combined evaluation were to develop:

- Verified gross and net ratios for a selected set of Priority Measure Group projects (designed to meet 90/10 statistical confidence and relative precision levels) from the 2017 prescriptive commercial and industrial programs
- Participant spillover factors applicable to commercial and industrial prescriptive projects, for a selected set of Priority Measure Groups, based on projects installed in 2017

## 1.2 EVALUATION APPROACH

At a high level, the gross savings verification and NTG study employed the following methodology:

- Receive program data and documentation.
- Design and select the sample.
- Collect data.
- Analyze the results.
- Report the results.

The methodology selected for the gross impact portion of the study consisted of telephone supported engineering reviews (TSERs) and on-site verification visits to aid in calculation of the ex-post gross savings. The methodology selected for the NTG evaluation relied on end-user self-report surveys and interviews. The end user self-reports were supplemented by interviews with vendors to capture their and the

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<sup>9</sup> Free-ridership rate: Ratio of savings claimed from participants that were not influenced by the utility program.



program's influence on end-user decision making. The NTG analysis also considered spillover savings due to the programs.

## 1.3 RESULTS

The following section presents the results from gross impact verification and NTG research study for Enbridge and Union. Table 1-1 and Table 1-2 show the Enbridge gross verification and NTG results, respectively. Itron did not find any participant spillover results for Enbridge or Union.

The Enbridge results show that the program's gross savings estimates are accurate and confirm with the specifications in the technical reference manual (TRM) and subdocuments (subdocs) describing savings calculations.

**TABLE 1-1: ENBRIDGE GROSS IMPACT RESULTS SUMMARY**

Priority Measure Group	Gross Verification Realization Rate	90% Confidence Interval			
		(+/-)	Lower Bound	Upper Bound	Relative Precision
Boilers	100%	0%	100%	100%	0%
Kitchen Ventilation	103%	3%	100%	106%	3%
Infrared Heating	103%	6%	97%	109%	6%
DCV	104%	2%	102%	106%	2%

The NTG results show that the program is influencing installations that represent less than 62% of the energy savings reported by the program, with a very minimal influence on the DCV Priority Measure Group.

**TABLE 1-2: ENBRIDGE NET-TO-GROSS RESULTS**

Priority Measure Group	Free Ridership Rate	Spillover	NTGR	90% Confidence Interval			Absolute Precision (w/ FPC) (+/-)	Absolute Precision (w/o FPC) (+/-)
			= [(1-FR) + SO]	+/-	Lower Bound	Upper Bound		
Boilers	70%	0%	30%	20%	10%	50%	17%	21%
Kitchen Ventilation	38%	0%	62%	24%	38%	86%	24%	26%
Infrared Heating	89%	0%	11%	9%	2%	20%	9%	10%
DCV	92%	0%	8%	17%	0%	25%	13%	21%



Table 1-3 and Table 1-4 show the Union gross verification and NTG results, respectively.

The Union results show that the program's gross savings estimates are accurate and confirm with the specifications in the TRM and subdocs describing savings calculations.

**TABLE 1-3: UNION GROSS IMPACT RESULTS SUMMARY**

Priority Measure Group	Gross Verification Realization Rate	90% Confidence Interval			
		(+/-)	Lower Bound	Upper Bound	Relative Precision
Boilers	102%	1%	100%	103%	1%
ERV	100%	1%	99%	100%	1%
Infrared Heating	103%	3%	99%	106%	3%
Air Curtains	100%	0%	100%	100%	0%

The NTG results show that the program is influencing installations that represent less than 50% of the energy savings reported by the program, with a very minimal influence on the Infrared Heating Priority Measure Group.

**TABLE 1-4: UNION NET-TO-GROSS RESULTS**

Priority Measure Group	Free Ridership Rate	Spillover	NTGR	90% Confidence Interval			Absolute Precision (w/ FPC) (+/-)	Absolute Precision (w/o FPC) (+/-)
			= [(1-FR) + 50]	+/-	Lower Bound	Upper Bound		
Boilers	76%	0%	<b>24%</b>	9%	15%	32%	9%	9%
ERV	70%	0%	<b>30%</b>	13%	17%	43%	8%	13%
Infrared Heating	93%	0%	<b>7%</b>	6%	1%	13%	6%	6%
Air Curtains	50%	0%	<b>50%</b>	22%	29%	72%	19%	24%

## 1.4 FINDINGS & RECOMMENDATIONS SUMMARY

Key findings and recommendations from the study are presented in Table 1-5 below.

**TABLE 1-5: 2017 C&I PRESCRIPTIVE PROGRAM VERIFICATION: FINDINGS & RECOMMENDATIONS**

Finding	Recommendation	Applicable Entity
Free-ridership levels for Enbridge ranged from 38% to 92% and from 50% to 93% for Union.	The utilities should consider evaluating free-ridership for the programs annually and consider coupling the free-ridership evaluation with process evaluation to better understand how the utilities are influencing the vendors and their outreach to the end-users.	Enbridge & Union



Finding	Recommendation	Applicable Entity
Both utilities had high ex-post gross realization rates, implying that the utilities are accurately estimating the ex-ante savings based on the measure sub-docs and/or the TRM.	GRRs were close to 100% for all evaluated Priority Measure Groups; <b><i>no action recommended.</i></b>	Enbridge & Union
There was no participant spillover for either utility.	<ul style="list-style-type: none"> <li>■ The utilities should work with the vendors to find out their protocol on recommending the installation of program measures at customers' facilities. This would enable the utilities to better understand the influence the programs have on the customers' behavior, especially in the context of spillover.</li> <li>■ The utilities should also consider conducting a market study to quantify any nonparticipant spillover, contingent on EAC and EC consideration.</li> </ul>	Enbridge & Union
Union could benefit from investing in a modern program tracking database with document storage capabilities as most of the participant and vendor contact information had to be extracted by the verification team.	<ul style="list-style-type: none"> <li>■ Digitize and file project documentation for all projects as they are completed and paid during project closeout.</li> <li>■ Track contacts associated with projects in the program tracking database.</li> <li>■ Strongly consider investing in relational program tracking databases.</li> </ul>	Union; however, it must be noted that Union has indicated the presence of an online tracking database for their 2018 programs
Vendor surveys had very low response rates	<ul style="list-style-type: none"> <li>■ Incentives to complete survey</li> <li>■ Recommendation for utilities to communicate with vendors regarding the importance of this evaluation step during future NTG studies</li> </ul>	Enbridge & Union and Verification Team
Participants were generally receptive in responding to surveys. The response rate for participants was around 50% for the first few months. After the first wave of customers were contacted, the more difficult corporate customers and unresponsive customers were attempted to be reached. By the end, after many attempts and exhausting the sample, the overall response rate was about 30% overall for participants.	<ul style="list-style-type: none"> <li>■ Incentives to complete survey</li> <li>■ Recommendation for Utility to communicate with customers about the importance of this evaluation steps during future NTG studies</li> </ul>	Enbridge & Union and Verification Team



# 2018 Natural Gas Demand Side Management Free Ridership Based Attribution Evaluation

Ontario Gas DSM Evaluation Contractor

Ontario Energy Board

March 13, 2020

SAFER, SMARTER, GREENER

## 2 ENBRIDGE C&I CUSTOM PROGRAMS

Enbridge's custom DSM programs for commercial and industrial (C&I) customers encourage customers to reduce their natural gas consumption by recommending and incentivizing energy saving projects and actions.

These custom programs differ from the prescriptive programs by providing additional technical support for projects and financial incentives based on overall natural gas savings realized by the customer rather than a per-unit incentive.<sup>2</sup>

A subset of the projects in this program is part of the multi-residential segment. The free ridership (FR) based attribution study included custom projects from the Market-Rate Multifamily (MR MF) section of the program. Under the the 2015-2020 DSM framework, low income projects use a deemed (pre-determined) value for Low Income Multifamily (LI MF) free ridership, so the LI MF segment was not included in the free ridership based attribution evaluation.

All non-LI MF projects implemented as part of these programs and claimed in 2018 as custom projects are included in the scope of the FR study.

### 2.1 Free ridership based attribution rate

The FR based attribution ratio represents the ratio of the savings influenced by the utility (considering only free ridership, not spillover) to the savings verified by the evaluation, as shown in the following equation. The methods used to determine evaluation verified savings are presented in a separate report.<sup>3</sup> A 90% FR based attribution ratio means the utility influenced savings (considering only free ridership) were 90% of the evaluation verified savings.

$$\text{free ridership based attribution} = \frac{\text{Utility influenced savings considering only free ridership, not spillover}}{\text{Evaluation verified savings}}$$

Table 2-1 shows the FR based attribution ratio by domain for the Enbridge Custom C&I programs. The table shows the FR based attribution ratio, statistical precision at the 90% confidence interval, the program-claimed population cumulative cubic meters of natural gas (CCM) savings, and percent of program savings for each customer segment. The percent of program savings represents the relative contribution that each customer segment makes to the overall result.

The ratio result is based on an overall sample size of 141 customers and 154 measures. Additional details on stratification, sample size, and population size are provided in Appendix C. Additional statistical details for the results are provided in Appendix E.

The Enbridge free ridership based attribution rate includes the effect of indirect utility influence on projects through vendors. Influence on projects through vendors increased the Commercial measure type free ridership based attribution rates by 6% for Boilers (from 36% to 42%) and Ventilation (8% to 14%) and 10% for "Other." Multi-Residential rates by 19% for Heating and 27% for "Other."

<sup>2</sup> Enbridge's Annual Report provides a more detailed description of the program and can be found here: [https://www.oeb.ca/sites/default/files/2016-EGDI-DSM-Annual-Report\\_20181117.pdf](https://www.oeb.ca/sites/default/files/2016-EGDI-DSM-Annual-Report_20181117.pdf)

<sup>3</sup> 2017-2018 Natural Gas Demand Side Management Custom Savings Verification. Prepared for The Ontario Energy Board by DNV GL, February 24, 2020.

**Table 2-1. Free ridership based attribution ratio for Enbridge Custom C&I programs\***

Segment - Measure Type	Free Ridership Based Attribution	+/- at 90% Confidence	Population CCM Savings	Percent Population CCM Savings
Commercial Boilers	42.37%	11%	60,672,478	10%
Commercial Other	25.65%	7%	35,315,552	6%
Commercial Ventilation	14.12%	5%	28,854,855	5%
Industrial	50.62%	8%	282,799,242	48%
Multi-Residential Heating	57.67%	11%	114,449,741	20%
Multi-Residential Other	69.73%	9%	63,506,532	11%
Enbridge C&I Custom - Overall	49.90%	5%	585,598,400	100%

\* The table shows statistical precision (+/- at 90% confidence factor) that does not include the effects of a finite population correction factor. See Appendix B for more information.

## 2.2 Components of free ridership based attribution

The FR based attribution rate for each measure is calculated based on participant survey responses to questions regarding the utility's influence on the timing, quantity, and efficiency of the measure installed. This section reports the program's effect on each component and provides an indication of which aspects of the projects show the greatest utility influence.

Throughout this section, a "Null" value in the table reflects less than five customer responses. For confidentiality reasons, results for less than five responses are not displayed. Customers with more than one installed measure and different survey responses by measure will appear multiple times in the table, resulting in a customer total greater than the number of customers interviewed.

Note that while the ratios in Table 2-1 include vendor influence for the commercial and multifamily segments, tables in Section 2.2 only provide insight into participant responses and do not incorporate vendor influence.

Table 2-2 represents the possible combinations of timing, efficiency, and quantity attribution. A "yes" in the timing, efficiency, or quantity column indicates partial or full FR based attribution for that source. A "no" indicates no FR based attribution for that source. For example, the row that has "yes" for timing, efficiency, and quantity reports the portion of the sample that indicated that the program had at least partial influence on the timing, efficiency, and quantity for that measure. For some measures, efficiency or quantity may not be applicable questions; for the purposes of this table, the not applicable measures are included as "no" on the non-applicable dimension.

The table shows the number of customers, measures, and savings that fall into each timing, efficiency, and quantity combination. The percentage of sample weighted cumulative savings shows the portion of population savings represented by that category.

## 3 UNION C&I CUSTOM PROGRAMS

Union's custom DSM programs for commercial and industrial (C&I) customers encourage customers within this sector to reduce their natural gas consumption by recommending and incentivizing energy saving projects and actions.

These custom programs differ from the prescriptive programs by providing additional technical support for projects. They also provide financial incentives based on overall natural gas savings realized by the customer rather than a per-unit incentive.<sup>5</sup>

A subset of the projects in this program is part of the multifamily segment. The free ridership based attribution portion of the evaluation included custom projects from the Market-Rate Multifamily (MR MF) section of the program. Under the the 2015-2020 DSM framework, low income projects use a deemed value for Low Income Multifamily LI MF free ridership, so the LI MF segment was not included in the FR based attribution evaluation.

All projects implemented as part of these programs and claimed in 2018 as custom projects are included in the scope of the free ridership (FR) based attribution study.

### 3.1 Free ridership based attribution rate

The FR based attribution ratio represents the ratio of the savings influenced by the utility (considering only free ridership, not spillover) to the savings verified by the evaluation, as shown in the following equation. The methods used to determine evaluation verified savings are presented in a separate report.<sup>6</sup> A 90% FR based attribution ratio means the utility influenced savings (considering only free ridership) were 90% of the evaluation verified savings.

$$\text{free ridership based attribution} = \frac{\text{Utility influenced savings considering only free ridership, not spillover}}{\text{Evaluation verified savings}}$$

Table 3-1 shows the FR based attribution ratio by customer segment for the Union Custom C&I programs. The table shows the FR based attribution ratio, statistical precision at the 90% confidence interval, the program-claimed population CCM savings, and percent of program savings for each customer segment. The percent of program savings represents the relative contribution that each customer segment makes to the overall result.

The ratio result is based on an overall sample size of 70 customers and 87 measures. Additional details on stratification, sample size, and population size are provided in Appendix C. Additional statistical details for the results are provided in Appendix E.

The Agricultural customer segment had the highest FR based attribution at 50%, representing the largest portion of the program at 49% of program savings. The combination of high FR based attribution and large percent of population savings allowed the overall program to rise above poor results in other segments, such as the 4% FR based attribution (representing 11% of savings) in the Industrial Other segment.

<sup>5</sup> Union's 2016 Annual Report provides a more detailed description of the program and can be found here: <https://www.oeb.ca/sites/default/files/2016-Union-DSM-Annual-Report-20181130.pdf>

<sup>6</sup> 2017-2018 Natural Gas Demand Side Management Custom Savings Verification. Prepared for The Ontario Energy Board by DNV GL, February 24, 2020.



**Table 3-1. Free ridership based attribution ratio for Union Custom C&I programs\***

Segment - Measure Type	Free Ridership Based Attribution	+/- at 90% Confidence	Population CCM Savings	Percent Population CCM Savings
Agricultural	50.16%	13%	707,932,787	49%
Commercial & Multifamily	28.62%	13%	120,228,342	8%
Industrial HVAC	39.88%	12%	213,589,410	15%
Industrial Other	4.11%	3%	152,680,320	11%
Industrial Steam/Hot Water	28.98%	10%	252,890,716	17%
Union C&I Custom - Overall	38.21%	7%	1,447,321,574	100%

\* The table shows statistical precision (+/- at 90% confidence factor) that does not include the effects of a finite population correction factor. See Appendix B for more information.

## 3.2 Components of free ridership based attribution

The FR based attribution rate for each measure is calculated based on participant survey responses to questions regarding the utility's influence on the timing, quantity, and efficiency of the measure installed. This section reports the program's effect on each component and provides an indication of which aspects of the projects show the greatest utility influence.

Throughout this section, a "Null" value in the table reflects less than five customer responses. For confidentiality reasons, results for less than five responses are not displayed. Customers with more than one installed measure and different survey responses by measure will appear multiple times in the table, resulting in a customer total greater than the number of customers interviewed.

Table 3-2 represents the possible combinations of timing, efficiency, and quantity attribution. A "yes" in the timing, efficiency, or quantity column indicates partial or full FR based attribution for that source. A "no" indicates no FR based attribution for that source. For example, the row that has "yes" for timing, efficiency, and quantity reports the portion of the sample that indicated that the program had at least partial influence on the timing, efficiency, and quantity for that measure. For some measures, efficiency or quantity may not be applicable questions; for the purposes of this table, the not applicable measures are included as "no" on the non-applicable dimension.

The table shows the number of customers, measures, and savings that fall into each timing, efficiency, and quantity combination. The percentage of sample weighted cumulative savings shows the portion of population savings represented by that category.

The table shows that the majority program savings (66% of sample weighted savings) are at least partially influenced by the program. Timing is the most common reflection of program influence, with respondents reporting that approximately 50% of the program savings were accelerated by the program. Efficiency was

ENBRIDGE GAS INC.

Answer to Interrogatory from  
School Energy Coalition (SEC)

Interrogatory

**Issue 3**

Reference:

Ex. B/1/1, p. 4-5

Question(s):

With respect to governance of the Applicant's DSM programs:

- a) Please provide a summary of the reporting structure for DSM within the Applicant, including the different types of reporting (operations, financial, policy development, strategic, etc.), and how the DSM activities and reporting are integrated into the broader organization.
- b) Please provide a list of all KPIs or other performance metrics applicable to DSM within Enbridge, or applicable to the senior executives who have executive responsibility for DSM.
- c) Please provide a detailed description of how DSM activities are co-ordinated, if at all, with integrated resource planning, the utility's low carbon transition efforts, new business ventures, gas supply planning, system planning, and any other major activity of Enbridge Gas or its parent companies where there is a material co-ordination activity.
- d) Please advise if there is any committee, working group, or other body – whether advisory or decision-making – that reviews the plans, programs, offerings or results (financial or otherwise) of the DSM programs. If there is, please provide details.
- e) Please confirm that at no time does the DSM group or its executives report to an independent advisory or governance body that includes customers and other stakeholders from outside of the utility (other than the EAC). If the Board were to create such a supervisory body, for example to review new offerings or assess the operational approach to programs, what suggestions would the Applicant have for how that should be structured and mandated?

- f) What steps, if any, does the Applicant take to ensure that its normal corporate incentives to increase revenues through increasing gas usage in Ontario do not have a negative impact on the design, implementation, or success of the Applicant's DSM programs?

Response:

- a) The Energy Conservation organizational structure is identified in Exhibit D, Tab 1 Schedule 1, page 19, Figure 1. The Director of Energy Conservation and Marketing reports to the Vice President Business Development and Regulatory. Accountability for the delivery of both the Large Industrial program and the residential new construction program report to the Director, Distribution In-Franchise Sales. Accountability for handling DSM customer calls is with the Director of Customer Care Operations. Both of these areas report to the Vice President, Customer Care.
- b) The Energy Conservation organization has the following 2 goal statements for 2021.

1. DSM Delivery

- DSMT achievement of \$7.2M or greater
- Achieve program goals and targets as specified by individual program and by delivery team.
- Achieve actual spend within 10% of the July OEB Report. (monitor)
- 50% of results submitted by Sales to the next stage by September 30<sup>th</sup> relative to the June Steering Committee (ECMLT).
- All projects submitted by the AP deadline.
- Update free ridership mitigation strategy by end of April and apply knowledge from fast feedback surveys.
- Plan and execute 1-2 process evaluations.
- Successfully defend claimed results through the 2019 Deferral Disposition and 2020 Audit.
- On-plan execution of approved new measure research projects, program pilots and collaboration initiatives

2. Next Generation Energy Conservation Planning

- 2022+ application: Development of changes to framework, new program concepts, evidentiary materials by April 2021, with full plan application submitted by May 2021, favourable OEB decision on 2022 program year funding received by October 2021, favorable decision of entire plan submission by end of 1Q/22.
- Targeted stakeholdering of key issues and opportunities.

The Vice President, Business Development and Regulatory has the following goal statement for 2021 that tie to DSM.

- Deliver or exceed DSM incentive target of \$7.2M in 2021 and preservation of DSMI for 2022.
  - OEB Approval of an IRP framework and internal approval of a next gen DSM plan that preserve growth opportunities including in non-pipe alternatives
- c) Energy Conservation information about existing DSM programs including historical and projected results, incentive levels, and approved cost effectiveness screening requirements is provided to the Integrated Resource Planning group for the development of the IRP Framework. With the receipt of the recent IRP Framework decision, work on Integrated Resource Planning is underway and the Company is in the process of determining how to best address the development of appropriate programming for IRP that will be incremental to the DSM programming already in place. The audited results of the DSM programs are used by the Economic Evaluation and Forecast team as one of the inputs to the demand forecast for the Company. The resulting demand forecast is used by gas supply planning and system planning. DSM is not involved in the Company's low carbon transition efforts (Scope 1 and Scope 2 emissions) nor is it involved in new business ventures.
- d) There is no committee, working group or other body that reviews the plans, programs, offerings, or results of the DSM Programs outside of the OEB, EC, EAC and the Company staff within the DSM group.
- e) Confirmed. The DSM group and its executives do not report to an independent advisory or governance body outside of the utility (other than the EAC). Currently the governance and evaluation process is set out as filed in Exhibit C, Tab 1, Schedule 1, Appendix 1. If the OEB were to consider creating an independent advisory or governance body, Enbridge Gas would at that time engage with the OEB and provide suggestions and/or feedback based on the scope of any requested feedback. This being said, such feedback would necessarily be informed by the fact that the OEB has jurisdiction only over Enbridge Gas and that it is Enbridge Gas that is ultimately accountable to the OEB for its DSM activities, not some independent advisory or governance body. As a result, final decision making authority must remain with the Company in respect of all material matters.
- f) There are 3 primary mechanisms in place to ensure the success of DSM programming is not compromised. First, accountability for DSM is separate and distinct from accountability for distribution revenue. Executive accountability for Energy Conservation and the DSM programs is with the Vice President Business Development and Regulatory, whereas executive accountability for the distribution revenues is with the Vice President Customer Care. Secondly, the

shareholder incentive provides the incentive for the organization to successfully deliver DSM programs. Third the LRAM mechanism keeps the organization indifferent between DSM and growth on a volumetric basis, removing any disincentive to pursue growth opportunities over DSM program objectives.

ENBRIDGE GAS INC.

Answer to Interrogatory from  
Ontario Energy Board (STAFF)

Interrogatory

**Issue 5**

Reference:

Exhibit C, Tab 1, Schedule 1, p. 28 and 30

Question(s):

Enbridge Gas has listed the proposed components of the DSM Annual Report.

Enbridge Gas has included the language from the OEB's December 1, 2020 letter that states "...the OEB expects that all process evaluations undertaken by Enbridge Gas will be included in the OEB's EM&V Plan."

- a) Please confirm that at a minimum, Enbridge Gas will discuss all planned process evaluations with OEB staff, the EAC and the EC and will ensure the OEB's EM&V Plan accounts for all process evaluations.
- b) Please provide a list of all process evaluations undertaken by program since 2015 including a brief description, objectives, conclusions, and the actions Enbridge Gas undertook following the process evaluation
- c) Please discuss Enbridge Gas's position regarding the accountability of process evaluations. In your response, please comment on the possibility of the OEB being responsible for both impact and process evaluations throughout the 2022-2027 DSM term.

Response

- a) Confirmed for formal process evaluations. Enbridge Gas notes however that smaller, informal process evaluation activities occur internally on a regular basis by the utility's program design and implementation staff, which are not formally scoped or tracked, and would not engage the EAC. These internal assessments (which lead to the continuous improvement of program design and delivery activities) are a regular part of the day-to-day role of utility staff. Enbridge Gas will continue to report any major outcomes of these learnings within its DSM Annual Report.

b) A total of 6 program offerings had process evaluations completed on them over 3 separate formal process evaluations.

- Home Winterproofing
- EGD/Union Residential
- Commercial Custom
- Commercial Prescriptive
- Commercial Direct Install

See Attachment 1 for DSM Conservation Programs Process Evaluation – Home Energy Conservation & Home Winterproofing. Prepared for Enbridge Gas Distribution by Econoler.

“The process evaluation’s objectives are to assess the HEC and HWP programs’ overall effectiveness over the period from January through June 2016 and identify opportunities for process improvements.”<sup>1</sup>

Material reviewed as part of this evaluation:

- Program Database and Document Review
- Benchmarking Study
- Participant Survey
- Interviews with Partial Participants
- Interviews with Contractors
- Interviews with Certified Energy Auditors

Process Evaluation conclusion and recommendations can be found starting on page 32 and page 54, in Attachment 1.

Actions the Company has undertaken since the process evaluation for Home Energy Conservation, in relation to the recommendations, include:

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<sup>1</sup> Econoler, DSM Conservation Programs Process Evaluation – Home Energy Conservation & Home Winterproofing, Final Report (January 20, 2017), p. v.

ENBRIDGE GAS INC.

Answer to Interrogatory from  
School Energy Coalition (SEC)

Interrogatory

**Issue 1**

Reference:

Ex. B/1/1, p. 8

Question(s):

Please provide details of the Applicant's "longer term natural gas savings reduction target" including, without limiting the generality of the foregoing:

- a) The Applicant's current twenty year forecast of natural gas throughput, by year and by rate class, before the impact of any DSM programs,
- b) The economic growth, carbon price, and other key assumptions used in that forecast,
- c) The impact of DSM programs, by year and by rate class, on total natural gas throughout, and
- d) The net twenty year forecast of natural gas throughput, by year and by rate class, after the impact of any DSM programs.

Please provide all reports, memoranda, presentations or other documents in the possession of the Applicant relating to its current or immediately preceding "longer term natural gas savings reduction targets".

Response:

- a) The Company does not have a twenty-year forecast of natural gas volumes. Below, please find the current forecast for 2022-2031 by year, and rate class, before the forecasted impact of DSM program activity from 2022-2031.



Enbridge Gas Inc.

EGI Volumes by Rate Classes (10<sup>3</sup> m<sup>3</sup>)

Before DSM

General Service/Rate Zone	Rate Class	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EGD	Rate 1	5,109,043	5,145,845	5,190,599	5,233,660	5,278,180	5,321,402	5,362,525	5,401,399	5,438,456	5,473,321
EGD	Rate 6	4,734,934	4,802,659	4,848,973	4,899,333	4,954,533	5,009,561	5,063,948	5,117,790	5,171,370	5,224,904
Union South	M1	3,139,151	3,159,248	3,194,936	3,199,477	3,218,945	3,237,490	3,270,502	3,271,656	3,287,502	3,302,501
Union South	M2	1,293,515	1,300,581	1,313,513	1,315,442	1,322,573	1,329,335	1,341,151	1,341,769	1,347,483	1,352,840
Union North	R01	1,026,564	1,032,064	1,043,883	1,045,373	1,052,202	1,058,603	1,069,783	1,070,534	1,076,991	1,078,939
Union North	R10	368,185	369,127	371,707	371,192	372,210	373,104	375,441	374,499	376,662	373,871
<b>Total</b>		<b>15,671,392</b>	<b>15,809,526</b>	<b>15,963,611</b>	<b>16,064,478</b>	<b>16,198,643</b>	<b>16,329,495</b>	<b>16,483,351</b>	<b>16,577,647</b>	<b>16,698,464</b>	<b>16,806,377</b>

Contract Market / Rate Zone	Rate Class	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EGD	Rate 100	31,607	31,607	31,607	31,607	31,607	31,607	31,607	31,607	31,607	31,607
EGD	Rate 110	1,089,746	1,147,246	1,147,246	1,147,246	1,147,246	1,147,246	1,147,246	1,147,246	1,147,246	1,147,246
EGD	Rate 115	365,312	375,312	375,312	375,312	375,312	375,312	375,312	375,312	375,312	375,312
EGD	Rate 125	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826
EGD	Rate 135	55,937	59,362	59,362	59,362	59,362	59,362	59,362	59,362	59,362	59,362
EGD	Rate 145	17,614	25,939	25,939	25,939	25,939	25,939	25,939	25,939	25,939	25,939
EGD	Rate 170	245,795	253,710	253,710	253,710	253,710	253,710	253,710	253,710	253,710	253,710
EGD	Rate 200	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317
EGD	Rate 300	123	123	123	123	123	123	123	123	123	123
EGD	Rate 315	-	-	-	-	-	-	-	-	-	-
Union North	Rate_20	795,311	802,954	803,282	803,282	803,282	816,970	816,970	816,970	830,657	830,657
Union North	Rate_25	91,136	91,137	89,182	89,183	89,184	89,185	89,186	89,187	89,188	89,189
Union North	Rate_100	1,030,213	1,097,713	1,112,841	1,112,841	1,112,841	1,112,841	1,112,841	1,112,841	1,112,841	1,112,841
Union South	Rate_M4	593,926	629,947	642,678	655,428	668,178	680,928	693,678	706,428	719,178	731,928
Union South	Rate_M5	62,606	62,606	62,606	62,606	62,606	62,606	62,606	62,606	62,606	62,606
Union South	Rate_M7	685,612	721,860	756,922	791,985	827,047	862,110	897,172	932,235	967,297	1,002,360
Union South	Rate_M9	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845
Union South	Rate_M10	360	360	360	360	360	360	360	360	360	360
Union South	Rate_T1	415,616	422,616	422,616	422,616	422,616	422,616	422,616	422,616	422,616	422,616
Union South	Rate_T2	4,230,819	4,244,414	4,260,351	4,276,289	4,369,058	4,384,996	4,477,765	4,493,703	4,586,472	4,602,410
Union South	Rate_T3	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209
<b>Total</b>		<b>10,811,930</b>	<b>11,067,102</b>	<b>11,144,334</b>	<b>11,208,085</b>	<b>11,348,668</b>	<b>11,426,107</b>	<b>11,566,690</b>	<b>11,630,441</b>	<b>11,784,711</b>	<b>11,848,462</b>
Total EGI Volumes (Before DSM)		26,483,322	26,876,628	27,107,945	27,272,563	27,547,311	27,755,602	28,050,041	28,208,087	28,483,175	28,654,839

- b) The economic growth, carbon price, and other key assumptions used in that forecast are attached as Attachment 1.
- c) Below, please find the forecasted impact of DSM program activity from 2022-2031<sup>1</sup>, by year and by rate class, used in Enbridge Gas's forecast of natural gas throughput

<sup>1</sup> These values are based on historical DSM savings by rate class and do not correspond with the forecasted DSM savings underpinning this application. These values were inputs into Enbridge Gas's 2022-2031 Long Range Planning process, which was completed prior to finalization of this application.

Enbridge Gas Inc.  
EGI DSM Volumes by Rate Classes (10<sup>3</sup> m<sup>3</sup>)

General Service/Rate Zone	Rate Class	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EGD	Rate 1	4,771	16,515	28,258	40,002	51,746	63,489	75,233	86,977	98,721	110,464
EGD	Rate 6	10,755	37,230	63,705	90,180	116,654	143,129	169,604	196,079	222,553	249,028
Union South	M1	4,380	15,163	25,945	36,728	47,510	58,292	69,075	79,857	90,640	101,422
Union South	M2	2,658	9,202	15,746	22,289	28,833	35,376	41,920	48,463	55,007	61,551
Union North	R01	834	2,887	4,940	6,993	9,045	11,098	13,151	15,204	17,257	19,310
Union North	R10	328	1,136	1,944	2,752	3,561	4,369	5,177	5,985	6,793	7,601
<b>Total</b>		<b>23,727</b>	<b>82,133</b>	<b>140,538</b>	<b>198,943</b>	<b>257,349</b>	<b>315,754</b>	<b>374,160</b>	<b>432,565</b>	<b>490,970</b>	<b>549,376</b>

Contract Market / Rate Zone	Rate Class	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EGD	Rate 100	369	1,277	2,185	3,093	4,001	4,909	5,817	6,725	7,633	8,541
EGD	Rate 110	1,464	5,066	8,669	12,272	15,874	19,477	23,080	26,682	30,285	33,888
EGD	Rate 115	1,833	6,345	10,857	15,369	19,881	24,394	28,906	33,418	37,930	42,442
EGD	Rate 125	-	-	-	-	-	-	-	-	-	-
EGD	Rate 135	383	1,326	2,269	3,212	4,154	5,097	6,040	6,983	7,926	8,869
EGD	Rate 145	-	-	-	-	-	-	-	-	-	-
EGD	Rate 170	172	596	1,019	1,443	1,867	2,290	2,714	3,137	3,561	3,985
EGD	Rate 200	-	-	-	-	-	-	-	-	-	-
EGD	Rate 300	-	-	-	-	-	-	-	-	-	-
EGD	Rate 315	-	-	-	-	-	-	-	-	-	-
Union North	Rate_20	855	2,958	5,062	7,166	9,269	11,373	13,477	15,580	17,684	19,788
Union North	Rate_25	-	1	2	3	4	5	6	7	8	9
Union North	Rate_100	444	1,536	2,629	3,722	4,814	5,907	6,999	8,092	9,184	10,277
Union South	Rate_M4	5,840	20,215	34,590	48,965	63,340	77,715	92,091	106,466	120,841	135,216
Union South	Rate_M5	290	1,005	1,719	2,433	3,148	3,862	4,577	5,291	6,005	6,720
Union South	Rate_M7	5,430	18,797	32,163	45,529	58,896	72,262	85,629	98,995	112,362	125,728
Union South	Rate_M9	-	-	-	-	-	-	-	-	-	-
Union South	Rate_M10	-	-	-	-	-	-	-	-	-	-
Union South	Rate_T1	289	999	1,710	2,421	3,131	3,842	4,553	5,263	5,974	6,684
Union South	Rate_T2	2,916	10,093	17,271	24,448	31,626	38,803	45,981	53,158	60,336	67,513
Union South	Rate_T3	-	-	-	-	-	-	-	-	-	-
<b>Total</b>		<b>20,284</b>	<b>70,214</b>	<b>120,145</b>	<b>170,075</b>	<b>220,006</b>	<b>269,936</b>	<b>319,867</b>	<b>369,798</b>	<b>419,728</b>	<b>469,659</b>
Total DSM Volumes		44,011	152,347	260,683	369,019	477,355	585,691	694,027	802,362	910,698	1,019,034

d) Below, please find the current forecast for 2022-2031 by year, and rate class, after the forecasted impact of DSM program activity from 2022-2031 (see part c, footnote 1).

Enbridge Gas Inc.  
EGI Volumes by Rate Classes (10<sup>3</sup> m<sup>3</sup>)  
Net forecast-after DSM

General Service/Rate Zone	Rate Class	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EGD	Rate 1	5,104,272	5,129,331	5,162,340	5,193,658	5,226,434	5,257,913	5,287,292	5,314,422	5,339,735	5,362,857
EGD	Rate 6	4,724,179	4,765,429	4,785,268	4,809,154	4,837,878	4,866,432	4,894,345	4,921,712	4,948,816	4,975,876
Union South	M1	3,134,770	3,144,086	3,168,991	3,162,749	3,171,434	3,179,198	3,201,427	3,191,798	3,196,862	3,201,079
Union South	M2	1,290,856	1,291,379	1,297,768	1,293,153	1,293,741	1,293,958	1,299,232	1,293,306	1,292,476	1,291,289
Union North	R01	1,025,730	1,029,177	1,038,943	1,038,381	1,043,157	1,047,504	1,056,632	1,055,330	1,059,735	1,059,630
Union North	R10	367,857	367,990	369,762	368,440	368,649	368,735	370,264	368,514	369,869	366,270
<b>Total</b>		<b>15,647,665</b>	<b>15,727,393</b>	<b>15,823,073</b>	<b>15,865,534</b>	<b>15,941,294</b>	<b>16,013,741</b>	<b>16,109,191</b>	<b>16,145,082</b>	<b>16,207,494</b>	<b>16,257,001</b>
Contract Market / Rate Zone	Rate Class	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
EGD	Rate 100	31,239	30,331	29,423	28,515	27,607	26,699	25,791	24,883	23,975	23,067
EGD	Rate 110	1,088,282	1,142,179	1,138,577	1,134,974	1,131,371	1,127,769	1,124,166	1,120,563	1,116,961	1,113,358
EGD	Rate 115	363,479	368,967	364,455	359,943	355,431	350,919	346,407	341,895	337,382	332,870
EGD	Rate 125	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826
EGD	Rate 135	55,553	58,036	57,093	56,150	55,207	54,264	53,321	52,379	51,436	50,493
EGD	Rate 145	17,614	25,939	25,939	25,939	25,939	25,939	25,939	25,939	25,939	25,939
EGD	Rate 170	245,623	253,114	252,691	252,267	251,843	251,420	250,996	250,573	250,149	249,725
EGD	Rate 200	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317
EGD	Rate 300	123	123	123	123	123	123	123	123	123	123
EGD	Rate 315	-	-	-	-	-	-	-	-	-	-
Union North	Rate_20	794,457	799,996	798,220	796,117	794,013	805,597	803,493	801,390	812,973	810,870
Union North	Rate_25	91,136	91,136	89,180	89,180	89,180	89,180	89,180	89,180	89,180	89,180
Union North	Rate_100	1,029,770	1,096,177	1,110,212	1,109,120	1,108,027	1,106,935	1,105,842	1,104,750	1,103,657	1,102,564
Union South	Rate_M4	588,086	609,732	608,088	606,463	604,838	603,212	601,587	599,962	598,337	596,712
Union South	Rate_M5	62,316	61,601	60,887	60,172	59,458	58,744	58,029	57,315	56,601	55,886
Union South	Rate_M7	680,182	703,063	724,759	746,455	768,151	789,848	811,544	833,240	854,936	876,632
Union South	Rate_M9	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845
Union South	Rate_M10	360	360	360	360	360	360	360	360	360	360
Union South	Rate_T1	415,327	421,617	420,906	420,195	419,485	418,774	418,063	417,353	416,642	415,931
Union South	Rate_T2	4,227,903	4,234,321	4,243,081	4,251,841	4,337,432	4,346,193	4,431,784	4,440,544	4,526,136	4,534,896
Union South	Rate_T3	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209
<b>Total</b>		<b>10,791,646</b>	<b>10,996,888</b>	<b>11,024,189</b>	<b>11,038,010</b>	<b>11,128,662</b>	<b>11,156,170</b>	<b>11,246,823</b>	<b>11,260,643</b>	<b>11,364,983</b>	<b>11,378,804</b>
Total EGI Volumes (after DSM)		26,439,311	26,724,281	26,847,262	26,903,544	27,069,956	27,169,911	27,356,014	27,405,725	27,572,477	27,635,805

Table: Key Economic assumptions used in the Enbridge's Average use per Customer / Volume forecast

Local	Employment: 15 years and over: Seasonally adjusted (x 1,000); Persons		GDP: Gross domestic product at market prices (x 1,000,000); Dollars		Consumer Price Index (CPI) 2005 basket; All-items; 2002=100		Enbridge Gas Natural Gas prices (\$/m <sup>3</sup> )*						Commodity prices (cents/m <sup>3</sup> )			Federal Carbon Charges**		Vacancy Rates	
	Ontario	Ontario	Ontario	Ontario	Ontario	2002=100	Rate 1	Rate 6	Rate M1	Rate M2	Rate 01	Rate 10	Enbridge	Henry Hub	Dawn	(\$/CO2e)	(¢/m3)	GTA Commercial	GTA Industrial
2015	6,845	6.8	724,946	127.4	36.50	29.22	32.57	22.49	27.83	23.93	41.43	27.83	12.72	12.47	13.90			7.75	4.35
2016	6,922	6.6	740,164	129.7	34.36	26.64	28.12	18.75	23.80	23.93	37.80	23.80	10.13	12.16	12.53			7.75	3.43
2017	7,053	6.1	761,025	131.9	39.17	31.36	35.56	29.62	47.11	33.71	47.11	33.71	11.18	14.43	14.54			7.20	2.73
2018	7,173	5.7	762,115	135.0	37.46	29.24	32.31	23.55	45.10	31.30	45.10	31.30	9.76	14.58	14.99			6.48	1.88
2019	7,375	5.6	796,213	137.5	35.98	27.54	32.44	23.09	42.61	29.62	42.61	29.62	10.62	12.56	11.86	20.00	3.91	5.60	1.38
2020	7,026	9.6	753,889	138.4	39.31	30.49	34.70	24.35	43.30	29.85	43.30	29.85	8.85	10.48	9.24	30.00	5.87	6.70	1.70
2021	7,337	8.1	796,129	141.5	44.31	35.54	37.92	26.38	46.19	32.00	46.19	32.00	11.69	13.52	13.52	40.00	7.83	6.70	1.70
2022	7,579	6.3	829,506	144.4	46.73	37.93	39.34	28.95	49.34	35.07	49.34	35.07	11.99	13.87	13.88	50.00	9.79	6.70	1.70
2023	7,663	6.1	843,921	147.3	47.32	38.49	40.87	30.08	50.91	36.26	50.91	36.26	12.22	14.14	13.70	51.00	9.99	6.70	1.70
2024	7,747	5.9	860,870	150.2	47.86	39.00	41.67	30.85	51.74	36.87	51.74	36.87	12.39	14.34	13.99	52.02	10.19	6.70	1.70
2025	7,832	5.7	881,138	153.2	48.41	39.52	42.58	31.25	52.68	37.50	52.68	37.50	12.57	14.54	14.27	53.06	10.40	6.70	1.70
2026	7,918	5.5	901,864	156.3	48.97	40.05	43.46	31.84	53.58	38.13	53.58	38.13	12.76	14.76	14.56	54.12	10.61	6.70	1.70
2027	8,006	5.4	923,118	159.4	49.55	40.60	44.34	32.45	54.50	38.77	54.50	38.77	12.95	14.99	14.86	55.20	10.82	6.70	1.70
2028	8,094	5.3	944,852	162.6	50.14	41.15	45.18	33.05	55.37	39.41	55.37	39.41	13.15	15.21	15.15	56.31	11.04	6.70	1.70
2029	8,183	5.2	967,098	165.8	50.73	41.72	46.18	33.70	56.38	40.09	56.38	40.09	13.34	15.44	15.47	57.43	11.26	6.70	1.70
2030	8,273	5.1	989,867	169.2	51.34	42.29	47.11	34.33	57.33	40.76	57.33	40.76	13.55	15.67	15.77	58.58	11.49	6.70	1.70
2031	8,364	5.1	1,013,173	172.5	51.96	42.88	48.08	34.99	58.31	41.45	58.31	41.45	13.75	15.91	16.10	59.75	11.72	6.70	1.70

\*Burner tip gas prices that excludes Rate Riders and HST

\*\*Greenhouse Gas Pollution Pricing Act, Schedule 2 and 4

Table 1: Enbridge Gas Volumes by Service type and Rate Classes (10<sup>3</sup> m<sup>3</sup>)

	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Forecast 2021	Forecast 2022	Forecast 2023	Forecast 2024	Forecast 2025	Forecast 2026	Forecast 2027	Forecast 2028	Forecast 2029	Forecast 2030
<b>General Service</b>																
EGD	4,773,804	4,717,246	4,914,923	4,945,811	5,042,867	5,103,652	5,076,869	5,104,272	5,129,331	5,162,340	5,193,658	5,226,434	5,257,913	5,287,292	5,314,422	5,339,735
EGD	4,797,680	4,688,243	4,884,068	4,921,840	4,978,779	4,865,543	4,660,199	4,724,179	4,765,429	4,785,268	4,809,154	4,837,878	4,866,432	4,894,345	4,921,712	4,948,816
EGD																
EGD																
Union South	2,941,369	2,914,050	3,031,793	3,135,541	3,181,259	3,157,911	3,070,530	3,134,770	3,144,086	3,168,991	3,162,749	3,171,434	3,179,198	3,201,427	3,191,798	3,196,862
Union South	M2	1,214,548	1,233,452	1,259,221	1,271,641	1,305,377	1,257,776	1,267,109	1,291,856	1,297,768	1,293,153	1,293,741	1,293,958	1,299,232	1,293,306	1,292,476
Union North	R01	958,401	958,121	985,034	1,007,152	1,020,446	1,028,569	1,001,544	1,029,177	1,038,943	1,038,381	1,043,157	1,047,504	1,056,632	1,055,330	1,059,735
Union North	R10	351,495	357,713	362,874	357,317	365,842	354,996	367,857	367,990	369,762	368,440	368,649	368,735	370,264	368,514	369,869
Total General Service	15,037,298	14,868,826	15,437,913	15,639,302	15,894,570	15,772,448	15,430,179	15,647,665	15,727,393	15,823,073	15,865,534	15,941,294	16,013,741	16,109,191	16,145,082	16,207,494
<b>Contract</b>																
EGD																
EGD	3,711	3,216	1,184	2,077	14,634	19,356	33,431	31,239	30,331	29,423	28,515	27,607	26,699	25,791	24,883	23,975
EGD	667,950	827,584	798,167	845,858	872,032	966,784	961,577	1,088,282	1,142,179	1,138,577	1,134,974	1,131,371	1,127,769	1,124,166	1,120,563	1,116,961
EGD	511,323	497,613	505,698	499,425	444,018	378,456	472,218	363,479	368,967	364,455	359,943	355,431	350,919	346,407	341,895	337,382
EGD	726,900	617,490	227,478	507,609	591,623	526,029	560,000	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826	558,826
EGD	68,665	64,633	65,989	62,615	62,990	65,319	61,643	55,553	58,036	57,093	56,150	55,207	54,264	53,321	52,379	51,436
EGD	77,496	45,699	46,105	43,306	30,721	23,645	27,157	17,614	25,939	25,939	25,939	25,939	25,939	25,939	25,939	25,939
EGD	389,053	302,202	310,562	328,093	286,319	247,886	267,329	245,623	253,114	252,691	252,691	251,843	251,420	250,996	250,573	250,149
EGD	176,403	169,647	173,932	186,081	187,869	195,190	181,853	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317	188,317
EGD	27,273	21,639	461	418	349	204	123	123	123	123	123	123	123	123	123	123
EGD																
Union North	Rate 100	540,839	564,912	501,499	478,104	522,900	663,827	794,457	799,996	798,220	796,117	794,013	805,597	803,493	801,390	812,973
Union North	Rate 20	144,313	116,847	106,997	156,126	119,200	92,838	79,886	91,136	89,180	89,180	89,180	89,180	89,180	89,180	89,180
Union North	Rate 25	1,368,114	1,365,738	1,029,145	1,038,045	1,020,510	996,605	1,009,926	1,096,770	1,110,212	1,109,120	1,108,027	1,106,935	1,105,842	1,104,750	1,103,657
Union North	Rate_100															
Union South	Rate_M4	457,328	471,413	549,760	656,761	674,011	621,380	678,947	609,732	608,088	606,463	604,838	603,212	601,587	599,962	598,337
Union South	Rate_M5	208,631	194,162	140,648	74,007	73,965	61,817	69,275	61,601	60,887	60,172	59,458	58,744	58,029	57,315	56,601
Union South	Rate_M7	427,707	474,216	507,692	513,836	541,343	618,372	561,865	703,063	724,759	746,455	768,151	789,848	811,544	833,240	854,936
Union South	Rate_M9	66,583	72,124	69,174	78,946	103,989	88,765	100,454	88,845	88,845	88,845	88,845	88,845	88,845	88,845	88,845
Union South	Rate_M10	300	248	274	410	391	360	375	360	360	360	360	360	360	360	360
Union South	Rate_T1	442,947	447,127	458,243	466,596	437,372	430,312	415,327	421,617	420,906	420,195	419,485	418,774	418,063	417,353	416,642
Union South	Rate_T2	4,368,501	4,212,740	3,762,498	4,101,435	4,136,389	4,017,975	4,136,432	4,234,321	4,243,081	4,251,841	4,337,432	4,346,193	4,431,784	4,440,544	4,526,136
Union South	Rate_T3	263,235	250,167	257,343	279,794	283,374	264,209	283,374	264,209	264,209	264,209	264,209	264,209	264,209	264,209	264,209
Total Contract	10,967,270	10,719,416	9,512,848	10,319,543	10,403,999	10,393,976	10,429,772	10,791,646	10,996,888	11,024,189	11,038,010	11,128,662	11,156,170	11,246,823	11,260,643	11,364,983
EGI Total Volumes	26,004,567	25,588,242	24,950,761	25,958,845	26,298,569	26,166,423	25,859,951	26,439,311	26,724,281	26,847,262	26,903,544	27,069,956	27,169,911	27,356,014	27,405,725	27,572,477

Table 1 - Enbridge Gas Customers by Service type and Rate Classes

	Actual 2015	Actual 2016	Actual 2017	Actual 2018	Actual 2019	Actual 2020	Forecast 2021	Forecast 2022	Forecast 2023	Forecast 2024	Forecast 2025	Forecast 2026	Forecast 2027	Forecast 2028	Forecast 2029	Forecast 2030
<b>General Service</b>																
EGD	1,930,657	1,959,569	1,990,032	2,017,128	2,042,127	2,064,531	2,089,012	2,112,540	2,135,757	2,159,018	2,181,481	2,204,076	2,225,923	2,245,685	2,266,346	2,285,101
EGD	163,634	164,692	166,224	167,216	168,190	169,084	169,421	170,526	171,254	171,922	172,546	173,110	173,596	174,003	174,340	174,619
EGD	6	6	3	2	2	2	-	-	-	-	-	-	-	-	-	-
Union South	1,083,032	1,097,031	1,111,544	1,127,353	1,141,279	1,154,987	1,167,994	1,180,474	1,192,673	1,204,812	1,216,722	1,228,487	1,239,846	1,250,729	1,261,253	1,271,409
M1	7,437	7,730	7,553	7,469	7,783	7,863	7,898	7,942	7,982	8,021	8,061	8,101	8,140	8,180	8,220	8,259
Union North	333,773	339,334	344,458	349,354	353,643	357,603	361,530	365,345	369,038	372,671	376,265	379,919	383,423	386,727	389,909	392,970
R01	2,152	2,219	2,192	2,118	2,144	2,201	2,198	2,207	2,210	2,214	2,217	2,220	2,223	2,226	2,229	2,232
Union North	3,520,692	3,570,581	3,622,006	3,670,639	3,715,168	3,756,270	3,798,052	3,839,034	3,878,914	3,918,658	3,957,291	3,995,913	4,033,151	4,069,550	4,102,297	4,134,591
Total General Service																
<b>Contract</b>																
EGD	2	2	3	3	4	9	13	13	13	13	13	13	13	13	13	13
EGD	227	269	263	274	282	335	369	380	380	380	380	380	380	380	380	380
EGD	25	27	27	26	22	20	19	22	22	22	22	22	22	22	22	22
EGD	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4
EGD	42	45	45	43	43	40	42	42	42	42	42	42	42	42	42	42
EGD	52	38	37	33	26	22	22	19	19	19	19	19	19	19	19	19
EGD	26	25	26	27	23	21	25	21	21	21	21	21	21	21	21	21
EGD	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1
EGD	2	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1
EGD	2	2	1	1	-	-	1	1	1	1	1	1	1	1	1	1
Union North	50	47	46	44	54	57	54	58	58	58	58	58	58	58	58	58
Rate 20	78	79	79	78	55	52	22	18	18	17	17	17	17	17	17	17
Rate 25	10	11	11	11	12	12	12	12	12	13	13	13	13	13	13	13
Union North	156	165	185	208	232	239	243	227	227	227	227	227	227	227	227	227
Rate_M4	80	72	59	38	42	38	38	40	40	40	40	40	40	40	40	40
Rate_M5	28	28	30	30	36	47	43	58	58	58	58	58	58	58	58	58
Rate_M7	2	2	3	3	4	4	4	4	4	4	4	4	4	4	4	4
Rate_M9	2	2	2	3	2	2	3	2	2	2	2	2	2	2	2	2
Rate_M10	37	37	37	37	37	39	39	39	39	39	39	39	39	39	39	39
Rate_T1	22	22	23	24	25	25	25	25	25	25	25	25	25	25	25	25
Rate_T2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rate_T3	852	881	885	891	905	969	981	988	988	989	989	989	989	989	989	989
Total Contract																
EGD Total Customers	3,521,544	3,571,462	3,622,891	3,671,530	3,716,073	3,757,239	3,799,034	3,840,021	3,879,902	3,919,646	3,958,279	3,996,902	4,034,139	4,069,538	4,103,286	4,135,579

1 MS. VAN DER PAELT: So the budget was allocated based  
2 on what we -- we looked at our historicals from the 2019,  
3 2020-2021 time period or -- sorry, the 2018-2020 time  
4 period. And we looked at the actuals and we based our  
5 budget roughly on what that amount is, and looked to see  
6 what we thought we could achieve using those dollars. And  
7 that was our format, right.

8 We started with our budget allocations and then went  
9 from that basis, being cognizant of the fact every  
10 ratepayer is contributing to the payment of this market.

11 We then also ring fenced the budget to ensure those  
12 dollars were spent in this market to make sure that, you  
13 know, it is -- it is not moved to another market where  
14 we're seeing a higher performance and we're having trouble.

15 I would say the other part we're seeing here is we  
16 believe that it is going to be a harder market to achieve  
17 some of the results for a couple of reasons.

18 We are seeing with some of our biggest social housing  
19 providers they are moving towards non-gas buildings and  
20 potentially not being a customer of Enbridge. So that has  
21 a significant impact on the market share.

22 And we do know that the single family homes are  
23 becoming very expensive and harder to get to. So we have  
24 tried to manage the budget and the targets within that  
25 constraint.

26 We did indicate, if the Board viewed that there should  
27 be additional budget put to this market, where it would be  
28 allocated in one of the other IR responses. I believe it

## **GEC/ED Responses of Energy Futures Group to FRPO Interrogatories**

### **3-FRPO-1-GEC/ED.1**

**Ref: Exhibit L.GEC.1, pg. 24**

Preamble: GEC/ED's evidence provides perspectives on EGI's move to first-year savings including the "potential coordinated or collaborative program delivery...with municipalities or the IESO". We are interested in understanding the pros and cons of have an independent third-party contracted to administrate and deliver the programs on a P4P basis.

1. In the experience of GEC/ED's evidence author, please provide any examples of a jurisdiction that has a third-party contracted to administrate and deliver the programs.
  - a. Based on that/those examples, what are the pros and cons of such a model?
  - b. Notwithstanding if examples are provided, in the opinion of the evidence author, please comment on the pros and cons of a third-party administrator/delivery model.

#### **Response:**

A number of jurisdictions across North America have either assigned or contracted responsibility for both design and delivery of electric and/or gas efficiency program portfolios to a non-utility party. Examples include Manitoba, Nova Scotia, Vermont, Maine, Oregon, Hawaii and Wisconsin. In some additional jurisdictions, such as New York, New Jersey and California, a portion of programs are delivered by non-utility parties (i.e., some programs are delivered by non-utility parties and some by utilities).

Generally-speaking, the advantages of the non-utility design and delivery model can include:

- The ability to objectively approach consideration of efficiency options from both a multi-fuel perspective (focusing on all forms of energy savings) and a fuel-neutral manner (because the providers do not have a vested interest in the sales of electricity, gas, or other fuels, they can more objectively advise customers on fuel choices);
- An exclusive focus on the merits of efficiency, eliminating potential for internal management conflicts and obviating the need to care about the "brand" under which programs are marketing (utilities can sometimes place disproportionate emphasis on advancing and/or protecting their corporate brand name);
- The potential to be viewed as more "neutral", objective advisors by customers;
- The potential ability to be more creative, innovative and cost-efficient – because there are typically fewer internal constraints on what can be done, potentially fewer layers of

management approval required and the perceived need to show innovation and cost-consciousness in order to retain a delivery contract when it is rebid; and

- Performance incentives can be smaller because third party administrators do not need to offset losses of profits from selling energy.

Generally-speaking, the relative advantages of utility design and delivery of DSM programs can include:

- Instant and on-going access to customer billing data, which can be used for both target-marketing of efficiency programs and services and for on-going assessment or program performance;
- Existing relationships with customers, particularly larger customers (an advantage when those relationships are good and the utility is trusted);
- Existing name/brand recognition (an advantage when the name/brand is viewed positively in the market).

Note that many of these advantages of each model will be location-specific. For example, the ability to be more creative and innovative will be at least partly a function of the level of flexibility permitted by regulators. For example, Efficiency Vermont is given significant flexibility to introduce new ideas, shift budgets between programs, etc., with regulators focusing largely on the extent to which pre-established multi-year goals are being met. In contrast, New Jersey regulators were often hamstrung by state procurement practices that made it difficult to change – at least in a timely way – the delivery strategies that third party administrators initially proposed in their winning bids. Similarly, the utility administration advantage of access to customer billing data will exist in jurisdictions where utilities are not required to share such data with third party administrators and not an advantage in jurisdictions (like Vermont) that have required that the data be shared (with strict confidentiality requirements) with the Efficiency Vermont administrator.

Note also that consistency and stability in the market are critical to the long-term success of either non-utility or utility management of DSM programs. Among other things, that means that it is important than any non-utility model (as with utility models) be funded through charges on utility customers' bills, with oversight from energy regulators, rather than through government budget allocations. Experience in different jurisdictions suggest government funded programs are more susceptible to quick changes in direction as different political parties take power and/or as different demands for budgetary resources outside of the energy sector wax and wane.



ENBRIDGE GAS INC.

Answer to Interrogatory from  
School Energy Coalition (SEC)

Interrogatory

**Issue 3**

Reference:

Ex. B/1/1, p. 4-5

Question(s):

Please describe, with examples, how the Applicant has managed the tradeoffs between the primary objective listed and the secondary objective of lowering overall annual natural gas use. In which programs or offerings, if any, has the Applicant proposed to pursue the primary objective despite the expectation that the result will be an increase natural gas use over time.

Response:

Enbridge Gas would like to correct SEC's characterization of the OEB's objectives in the above interrogatory. The OEB's secondary objective actually reads as follows: "help lower overall *average* annual natural gas usage."<sup>1</sup>

The Company has not proposed any programs or offerings which will increase natural gas usage.

As outlined in the OEB's DSM Letter, the primary and secondary objectives of DSM are as follows:

The OEB is of the view that the primary objective of ratepayer-funded natural gas DSM is assisting customers in making their homes and businesses more efficient in order to help better manage their energy bills.

In working towards the primary objective, Enbridge Gas's future ratepayer-funded DSM plan should also consider the following secondary objectives:

- Help lower overall average annual natural gas usage
- Play a role in meeting Ontario's greenhouse gas reductions goals
- Create opportunities to defer and/or avoid future natural gas infrastructure projects<sup>2</sup>

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<sup>1</sup> EB-2019-0003, OEB Letter Post-2020 Natural Gas Demand Side Management Framework (December 1, 2020), p. 3.

<sup>2</sup> EB-2019-0003, OEB Letter Post-2020 Natural Gas Demand Side Management Framework (December 1, 2020), pp. 2-3.

The Company does not believe there are necessarily tradeoffs between the primary objective and the secondary objective referenced by SEC. Notwithstanding, the Company has put forward the DSM Plan in order to address a number of priorities, please see response to Exhibit I.10.EGI.CME.5a and b.

In response to the second part of SEC's interrogatory regarding average natural gas use over time, please see response to Exhibit.I.10.EGI.CCC.2a.

Interrogatory from Environmental Defense

10c-ED-7-OEB Staff.2

Reference:

Exhibit L.OEB Staff.2, p. 23

Preamble:

While Enbridge Gas's programs are largely in line with those of similar jurisdictions, there are a few steps that could lower free ridership, increase depth of savings, and expand participation:

...

22. Consider adding RCx/SEM/Energy Manager programs.

Question(s):

Please comment on the order of magnitude of potential available gas savings RCx, SEM, and Energy Manager programs (e.g. based on program savings in leading jurisdictions). Please also comment on the budget levels associated with the savings levels based on leading jurisdictions.

Response

See Table 6 in Exhibit L.OEB Staff.2

Interrogatory from Environmental Defense

10c-ED-8-OEB Staff.2

Reference:

Exhibit L.OEB Staff.2, p. 32

Preamble:

"In order for a builder to be eligible, Enbridge Gas requires any new construction building to commit to using natural gas as a fuel source for space and/or water heating<sup>43</sup>. As a first step, the OEB should consider whether this makes sense from a policy perspective, given provincial and national GHG emission reductions goals. New construction is increasingly using heat pumps for space and water heating – Massachusetts program data, for example, indicates that all-electric new construction is the norm in above code construction<sup>44</sup>. Further, there is increasing evidence that all

electric new construction results in lower costs in addition to a significant GHG reduction. A recent study from the Rocky Mountain Institute, for example, finds lower initial costs for all electric homes in most cities examined and lower lifecycle costs for all cities, in addition to GHG savings of between 50% and 93%, depending on the fuel mix of the electricity<sup>45</sup>. In this light, it is unclear if ratepayer funds should be encouraging natural gas in new construction at all.”

Questions:

- (a) Could you please file a copy of the documents cited in footnotes 42, 44, and 45? With respect to footnote 44, we are specifically seeking the document stating that “Massachusetts program data, for example, indicates that all-electric new construction is the norm in above code construction.”
- (b) Does Optimal believe it is likely that there are lower initial costs and lower lifetime costs for all-electric homes in Ontario in the new construction context? Please comment on how the Rocky Mountain Institute report cited above might apply in the Ontario context in light of Ontario’s electricity mix and carbon pricing?
- (c) If Enbridge continues to provide incentives only to those planning to use fossil fuel heating, is there a risk that this could deter customers from implementing more cost effective options, such as electric heat pumps?
- (d) Optimal states that “[n]ew construction is increasingly using heat pumps.” Could you please provide examples of jurisdictions (i) with targets for heat pump penetration and/or (ii) that require or plan to require non-fossil-fuel heating for new construction?
- (e) Could Optimal please provide any other studies or reports showing that “there is increasing evidence that all-electric new construction results in lower costs in addition to a significant GHG reduction”?

Response

- (a) See Attachment 15 for the MA 3-year plan (footnotes 42 and 44), and Attachment 16 for the RMI report (footnote 45). The referenced statement is given on page 79 of the MA 3-year plan.
- (b) We have not done an in-depth look at the cost effectiveness of all-electric homes in Ontario or the relative prices of electricity and gas in Ontario vs other jurisdictions.
- (c) Yes.
- (d) We have not done a comprehensive review of this, but there is an increasing number of jurisdictions with heat pump targets or requirements for all-electric new construction. Maine, Massachusetts and New York, for example, have specific targets for space heating electrification. Jurisdictions requiring, planning to require,

or strongly encourage all-electric new construction include New York City, Ithaca NY, Louisville CO, Brookline MA, and 54 jurisdictions in California including Berkeley, Mountain View, Oakland, and Santa Monica.

- (e) See Attachment 17, a report from e3, looking at electrification in California, which states “All-electric new construction is expected to be lower cost than gas-fueled new construction homes in homes that have air conditioning, resulting in lifecycle savings of \$130 - \$540/year”

Interrogatory from Environmental Defense

10g-ED-9-OEB Staff.2

Reference:

Exhibit L.OEB Staff.2, p. 32

Preamble:

Optimal states: “there is increasing evidence that all-electric new construction results in lower costs in addition to a significant GHG reduction” L.OEB STAFF.2, p. 32

- (a) Enbridge’s avoided electricity figures are as follows (per Exhibit I.5EGI.ED.16, Attachment 1)

ENBRIDGE GAS INC.

Undertaking Response to OEB Staff

Undertaking

Tr: 106

Enbridge will make best efforts to provide a high-level response to the program recommendations that have been made and I want to be clear as to what portions of those reports the company will be responding to. And that include Optimal's Exhibit L Staff 2 Report at pages 36 through 38, the SBUA executive summary, which is at pages 1 and 2, and the EFG report at page 36 which is section 1 (the portfolio and program design summary of key points, the five bullets.)

Response:

<b>Evidence</b>	<b>Referenced Page</b>	<b>Topic/Sector/ Program</b>	<b>Expert's Recommendation</b>	<b>Enbridge Gas Response</b>
SBUA - Green Energy Economics Group	Page 1	Commercial - Small Business	1. Offer a wider array of measures and provide as streamlined a way as possible for small business customers to access them.	This recommendation is in line with Enbridge Gas's objective to provide DSM participation opportunities for all customers including ensuring small commercial customers are appropriately served.
SBUA - Green Energy Economics Group	Page 1	Commercial - Direct Install/Custom	2. Follow Massachusetts' lead by offering a "turnkey" pathway for small business customers to seamlessly participate in a direct install program followed up by a custom measure package.	Yes, Enbridge Gas intends to offer a turnkey pathway as outlined in Exhibit E, Tab 1, Schedule 4, page 22, "To facilitate this turnkey solution, Enbridge Gas equips contracted service providers with the training and sales support tools to identify, qualify, quote, and install eligible measures." Additionally, Enbridge Gas is open to exploring opportunities to integrate custom measures into the Direct Install offering.

SBUA - Green Energy Economics Group	Page 1	Commercial - Prescriptive	3. Prescriptive Programs a. Offer all typically cost-effective measures as prescriptive measures, with incentives that cover most of the incremental measure costs, including residential type equipment.	Not all cost-effective measures lend themselves well to being offered as a prescriptive measure, as some measures are a lot more customized and require more site-specific inputs to properly estimate gas savings than others.  Furthermore, Enbridge Gas maintains different incentive level coverage of incremental costs within the Prescriptive and Direct Install offers based on the different type of customers whom these programs target.
SBUA - Green Energy Economics Group	Page 1	Commercial - Direct Install	4. Direct Install a. Allow small businesses to participate in DSM programs more than once. Do not limit participation in DSM programs if previously participated in a DSM program. b. Include additional direct install measures such as adaptive thermostats, boiler tune-ups, and water heating measures.	a) Enbridge Gas's approach on the current program, taking into consideration budgetary constraints, was to ensure that the maximum number of unique participants could participate in Direct Install but not limit participation in other prescriptive/custom programming opportunities.  b) Enbridge Gas is open to introducing additional measures to the Direct Install offering including adaptive thermostats, boiler-tune-ups, and water heating measures, provided they prove to be cost-effective.

SBUA - Green Energy Economics Group	Page 1-2	Commercial - Custom	5. Custom Program a. Create a comprehensive custom program component tailored for small businesses that is fed in from the Direct Install program. b. Offer an assessment to identify all cost-effect efficiency measures for a building. c. Provide incentives for all the identified efficiency measures that cover most of the incremental measure costs.	<p>a) Custom programs are typically more time and resource intensive, and therefore would not represent an effective approach at engaging a large proportion of the vast small business sector.</p> <p>b) An assessment could be offered to support small businesses; however, it would come at a significant cost relative to potential savings.</p> <p>c) Project implementation costs do not necessarily align with potential gas savings. Therefore, to optimize results, savings relative to project cost are considered in prioritizing measures where a more significant proportion of incentives is offered.</p> <p>In a non-budget constrained scenario, Enbridge Gas could support this recommendation, however given the proposed budget, Enbridge Gas believes it has appropriately prioritized the budgets and respective target audiences of its current program mix to optimize program reach and results.</p>
SBUA - Green Energy Economics Group	Page 2	Coordination with External Parties	6. Coordinate with IESO CDM when performing energy assessments for commercial buildings to treat the building as a whole and identify natural gas and electric savings opportunities at the same time.	Enbridge Gas maintains regular communication with the IESO who are tasked with delivering electricity CDM programming in Ontario. In an effort to leverage collaborative opportunities, both the IESO and Enbridge Gas are committed to coordinating the delivery of DSM programs with electricity CDM programs where appropriate.
SBUA - Green Energy Economics Group	Page 2	Commercial - Indigenous Support	7. Designing efficiency programs that focus on small businesses will also help indigenous businesses.	Enbridge Gas agrees with this statement.



SBUA - Green Energy Economics Group	Page 2	Low Carbon Transition	10. Promote a fuel-neutral approach in the Low Carbon Transition Program that includes electric technologies and maximizes carbon reductions.	Enbridge Gas believes that its Low Carbon Transition Program provides a fuel-neutral approach to supporting the ongoing evolution of energy efficiency for customers as evidenced by the program's inclusion and support of projects encompassing both electric air source heat pumps and gas heat pumps. In either case, given the OEB's stated primary objective for DSM - "assisting customers in making their homes and businesses more efficient in order to help better manage their energy bills," to be eligible for DSM programming, participants must be Enbridge Gas customers and therefore by definition use natural gas in their homes or businesses.
SBUA - Green Energy Economics Group	Page 2		11. Provide annual reporting on small business DSM spending, participation, and natural gas savings.	Enbridge Gas can commit to providing annual reporting on spending, savings, and participation for the small volume customer metric, of which small business should be a major segment. To provide similar reporting for small business specifically, Enbridge Gas would need a better understanding of what other factors need to be considered in defining small businesses, and then determine what it can provide with its available data.
OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential	1. Coordinate delivery of the gas program with the equivalent electric utility program.	Enbridge Gas maintains regular communication with the IESO who are tasked with delivering electricity CDM programming in Ontario (not the electric utilities). In an effort to leverage collaborative opportunities, both the IESO and Enbridge Gas are committed to coordinating the delivery of DSM programs with electricity CDM programs where appropriate.

OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential	2. Ensure that expenses related to home audits are completely covered by the program (as opposed to paid by the customer and rebated).	From 2012-2016, Enbridge Gas paid a portion of the audit costs upfront. Based on feedback from Service Organizations the upfront cost of the assessment with reimbursement after the program process did not represent a barrier where the rebate payment was made on a timely, known basis. When compared to the relative trade off of fixed costs that may not result in an energy savings where a participant does not proceed with the offer and the administrative requirements of managing an upfront payment process it was decided to not pursue this approach. Instead, funding is focused on those participants who complete upgrades, and in so doing motivates follow through on the opportunities identified in the energy assessment to be eligible for the rebate.
OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential	3. Lower the barriers of participation in the whole home program by training a set of qualified contractors who offer standardized pricing.	Enbridge Gas does not feel it is appropriate for the utility to dictate pricing for a competitively procured service delivered by third parties. The potential variation of travel, labour, and installation costs by region due to the very large and diverse geography covered by Enbridge Gas does not make this a practical exercise. Enbridge Gas will continue to broaden and enhance relationships with contractors over the term of the Plan, with the intent to further engage and educate this market as well as, provide additional support and connect customers to reputable contractors.

OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential	4. Offer incentives for pre-weatherization barriers and health and safety.	<p>Enbridge Gas does not support incentives for pre-weatherization costs noted in the report for the Residential program. Available funding for incentives should continue to be directed to energy saving upgrades. The ability to address pre weatherization items has not been a common barrier identified for the Residential program historically.</p> <p>Support for select pre-weatherization items such as mold testing and hoarding situations is provided through the Home Winterproofing offering in the Low Income program. These have been observed barriers limiting the ability to participate in DSM that low income energy consumers often do not have the means to remedy without support.</p>
OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential	5. Eliminate furnaces and boilers completely as offered measures, as they are now code baseline, and any promotion through the program creates a lost opportunity for electrification.	<p>The goal of the Whole Home offering, which should not be lost, is not the replacement of a furnace or boiler in isolation but rather the implementation of the other multiple measures (a minimum of two, or three energy efficiency measures in cases where a furnace is installed) that the whole home approach is seeking to promote.</p> <p>HVAC contractors have and continue to be a lead generation source for Whole Home offering program participation as gas fired equipment is a visible point of gas consumption in homes with defined replacement decisions unlike building envelope upgrades where opportunities are less obvious.</p> <p>These measures have importance and visibility to the homeowner and provide an opportunity to promote the value of the home energy assessment and other</p>

				<p>envelope upgrades in the home. In these cases, the customer's interest in a measure which may on its own not be cost-effective is the key to persuading the customer to install a package of measures that are cost-effective in aggregate. This leads to greater overall benefits through the execution of the building envelope improvements.</p> <p>Enbridge Gas has been reducing the value of the furnace and boiler incentive, recognizing the changing code requirements and will continue to monitor the effectiveness of it as a lead generator for this program.</p>
OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential	6. Consider offering 0% financing for weatherization and pre-weatherization measures.	The OEB Decision and Order in EB-2015-0029/EB-2015-0049 determined that the OEB did not view access to financing as a critical deterrent to customers participating in conservation programs and the Company should not assume the role of providing financing to their customers. Additionally, there are multiple financing options available in Ontario for energy conservation, so Enbridge Gas has not proposed any financing options as part of the DSM program.
OEB Staff2/Optimal Energy	Page 54 of the PDF Doc	Residential & Multi-Family	7. Ensure that multi-family buildings and renters/landlords are adequately covered by targeted messaging and participation pathways, and integrating residential and commercial and industrial (C&I) offerings with a one-stop-shopping experience.	As a result of shared spaces, centralized systems, and flow of air between units, efficiency measures addressing multi-family buildings need to be looked at holistically. To ensure a one-stop shopping experience for multi-family buildings, Enbridge Gas relies on its ESAs to work with property management firms of large multi-family buildings to support them in identifying and implementing relevant in-suite and common area measures. Enbridge Gas also works through the

				service providers of multi-family buildings as a pathway to participation by influencing service provider recommendations.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Residential	8. Proactively coordinate with other funding sources such as government or nonprofit programs to offer enhanced incentives where possible.	Enbridge Gas is actively coordinating its DSM programs with other funding sources as evidenced by the collaboration with IESO and the discussions with NRCan and will continue to proactively engage in this area. The resulting offer approach would be based on the consultation between the parties.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Residential	9. Perform direct installation of low-cost measures such as aerators, showerheads, smart thermostats, and pipe insulation during the initial energy assessment.	Enbridge Gas does not support aerators, showerheads, or pipe insulation in the Residential program. These measures were supported in the prior DSM framework and had been proposed for continuation in the 2016 - 2020 Plan term. The OEB's Decision and Order in EB-2015-0029/EB-2015-0049 did not approve the continuation of these measures in residential programming. Enbridge Gas Registered Energy Advisors are not qualified to install a smart thermostat at the time of an energy assessment. Aerators, showerheads, and pipe insulation are delivered and installed at the time of the assessment through the Low Income Home Winterproofing offering. Additionally, Enbridge Gas does install the smart thermostat through the Low Income Winterproofing offering, however this is done in a subsequent visit after the initial energy assessment by a certified gas technician.

OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Residential	10. Use virtual audits and hybrid audits to add more customized program participation pathways.	Enbridge Gas is currently conducting a pilot on virtual audits to determine its viability as a future offering enhancement.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Residential	11. Consider adding a behavioral program.	A Home Energy Report behavioural offering had been proposed for the 2016 - 2020 Plan term however it was not approved in the OEB's Decision and Order in EB-2015-0029/EB-2015-0049. Jurisdictional research revealed that natural gas utilities saw low savings attributed to behavioural based programming, and most jurisdictions that offered this type of programming applied a dual-fuel approach which is currently not an option available through CDM programming in Ontario.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Residential	12. Consider adding a midstream smart thermostat program.	Enbridge Gas's Smart Home offer provides an instant point-of-sale rebate to buy down the cost of the unit for residential customers. Enbridge Gas believes the incentive directed at the customer to motivate action continues to be appropriate. The report further noted ideally a midstream program would be promoted jointly with the IESO, however this is not an option currently available through CDM programming in Ontario. Enbridge Gas is committed to coordinating the delivery of DSM programs where possible and has coordinated its moderate income Smart Home offer with the IESO's Energy Affordability Program.

OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Low Income	13. Investigate the cause of the low cost to achieve natural gas savings in the low-income sector for EGI compared to other leading jurisdictions and ensure that most resources are dedicated to comprehensive energy retrofits.	<p>Enbridge Gas's current approach for the single family low income begins with undertaking a comprehensive energy assessment to identify all DSM opportunities. In the multi-family segment ESAs begin the customer journey by working with the owner/property managers to assess the potential saving opportunities, as they are in the best position to determine what will fit with their capital spending plans, increasing the likelihood that the DSM opportunities will be realized.</p> <p>Enbridge Gas continues to review jurisdictional best practices, to ensure DSM is running optimally within the current framework for the low-income customers.</p>
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Low Income	14. Ensure that EGI's programs are able to meet the needs of smaller, one- to four family low-income rentals including the ability to easily initiate and complete the participation process, in addition to larger multi-family renters. Consider adding a scorecard metrics to explicitly reward participation in this segment.	<p>Enbridge Gas agrees meeting the needs of smaller, one-to-four family low income rentals is challenging due to the difficulty in identifying these buildings and building owners. Once identified most units can either participate in the Home Winterproofing Program, or the Affordable Housing Multi-Residential building. To continue to address methods for identifying these opportunities, Enbridge Gas has actively consulted and will continue to work with multiple market associations and utilities, including CEE, CIETA, Fortis, and Efficiency Nova Scotia to share learnings and outcomes as the industry grapples with how to identify this market.</p>

OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Low Income	15. Ensure large multi-family buildings are treated comprehensively with both in-unit and common area measures, even if the common area measures do not go through the “low-income” program.	All Enbridge Gas's current and proposed programs available to large multi-family buildings allow for the inclusion of both in-suite and common area measures to be pursued by customers.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Low Income	16. Closely coordinate with any non-profits, community action agencies, federal/local governments, etc., who are offering programs or funding for efficiency in Low Income buildings. Any additional funding would ideally be used to prioritize cost & safety upgrades so that EGI funds can be used to push to install more measures on the cost-effective priority list. EGI could also leverage existing infrastructure by providing funding directly to these agencies.	Enbridge Gas continues to look for opportunities to partner or collaborate with non-profits, community action agencies, and federal/provincial/local governments. Enbridge Gas currently is working with IESO which is the only agency offering funding for efficiency in low income buildings in Ontario today with the recent alignment of CDM/DSM Delivery Agents to facilitate co-delivery of Affordable Housing Single Family programming. This is a significant effort which will allow Enbridge Gas to leverage coordination opportunities across the province. Additionally, Toronto Community Housing has a tenant education program which Enbridge Gas has sponsored.



OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	Low Income	17. Link efficiency programs with credit collections and payment plan departments, as is being done in Illinois.	Enbridge Gas has successfully collaborated with customer care staff administering the LEAP (Low-income Energy Assistance Program) for several years to promote participation in the DSM Home Winterproofing Program (HWP). Offering fully subsidized envelope improvements to the homes of impacted customers helps with ongoing energy bill costs, as such Enbridge Gas works with an outreach agency who income qualifies these LEAP customers on Enbridge Gas's behalf to ensure all LEAP qualified residents are encouraged to participate in HWP.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	C/I	18. Significantly reduce or eliminate incentive caps for C&I projects.	A large majority of Enbridge Gas's projects do not reach the proposed incentive caps, and those that do typically yield adequate gas savings on their own and do not require a significantly higher incentive than the cap. Therefore, Enbridge Gas has not proposed a higher incentive cap. It is also important to note that incentives are not necessarily the primary driver for projects, especially larger scale ones. In many cases, the technical support provided by ESAs is viewed as equally or even more important. That said, Enbridge Gas does introduce limited time offers to explore changes in incentive structure, including doubling the incentive and increasing project caps. Enbridge Gas is open to continuing to test the impacts of higher project caps through its limited time offers.

OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	C/I	19. Perform a process evaluation with an express goal of understanding programs influence on decision making process and recommend ways to increase participation and reduce free ridership.	Enbridge Gas has completed several process evaluations, including one recently completed on the Commercial Custom / Prescriptive / Direct Install offers. Further details can be seen in the response provided in Exhibit I.5.EGI.Staff.10.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	C/I	20. Consider moving towards negotiated incentives for custom projects.	Negotiated incentives may result in the perception of affording some customers preferential treatment over others. Instead, Enbridge Gas prefers to host limited time offers whereby all customers within a specific segment and/or rate class have the ability to earn an increased incentive on projects that meet specific criteria.
OEB Staff2/Optimal Energy	Page 55 of the PDF Doc	C/I	21. Evaluate the effectiveness and extent of current account management for large and medium customers and encourage account managers to push to create multi-year Memoranda of Understanding outlining specific energy commitments. Alternatively, expand the Energy Performance (Whole Building P4P) program to include all large C&I customers.	<p>Enbridge Gas's Energy Solutions Advisors have and continue to work with large customers year after year to identify and implement various projects, often functioning as an extension of their teams providing both hands-on technical support and financial support. Seeking commitment to an energy target through an MOU in order to have access to this level of support is not the approach adopted by Enbridge Gas - it is neither customer-centric nor does it provide flexibility to customers who are at different stages of maturity in terms of energy management.</p> <p>Enbridge Gas agrees with BOMA's evidence where it is suggested that Performance Based programming works best among customers that meet certain characteristics such as</p>

				those with consistent and predictable operating hours and those that have centralized decision making over the facility. Therefore, the Whole Building P4P offering is not necessarily suitable for all large C&I customers.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	22. Consider adding RCx/SEM/Energy Manager programs.	<p>Enbridge Gas' experience with offering stand-alone RCx and SEM programs has not proven to be cost effective.</p> <p>In 2020, Enbridge Gas collaborated with the IESO on the Energy Manager program targeting the Ontario institutional market. The IESO has since decided to discontinue this offering at the end of the year.</p> <p>Based on these experiences, Enbridge Gas has incorporated elements of RCx and SEM programming into its proposed Custom offering, which provides customers with flexibility to participate in energy management initiatives that they have shown most interest in such as audits, studies, and metering, without the need for a distinct program offering. The Energy Performance Program also takes a strategic energy management approach and supports RCx measures.</p> <p>Enbridge Gas also believes our Energy Solutions Advisors who work with named accounts year after year, often as an extension of their teams, provide a similar level of service to Energy Managers, supporting customers in achieving goals and targets in a cost effective manner.</p>

OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	23. Ensure that the Small Business Direct Install Program effectively integrates with the electric side, and focus the gas program on envelope measures, as is done in the residential sector.	Enbridge Gas maintains regular communication with the IESO, who are tasked with delivering electricity CDM programming. In a common effort to improve programming for customers and reduce costs, both the IESO and Enbridge Gas are committed to coordinating the delivery of DSM programs with electricity CDM programs where possible, which includes the potential for collaboration on direct install for small business. Historically, the Enbridge Gas Direct Install offering supported both envelope measures such as air curtains, as well as non-envelope measures, such as Demand Control Kitchen Ventilation (DCKV) – a technology that moderates excess air infiltration. Restricting the Direct Install offering to envelope measures would therefore exclude other cost effective measures, like DCKV, that would benefit small customers.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	24. Revisit the technical caps for the Large Volume Program, for both technical assistance and implementation.	The proposed Large Volume Program budget was set to address the cost concerns from some Large Volume Program ratepayers. Increasing the caps would impact budget. Enbridge Gas has dedicated Technical Account Managers who work with Large Volume customers to provide technical assistance at no additional cost to the customer, reducing the need for incremental incentives to support technical assistance.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	25. Ensure robust project-level measurement and verification activities on projects funded through the Large Volume program.	All Large Volume projects have some form of measurement, for example, custom calculations performed by ESAs to determine energy savings. The Large Volume program has been subject to verification by the board selected Evaluation Contractor. Typically, this has taken the

				format of CPSV (Custom Project Saving Verification) of a statistical representative sample of projects.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	26. Withhold a portion of the efficiency charge on the Large Volume Self-direct to help cover program administrative costs.	The proposed Large Volume Program already contemplates that customers in the Large Volume rate classes pay for Large Volume Program admin costs and for a share of the portfolio admin costs.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	27. Clarify cost-effectiveness requirements, and ensure that each customers' multiyear efficiency plan is cost-effective on an aggregate level.	Customers work with ESAs to produce annual energy efficiency plans (EEPs). Multi-year EEPs were considered as an alternative to program design but ultimately rejected as an option due to the administrative complexity and chose instead to offer more flexibility to customers through increased measure eligibility. Enbridge Gas would be open to ensuring that customer EEPs are cost effective but would want to understand further the potential impact to customers.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	C/I	28. Ensure that EGI's other programs can effectively meet the needs of eligible customers, with a goal of demonstrating enough value that customers opt not to self-direct.	The Large Volume Program was created to mitigate the cost impacts to customers while also providing the same benefits as C&I programming. Customers that qualify for the Large Volume program are among the largest of the Utility and, as DSM costs are a factor of consumption, inclusion of Large Volume customers as part of the C&I programming portfolio could result in them incurring a disproportionately larger DSM cost.

OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	BBC - New Construction	29. Revamp the incentive structure on Energy Star Homes to motivate additional participation, reduce free ridership, and encouraging additional savings beyond the minimum to achieve Energy Star certification.	<p>Enbridge Gas believes the proposed incentive structure for the Energy Star Homes path already adequately addresses the ability to effectively motivate additional participation, while reducing free ridership concerns by actively targeting jurisdictions that have shown previously low participation rates.</p> <p>The primary barriers identified with builders not pursuing this level of energy efficiency in their builds were: 1) incremental cost of construction and 2) associated costs with labelling. The largest ESNH service provider in the province of Ontario, Building Knowledge, states the following with respect to the current Incremental Costs of construction associated with ESNH. "Based on our work with builders over the last 10+ years, providing Energy Star for New Homes support/design development/testing/inspections and labelling for over 30k residences, we have observed the following:</p> <ul style="list-style-type: none"> <li>• Increasing the efficiency of a part 9 new residential home (SB12 2017) to meet the ESNH standards 17.2 will add approximately \$1,650 to \$2,000 in hard cost.</li> <li>• Depending on home geometry (e.g. single vs attached or MURB), the hard cost increase associated with ESNH vs 17.2 may be lower than OR higher than the above estimate.</li> </ul> <p>As a result of its consulting with Building Knowledge, Enbridge Gas believes its overall incentive of \$1,650 is more than sufficient to adequately motivate builders to</p>
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				participate in the program, and that its active targeting of builds taking place in municipalities that have previously had low penetration of Energy Star new home builds is a reasonable approach to addressing potential free ridership issues.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	BBC - New Construction	30. Add pre-construction financial support for builders constructing net zero homes for feasibility studies, modeling, and other expenses needed to achieve net zero. Also consider adding an intermediate savings level which gives increased incentives for buildings that approach net zero but do not quite reach it.	<p>The points outlined in this recommendation are already addressed in the NZER offer, as referenced in EB-2021-0002, Exhibit E, Tab 2, Schedule 2, Page 13 of 33 - Participants will be guided through a series of activities to support the design and construction of the NZER discovery home, including:</p> <ul style="list-style-type: none"> <li>• Visioning session between the design team and IDP workshop facilitator</li> <li>• IDP workshop followed by an IDP workshop report that summarizes key outcomes for the design team.</li> <li>• Associated trades training to ensure implementation meets designed outcomes</li> <li>• NZER discovery home incentive of \$15,000 per home. Builders (inclusive of all subsidiaries) will only be able to participate once and receive a single incentive.</li> <li>• NZER evaluation incentive of \$1,500 to assess whether the discovery home achieved the NZER standards.</li> </ul> <p>This offer is designed for builders to gain confidence in the ability to achieve the NZER standard. Designing an offer to be accommodating to builders who do not achieve this standard would be counterproductive to the design of this program</p>

OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	BBC - New Construction	31. Offer financial incentives on Commercial New Construction, in addition to training and workshops.	<p>Performance incentives have historically been offered as part of the Commercial Savings by Design offering. As outlined in Exhibit E, Tab 2, Schedule 2, Page 17, #54, "the long timelines between IDP and the final build led to many participants not choosing to complete the requirements to access the final stage incentives."</p> <p>As it relates to the time to build challenges with the earlier offering, Enbridge Gas has decided to shift its focus away from performance incentives, and instead mandate that participating builders supply the energy models that are submitted for permitting purposes to the respective municipalities to Enbridge Gas for review. These models will help inform Enbridge Gas as to the decisions that were made by the builders following the completion of the IDP. A post building participant survey will also be conducted to further explore the impact of the IDP workshop on the final design. The outcome of these findings will influence any potential future program design improvements, including if and how performance incentives should be reintroduced as part of the offering in the future.</p>
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	BBC - New Construction	32. Increase the incentive cap for both the ENERGY STAR for New Homes and Net Zero Energy Ready offerings.	See response to Optimal BBC - New Construction recommendations 29 & 30 above.



OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	BBC - New Construction	33. Measure the baseline as standard practice, rather than code minimum.	The proposed ESNH offer considers baseline through our analysis of current jurisdictional penetration levels of ESNH. The offer is designed to drive ESNH levels to go above current levels and realize lost opportunities vs no intervention in these markets. The NZER has included baseline assessments as part of its builder design support, whereby individual builder baselines are assessed and through an IDP process an optimal path is identified for that builder to achieve the NZER standard.
OEB Staff2/Optimal Energy	Page 56 of the PDF Doc	BBC - New Construction	34. Offer incentives for additions and major renovations for residential projects	The current HER program is available to customers looking to perform major renovation projects. Bonus measure incentives provides additional financial support to those customers involved in a major renovation. Those projects involving an addition, are subject to current building code standards, and therefore, low associated incremental savings.
OEB Staff2/Optimal Energy	Page 56 - 57 of the PDF Doc	Low Carbon Transition and Integration with Electric Efficiency	In addition to these specific recommendations, we find that moving towards a true joint delivery model with fully integrated electric and gas programs is likely the single most impactful step that could be taken to improve program delivery and cost efficiency.	Enbridge Gas maintains regular communication with the IESO who are tasked with delivering electricity CDM programming in Ontario. In an effort to leverage collaborative opportunities, both the IESO and Enbridge Gas are committed to coordinating the delivery of DSM programs with electricity CDM programs where appropriate.

GEC - Energy Futures Group	Page 34	Residential	Enbridge's proposed residential Whole Home program should be harmonized with the new federal Greener Homes Program, using an identical design, supporting the same efficiency measures (or at least the subset that save gas), and simply offering increased rebates for individual measures where appropriate and increasing the federal rebate cap per home.	Enbridge Gas agrees the Residential program should be coordinated with the federal Canada Greener Homes Grant, and with the program adapting in the coordinated approach to the federal program to simplify communications and marketing messages. Discussions between Enbridge Gas and NRCan are ongoing to establish an Agreement for a coordinated approach for the program.
GEC - Energy Futures Group	Page 34	Residential	Enbridge's proposed residential Whole Home program should not offer rebates for gas heating or water heating equipment. These are not cost-effective measures. Eliminating such gas equipment rebates would also better align the Enbridge Gas program with the federal program.	See response to Optimal Residential recommendation 5 above.

GEC - Energy Futures Group	Page 34	Low Income	Enbridge's proposed low income program budget is lower (in inflation-adjusted terms) than in recent years, and lower as a percent of total program spending than most leading gas DSM portfolios. It should be increased to the point where it represents at least 20% of total DSM program spending.	Enbridge Gas's 2023 proposed low income project budget is currently 18.6% of the total program budget. This is consistent with actual low income program expenditures from 2016 to 2020 which averaged 18.2% of the total program budget. The proposed budget is also consistent with the findings of the CEE 2020 annual report (Figure 19) which indicates that the 2019 Canadian Natural Gas Expenditures for Low Income is 19% of program expenditures. It should be noted that in United States, the equivalent average spend is much higher than Canada at 26% (Figure 10). Should the OEB be desirous of an increase in the Low Income budget, the IR response to Staff 13 provides a sensitivity analysis which outlines the incremental net annual gas savings that could be forecast with an additional 10% allocation to the Low Income program budget. The 2020 CEE annual report is included at Attachment 1 to this undertaking response.
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GEC - Energy Futures Group	Page 34	BBC - New Construction	Enbridge's proposed Building Beyond Codes new construction programs should be removed from its portfolio, with budget reallocated to other programs or to a third party with the appropriate expertise and no profit bias toward one fuel. New construction decisions by builders and future codes should be considered from a fuel agnostic perspective.	<p>Enbridge Gas does not agree with this direction, as it continues to feel that it has a role to play in supporting the market, as outlined in its interrogatory response to Exhibit I.10g.EGI.STAFF.68, to prepare for future code advances that will be implemented over the coming decade.</p> <p>Enbridge Gas has worked closely with 3rd party experts for over a decade to deliver its new construction programs, and feels it has adequate experience to continue doing so. Enbridge Gas has and continues to support fuel agnostic energy savings solutions so long as the end state of the new construction build results in an Enbridge Gas customer remaining in alignment with guidance provided in the EB-2019-0003, OEB Letter Post-2020 Natural Gas Demand Side Management Framework (December 1, 2020), p. 2. "the primary objective of ratepayer funded natural gas DSM is assisting <b>customers</b> (emphasis added) in making their homes and businesses more efficient in order to help better manage their energy bills."</p>
GEC - Energy Futures Group	Page 34	Low Carbon Transition	Enbridge's proposal to support the development of gas heat pumps, as part of its Low Carbon Transition program, should be rejected. Residential gas heat pumps are not commercially available today, are highly unlikely to materially impact gas sales for the foreseeable future, may conflict with future electrification	<p>Enbridge Gas disagrees with this recommendation. Natural gas heat pumps (GHPs) are an important next generation energy efficiency technology to replace existing residential furnaces and water heaters. GHPs are commercially available in overseas markets. Three manufacturers of residential GHPs are targeting to make their certified GHP products commercially available in Ontario in 2024. GHPs are a solution aligned to the goals of Canada's market transformation road map for space and water heating, and provides consumer choice in line</p>

			goals, and are far from cost-effective as an efficiency measure. Budget resources would be much better spent on measures that can provide comparable levels of savings today – and cost-effectively.	with direction from the province of Ontario. GHPs are likely to become cost effective with the proper level of market support, given their broad range of applicability and their ability to scale with existing infrastructure.
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ENBRIDGE GAS INC.

Answer to Interrogatory from  
School Energy Coalition (SEC)

Interrogatory

**Issue 5**

Reference:

Ex. C/1/1, p. 26

Question(s):

Please provide a chart showing, for each metric in each offering, the gross measurement approach the Applicant is proposing. Please confirm that the Applicant is seeking approval of those approaches, and that if the Applicant during the plan wishes to change any of those approaches, it will do so by Application to the Board for an amended approval.

Response:

<b>Offering Name</b>	<b>Gross Measurement Methodology</b>	<b>Reference</b>
Whole Home	NRCAN HOT2000 software, used in Energuide Mode, is required for estimating natural gas savings for participants in the Whole Home offering. Homes will be initially modelled based on the existing state of the home and again based on the post-retrofit state of the home. All completed HOT2000 assessments and associated documentation will be submitted to NRCAN in accordance with its QA/QC processes. To correctly claim energy savings, Enbridge Gas will make adjustments to the savings determined by the HOT2000 models to account for baseline considerations as appropriate.	Exhibit E, Tab 1, Schedule 2, Page 14
Single Measure	For prescriptive measures, the offering will use the TRM (including the established process for the introduction of new measures) as the basis for natural gas savings (m3) gross measurement. Projects must meet requirements as outlined in the version of the TRM applicable to the program year. For project-specific inputs in the case of professional air sealing, a custom calculator will be used.	Exhibit E, Tab 1, Schedule 2, Page 18

Smart Home	The offering will use the TRM as the basis for natural gas savings (m <sup>3</sup> ) gross measurement. Projects must meet requirements as outlined in the version of the TRM applicable to the program year.	Exhibit E, Tab 1, Schedule 2, Page 22
Home Winterproofing	NRCan HOT2000 software, used in General Mode, is currently required for estimating natural gas savings achieved from weatherization improvements of participants in the Home Winterproofing offering. Homes will be initially modelled based on the existing state of the home (pre-assessment) and again after upgrades have been installed in the home (post-assessment). In the case of direct install prescriptive measures installed, the offering will reference the TRM as the basis for natural gas savings (m <sup>3</sup> ). Projects must meet requirements as outlined in the version of the TRM applicable to the program year.	Exhibit E, Tab 1, Schedule 3, Page 13
Affordable Housing Multi-Residential	Custom Projects: This offering will employ several customized approaches in the calculation of natural gas savings (m <sup>3</sup> ) including engineering calculations and energy modelling, as determined reasonable by Enbridge Gas's technical experts. In the case of modelling analysis, specific tools may be used such as, eQUEST, EnergyPlus, CANQUEST, Integrated Environmental Solutions ("IES") and Tas Engineering. For commonly implemented measures, standard calculators have been developed such as e-tools to ensure that common baseline assumptions and calculation methodology are applied across similar types of projects. Prescriptive and Direct Install Measures: Natural gas savings claims (m <sup>3</sup> ) will reference the current version of TRM applicable to the program year.	Exhibit E, Tab 1, Schedule 3, Page 18
Prescriptive Downstream	The offering will use the TRM as the basis for natural gas savings (m <sup>3</sup> ) gross measurement. Projects must meet requirements as outlined in the version of the TRM applicable to the program year.	Exhibit E, Tab 1, Schedule 4, Page 30

Commercial Custom	This offering will use several customized approaches as the basis for natural gas savings (m <sup>3</sup> ) gross measurement, examples include engineering calculations and energy modelling, as determined appropriate by Enbridge Gas technical experts. For commonly implemented measures, standard calculators have been developed such as e-tools to ensure that common baseline assumptions and calculation methodologies are applied across similar project types.	Exhibit E, Tab 1, Schedule 4, Page 20
Direct Install	The offering will use the TRM as the basis for natural gas savings (m <sup>3</sup> ) gross measurement. Projects must meet requirements as outlined in the version of the TRM applicable to the program year.	Exhibit E, Tab 1, Schedule 4, Page 26
Prescriptive Midstream	The offering will use the TRM as the basis for natural gas savings (m <sup>3</sup> ) gross measurement. Projects must meet requirements as outlined in the version of the TRM applicable to the program year.	Exhibit E, Tab 1, Schedule 4, Page 35
Industrial Custom	This offering will use several customized approaches as the basis for natural gas savings (m <sup>3</sup> ) gross measurement, examples include engineering calculations and energy modelling such as the USDA Agricultural Research Service's Virtual Grower, as determined appropriate by Enbridge Gas's technical experts.	Exhibit E, Tab 1, Schedule 5, Page 15
Direct Access Offering	Net annual natural gas savings achieved by customers in the Direct Access offering will be quantified by professional engineers using the custom engineered approach (determined relative to an Enbridge Gas approved baseline), incorporating the use of engineering calculations and process data. Due to the size, complexity and production variability of the customers participating in this offering, site meter-based analysis will not be used.	Exhibit E, Tab 1, Schedule 6, Page 8



<p>Whole Building Pay for Performance ("P4P") Offering</p>	<p>Annual natural gas savings are calculated based on comparing the Adjusted Baseline Model to Adjusted P4P Period consumption, evaluated at the end of each P4P Period (on an annual basis). Annual Gas Savings (m3) Calculation:</p> <ul style="list-style-type: none"> <li>• Year 1 P4P Annual Gas Savings (m3) = (BM - P4P1) at or above zero</li> <li>• Year 2 P4P Annual Gas Savings (m3) = [(Lesser of BM or P4P1) - P4P2] at or above zero</li> <li>• Year 3 P4P Annual Gas Savings (m3) = [(Lesser of BM or P4P1 or P4P2) - P4P3] at or above zero</li> </ul> <p>Where:  BM is the Adjusted Baseline Model Consumption  P4P1 is the Adjusted P4P Year 1 Period Consumption  P4P2 is the Adjusted P4P Year 2 Period Consumption  P4P 3 is the Adjusted P4P Year 3 Period Consumption</p> <p><i>Baseline Model Requirements:</i></p> <ul style="list-style-type: none"> <li>• Baseline Period should have a minimum 12 months of baseline history using utility data or interval data (if already available via customer) and should be based on the most recent 12 months of data. However, alternative Baseline Periods may be accepted if the most recent data is not representative of typical building operation.</li> <li>• Baseline Model input/output granularity ranges from daily (most granular) to bi-monthly (least granular) intervals.</li> <li>• Baseline Model should be a regression model that is derived based on metered gas consumption during the Baseline Period and is adjusted for independent variables to allow for adequate representation of the baseline gas consumption during the P4P Period.</li> <li>• Baseline Model will be approved by Enbridge Gas prior to participant being enrolled into the program offering.</li> <li>• Baseline Model, once approved, should not change for the balance of the program offering.</li> </ul>	<p>Exhibit E, Tab 2, Schedule 1, Pages 8-9</p>
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	<p><i>P4P Period:</i></p> <ul style="list-style-type: none"><li>• P4P Period is defined as a maximum 12-month period in which metered gas consumption is measured against the Baseline Model</li><li>• P4P period consumption should be adjusted for the same set of independent variables as applied to the baseline model.</li><li>• P4P Period data granularity will be at a minimum of daily intervals.</li></ul>	
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Offerings that don't report energy savings do not include a gross savings methodology (for example, offerings within the Building Beyond Code Program).

Enbridge Gas's request for approval of these gross measurement methodologies and how potential changes will be handled, can be found in Exhibit I.5.EGI.SEC.17.

## DSM PLAN - ENERGY PERFORMANCE PROGRAM

### **Energy Performance Program**

#### Background

1. The desire to see the implementation of DSM programs that incorporate metered savings results and rely on detailed customer data has been articulated by the OEB as well as several interested stakeholder groups including Building Owners and Managers Association, London Property Management Association, Ontario Sustainable Energy Association and School Energy Coalition (“SEC”). The approach was a topic of discussion in the 2015-2020 DSM Framework mid-term review, and in the OEB’s mid-term review report, the OEB concluded: “The OEB encourages the natural gas utilities to begin exploring this concept. This appears to be a good candidate for a pilot program in the post-2020 DSM framework.”<sup>1</sup>
2. In light of the interest from stakeholders, there have been various efforts to test an Energy Performance (“EP”) approach which applies a metered savings measurement to evaluating energy savings, including:
  - A 2015 pilot with Toronto and Region Conservation Authority (“TRCA”) in collaboration with the IESO and local water and electric utilities that applied a utility billing data-driven methodology to support public-sector commercial and institutional buildings in achieving energy savings.
  - A Union Gas Sustainable Schools pilot with TRCA that engaged twenty schools across two school boards to identify, quantify and prioritize all site opportunities via a charette.
  - A Sustainable Schools benchmarking initiative with Climate Challenge Network (“CCN”) and the IESO that built off the previous school pilot and included six

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<sup>1</sup> EB-2017-0127 / EB-2017-0218, Report of the Ontario Energy Board, Mid-Term Review of the Demand Side Management (DSM) Framework for Natural Gas Distributors (2015-2020) (November 29, 2018, p. 28.

school boards with five schools per board. Unique to this initiative was the introduction of a Strategic Energy Management workshop to better engage participant schools and share learnings in the process.

- The Run it Right and Runsmart program offerings included in the 2015-2020 DSM Plans targeted operational improvement measures and leveraged metered data to quantify savings.

### Lessons Learned

3. Key lessons from these previous EP activities include:

- Operational programs benefit from the inclusion of benchmarking to ensure high saving potential buildings are identified to justify the resource intensity of these engagements.
- Ongoing customer engagement is required to influence operational and maintenance practices in order to sustain operational savings.
- These initiatives naturally lend themselves to gas/electric collaboration; providing a more holistic approach to considering all energy saving opportunities within a facility to maximize the overall benefit of the offering to ratepayers, and allowing for cost savings from an offering delivery perspective.

### **Whole Building Pay for Performance (“P4P”) Offering**

4. The proposed Whole Building P4P offering integrates learnings from the earlier EP initiatives by incorporating key engagement elements, while also addressing the incremental technical support needed by participants to achieve deep savings results.

### Objective

5. The Whole Building P4P offering applies a holistic, multi-year approach to energy management designed to engage and support customers in driving deeper savings

year-over-year. The offering leverages metered and building data to establish building baselines, set performance targets to achieve 20% above the baseline, and assess all capital, operational and/or behavioural opportunities within a building over a defined period.

#### Target Market

6. The Whole Building P4P offering will initially target primary and secondary schools with high energy intensity levels relative to other schools, and that meet the eligibility criteria defined below.
7. Schools have been specifically targeted for the introduction of this offering based on, among other things, the homogeneous nature of school building archetypes, which make it appropriate to benchmark one school relative to other schools within a school board. Additionally, stakeholder outreach with school board representatives has also identified this market segment as being highly engaged in seeking opportunities to drive persistent deep savings; however, they are limited in terms of capacity and capability to appropriately identify, quantify, implement, and monitor results. It is therefore expected this segment would be most amenable to this program approach and represent a good entry point for the offering.
8. While the offering will initially target schools, Enbridge Gas will explore the applicability of expanding this offering to other market segments over the course of the Framework.

#### Offering Details

9. The proposed Whole Building P4P offering is a new EP program that captures metered savings results based on capital, operational and behavioural efficiency measures.

10. The offering targets customers with high energy intensity levels within defined homogeneous market segments (initially primary and secondary schools). In this segment, benchmarking can be reasonably applied, and empowers participants to improve their overall building performance, leveraging the enabling initiatives and performance incentives provided by the offering.
11. Enbridge Energy Solutions Advisors (“ESA”) have established long term relationships with customers and will be responsible for engaging with target participants to promote the offering.
12. Enbridge Gas working with a third-party delivery agent will be responsible for supporting the participants to achieve their building performance targets, including development of a baseline model, opportunity identification, implementation, monitoring and reporting.
13. The multi-year engagement of the Whole Building P4P offering can be broken out into three periods, each of which involves a variety of activities as detailed below:
  - i. Startup Period
    - o Application
      - Customers will be pre-screened based on the eligibility criteria
      - Application form signed with specified 20% performance target goal
    - o Baseline Modelling
      - A baseline model will be created using historical consumption data and adjusted for independent variables (i.e. weather, occupancy, etc.).
    - o Access to Interval Data
      - Any required meter upgrades will be performed to allow for interval metering and monitoring or customer to provide required access to data from Automatic Meter Reader (“AMR”) if already available.

- Opportunity Identification
  - Historical consumption patterns and building data will be analyzed (i.e. via workshop), resulting in the identification and prioritization of opportunities detailed in a summary report provided to the participant.
- ii. Pay-for-Performance Periods (Multi-Year – 3 Years)
  - Implementation
    - Technical support and guidance available for participants throughout implementation of measures.
  - Performance Measurement
    - Incremental savings relative to baseline is determined via metered data (M&V) measured annually.
    - Performance incentive provided if incremental savings are achieved based on M&V results
    - If there are no incremental savings observed, a plan will be developed with the participants to identify the cause and how to achieve savings the following year
- iii. Participation Completion
  - Bonus Incentive
    - Bonus incentive awarded based on participants' achievement relative to established performance targets.

### Barriers Addressed

14. Customer challenges addressed with the Whole Building P4P offering include:

- Benchmarking and energy intensity analysis – provides a means to identify sites with the highest potential for improvement, allowing customers with a portfolio of buildings to focus and target those with high savings potential first.
- Lack of capacity and capability – providing workshops to customers that identify prioritized energy saving activities (behavioural, operational, capital), as well as providing technical support throughout the implementation, monitoring and verification phases.
- Achieving comprehensive savings – Whole Building P4P motivates customers to pursue all opportunities for gas savings (operational, behavioural and capital) concurrently and prioritize high potential savings opportunities. The multi-year nature of the offering and back-end incentives promote continuous improvement by monitoring, measuring and rewarding performance year over year.
- Capturing savings associated with behavioural and/or operational measures – the offering provides an avenue to capture operational improvement measures and behavioural changes that can otherwise be challenging to quantify through engineering calculations alone.

### Eligibility Criteria

15. To be eligible for the offering, participants must meet the following criteria:

- Must be an Enbridge Gas Commercial customer.<sup>2</sup>
- The participating building must have existing Enbridge Gas meter that is compatible with pulse interval metering equipment or already has an Automatic Meter Reader (AMR) that allows Enbridge Gas and its approved third-party delivery agent the required access to the building's interval data.

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<sup>2</sup> Commercial customers include MURBs, MUSH and other non-industrial businesses.



- The building must have been operational without having undergone any capital retrofit upgrades between the start of the baseline period up to the start of the P4P Period. (Baseline Period and P4P Period are further described in the Gross Measurement section below.)
- Participant sites cannot participate in other commercial offers simultaneously during the duration of the offer (inclusive of Start-Up Period & three P4P Periods).

#### Incentives/Enablers

##### *Start up Period*

16. This offering includes the provision of funds to participants to cover the initial set up costs and enabling initiatives, including any necessary meter upgrades and in-kind technical support for opportunity identification (via workshops).

##### *Pay-for-Performance Period (Multi-Year – 3 years)*

17. Participants can earn annual performance incentives through the offering:

- Performance Incentives @ \$0.30/m<sup>3</sup> will be based on M&V of incremental gas savings at the meter relative to the baseline model and awarded at the end of each Pay-for-Performance Period on an annual basis.

##### *Participation Completion*

18. Participants can earn a final bonus incentive upon completion of the final Pay-for-Performance Period:

- Bonus Incentives @ \$0.20/m<sup>3</sup> will be based on M&V of total gas savings at the meter at the end of the offer term relative to the baseline model. Incentives will be awarded at the end of the offer if the customer has achieved the 20% performance target.

19. It is expected that this incentive structure will encourage participants to achieve their performance target through aspiring for incremental savings year over year.

#### Metrics

20. The metrics for the Whole Building P4P offering include:

- Net annual natural gas savings, measured in m<sup>3</sup>.
- Number of participants enrolled in offering.
  - To account for the significant amount of upfront and ongoing effort required by Enbridge Gas throughout each participation period, a participant metric has been applied.

#### Gross Measurement

21. Annual natural gas savings are calculated based on comparing the Adjusted Baseline Model to Adjusted P4P Period consumption, evaluated at the end of each P4P Period (on an annual basis).

*Annual Gas Savings (m<sup>3</sup>) Calculation:*

- Year 1 P4P Annual Gas Savings (m<sup>3</sup>) = (BM - P4P1) at or above zero
- Year 2 P4P Annual Gas Savings (m<sup>3</sup>) = [(Lesser of BM or P4P1) - P4P2] at or above zero
- Year 3 P4P Annual Gas Savings (m<sup>3</sup>) = [(Lesser of BM or P4P1 or P4P2) - P4P3] at or above zero

Where:

BM is the Adjusted Baseline Model Consumption

P4P1 is the Adjusted P4P Year 1 Period Consumption

P4P2 is the Adjusted P4P Year 2 Period Consumption

P4P 3 is the Adjusted P4P Year 3 Period Consumption

*Baseline Model Requirements:*

- Baseline Period should have a minimum 12 months of baseline history using utility data or interval data (if already available via customer) and should be based on the most recent 12 months of data. However, alternative Baseline Periods may be accepted if the most recent data is not representative of typical building operation.
- Baseline Model input/output granularity ranges from daily (most granular) to bi-monthly (least granular) intervals.
- Baseline Model should be a regression model that is derived based on metered gas consumption during the Baseline Period and is adjusted for independent variables to allow for adequate representation of the baseline gas consumption during the P4P Period.
- Baseline Model will be approved by Enbridge Gas prior to participant being enrolled into the program offering.
- Baseline Model, once approved, should not change for the balance of the program offering.

*P4P Period:*

- P4P Period is defined as a maximum 12-month period in which metered gas consumption is measured against the Baseline Model
- P4P period consumption should be adjusted for the same set of independent variables as applied to the baseline model.
- P4P Period data granularity will be at a minimum of daily intervals.

22. An eligible participant is claimed upon completion of the following:

- Baseline model completed & summarized in report approved by Enbridge Gas
- Interval meter data active & being collected (daily granularity)
- Workshop completed with report summarizing site opportunities

- Signed Application Form from customer

#### Timing

23. Based on the design of this offering and the multi-year nature of the participants' engagement, Enbridge Gas will be required to make future financial commitments related to participants undertaking activities over the course of their participation in the offering. Enbridge Gas proposes to track these Deferred Participant Costs ("DPC") as part of its program accounting in order to allocate and track funds required for future components of the offering. The DPC mechanism is described in the Proposed Framework.<sup>3</sup>

#### Impact Evaluation & Verification

24. Enbridge Gas recommends limited impact evaluation and verification for this offering in the near term, due to the offerings nascency and scope. Verification could include a review of project files. Increased impact evaluation could be assessed for appropriateness in the longer term.

#### Process Evaluation

25. Over the term of the plan, Enbridge Gas will explore process evaluation topics based on the evolving needs of the offering in the pursuit of continuous improvements to program design and delivery. The approach to process evaluation is discussed in Exhibit E, Tab 4, Schedule 5.

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<sup>3</sup> EB-2021-0002, Application, Proposed Framework, Exhibit C, Tab 1, Schedule 1, Section 12.2.1.

# Ranking Ontario's School Boards – Sustainable Schools

**SUSTAINABLE SCHOOLS**  
Rating our energy for education

**CLIMATE CHALLENGE NETWORK** | 2020 TOP ENERGY PERFORMING SCHOOL BOARDS REPORT



**2021 Top Energy Performing School Boards**

**The Size of the Prize**

The prize was a \$100,000 cash award. The prize was awarded to the school board that achieved the lowest energy consumption per square meter (kWh/m²/year) in 2021. The prize was awarded to the school board that achieved the lowest energy consumption per square meter (kWh/m²/year) in 2021.

School Board	Energy Consumption (kWh/m²/year)
York Region	10.1
Peel Region	10.2
Halton Region	10.3
York Region	10.4
Peel Region	10.5
Halton Region	10.6
York Region	10.7
Peel Region	10.8
Halton Region	10.9
York Region	11.0

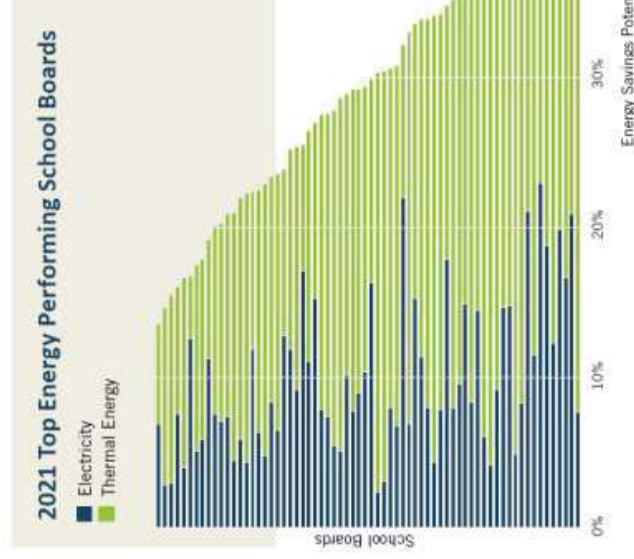
**SUSTAINABLE SCHOOLS**  
Rating our energy for education

**CLIMATE CHALLENGE NETWORK**

**Rating Ontario School Boards' Energy Efficiency: Top Energy Performing Boards Report**

Methodology White Paper  
Updated May 2020

## Target Achievable Savings Potential



	Electricity savings potential	Natural gas savings potential	Utility cost savings potential	GHG emissions reduction potential
<b>Percent</b>	26.9%	35.5%	32.5%	34.8%
<b>Quantity</b>	506,072,409 kWh/year	119,494,398 m <sup>3</sup> /year	\$116,693,295 /year	244,014 tonnes CO <sub>2</sub> e/year

Source: 2021 Top Energy Performing School Boards Report ([sustainableschools.ca](https://sustainableschools.ca))

ENBRIDGE GAS INC.

Undertaking Response to School Energy Coalition (SEC)

Undertaking

Tr: 133

To provide an estimate of the costs that are allocatable to DSM on a fully allocated basis, that are actually in base rates.

Response:

Costs that are directly attributable to DSM and not included in the DSM budget are those costs for pension and benefits. Based on 169 FTEs in DSM, this is estimated at approximately \$7.2M.

There are also general overhead related costs for facilities, information technology and other common costs. These costs are largely fixed in nature and would not fluctuate on an FTE basis. Without undergoing a cost study the exact amount of these costs attributable to DSM cannot be determined however the Company estimates that it would be approximately \$35,000-\$50,000 per FTE.

Material reviewed as part of this evaluation:

- Review of offering material
- Review of offering data
- Sampling, interviews and surveys to obtain perspectives from:
  - Program managers and sales staff
  - Contractors – Direct Install Offering
  - Participant contractors
  - Participants

Process Evaluation conclusion and recommendations can be found starting page 97, in Attachment 3.

Since this process evaluation was just completed in May of 2021, Enbridge Gas is still reviewing and considering the recommendations in the report for consideration in its 2022 program offering updates.

- c) Impact evaluation refers to the post-implementation assessment and evaluation of DSM programs. More specifically, impact evaluation is directly related to understanding the quantitative outcomes of DSM programs, which impacts shareholder incentive amounts. As such, impact evaluation overseen by the OEB and independent non-utility firms can be warranted.

Process evaluation refers to the assessment of program design and implementation components of ongoing DSM programs. For example, a process evaluation could assess the effectiveness of an incentive level or outreach campaign, from the customer perspective. Learnings from process evaluations are assessed by program design and implementation staff, to understand where improvements can be made to increase the effectiveness of the program. Process evaluations are appropriately managed by utility program design and implementation staff, rather than the OEB or external firms, because:

- The utility is accountable for the design and implementation of its DSM programs (and ultimately the effectiveness of its programs), and therefore requires the ability to focus process evaluations in the areas its staff believes are most important to improve the program; and
- Process evaluations are generally subjective and qualitative, and therefore require the utility's program design and delivery staff's knowledge and judgement on how to scope any evaluations and execute any of the findings in practice. Only the utility is able to enforce program design and implementation changes, and therefore placing process evaluations outside of the utility's control would not be constructive.



While process evaluations are appropriately scoped and managed by the utility for the reasons mentioned above, it should be noted that expert consultants can and are involved to support some formal process evaluations, based on the utility's needs. Furthermore, as described at Exhibit C, Tab 1, Schedule 1, page 30, and the utility's proposed Evaluation Governance Terms of Reference,<sup>4</sup> Enbridge Gas will engage the EAC for input on the scope and deliverable of formal process evaluations, and will provide its planned process evaluations to the Evaluation Contractor for insertion into the broader EM&V Plan.

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<sup>4</sup> EB-2021-0002, Multi-year Plan and Framework Application (Updated September 29, 2021), Appendix 1 – Ontario Demand Side Management Evaluation Governance Terms of Reference, Exhibit C, Tab 1, Schedule 1, pp. 55 – 66.