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May 17, 2021

VIA RESS AND EMAIL

Ms. Christine Long
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Long:

**Re: Enbridge Gas Inc. (Enbridge Gas)
Ontario Energy Board (OEB) File No.: EB-2021-0072
2019 Demand Side Management (DSM) Deferral and Variance Account
Disposition Application - Interrogatory Responses**

In accordance with the OEB Procedural Order No. 1 dated April 20, 2021, enclosed please find Interrogatory Responses from Enbridge Gas in the above noted proceeding.

If you have any questions, please contact the undersigned.

Sincerely,

Asha Patel
Technical Manager, Regulatory Applications

cc.: D. O'Leary (Aird & Berlis)
EB-2021-0072 (Intervenors)

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff (STAFF)

INTERROGATORY

Reference:

- (i) Exhibit B, Tab 2, Schedule 1, Pages 4-5
- (ii) Exhibit A, Tab 4, Schedule 1, Page 68-69
- (iii) Exhibit C, Tab 2, Schedule 1, Page 6
- (iv) Exhibit A, Tab 4, Schedule 1, Page 77-79

Enbridge Gas indicated that it has included spend amounts in the 2019 DSMVA balance for customer incentives deferred to future years for offerings where incentives are paid when future milestones/activities are reached, consistent with OEB guidance in the Mid-Term Report. Enbridge Gas further notes that the deferred amounts will be used when the customer incentive commitment is due. In 2019, Enbridge Gas deferred the following customer incentive amounts:

EGD Rate Zone

- Savings by Design Affordable Housing Offering: \$811,300
- Savings by Design Residential Offering: \$2,223,000
- Savings by Design Commercial Offering: \$150,000

Union Rate Zones

- Commercial Savings by Design Offering: \$137,280

Enbridge Gas provided the following tables that outlines the 2019 DSM Deferred Incentives Schedule.

EGD Rate Zone

Table 3
 2019 DSM Deferred Incentives Schedule - EGD Rate Zone

Offering (\$MM)	TOTAL	2017				2018				2019	TOTAL	2019 Deposit Expiration
	Beginning of Year Balance	Beginning of Year Balance	Withdrawals		End of Year Balance	Beginning of Year Balance	Withdrawals		End of Year Balance	Deposits	End of Year Balance	
			Utilized	Expired			Utilized	Expired				
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	$e = b - c - d$	<i>f</i>	<i>g</i>	<i>h</i>	$i = f - g - h$	<i>j</i>	$k = e + i + j$	
RSBD	\$3.51	\$1.62	\$0.78	\$0.00	\$0.84	\$1.89	\$0.66	\$0.00	\$1.23	\$2.22	\$4.29	31-Dec-22
CSBD	\$0.11	\$0.03	\$0.02	\$0.00	\$0.02	\$0.08	\$0.05	\$0.00	\$0.03	\$0.15	\$0.20	31-Dec-24
AHNC	\$1.46	\$0.65	\$0.00	\$0.00	\$0.65	\$0.81	\$0.02	\$0.00	\$0.80	\$0.81	\$2.26	31-Dec-24
TOTAL¹	\$5.08	\$2.30	\$0.79	\$0.00	\$1.51	\$2.78	\$0.72	\$0.00	\$2.06	\$3.18	\$6.75	

Union Rate Zones

Table 2
 2019 DSM Deferred Incentives Schedule - Union Rate Zones

Offering (\$MM)	TOTAL	2017				2018				2019	TOTAL	2019 Deposit Expiration
	Beginning of Year Balance	Beginning of Year Balance	Withdrawals		End of Year Balance	Beginning of Year Balance	Withdrawals		End of Year Balance	Deposits	End of Year Balance	
			Utilized	Expired			Utilized	Expired				
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	$e = b - c - d$	<i>f</i>	<i>g</i>	<i>h</i>	$i = f - g - h$	<i>j</i>	$k = e + i + j$	
CSBO	\$0.21	\$0.06	\$0.05	\$0.00	\$0.02	\$0.15	\$0.03	\$0.00	\$0.12	\$0.14	\$0.28	31-Dec-24
TOTAL¹⁵	\$0.21	\$0.06	\$0.05	\$0.00	\$0.02	\$0.15	\$0.03	\$0.00	\$0.12	\$0.14	\$0.28	

Questions:

- a) Please provide a more detailed discussion of the tables above. In particular, please explain what the headings “utilized”, “expired” and “deposits” mean. Also, please discuss the final column “2019 Deposit Expiration” in greater detail.

Response:

- a) The tables above provide a summary of transactional activity occurring during 2019 in relation to offerings where incentives are paid when future milestones/activities are achieved.

The “deposits” amounts (column “j”) contain the estimated future customer incentive commitments for 2019 participants, for each of the respective offerings. These amounts correspond to the deferred customer incentive amounts referenced in the IR. Furthermore, the “2019 Deposit Expiration” date refers to the date when these deposits expire. For example, the Commercial Savings by Design Offering amount of \$137,280 for the Union rate zones is reflected in column “j” of Table 2 and expires

on December 31, 2024. If all or part of this amount is not utilized by that date, the balance will be returned to ratepayers.

The “utilized” amounts (columns “c” and “g”) contain the customer incentive amounts paid to customers in 2019 from previously deferred customer incentive “deposits” for each of the respective offerings. For example, in Table 2, during the 2019 year for the Commercial Savings by Design Offering for the Union rate zones, \$0.05M (column “c”) was paid to 2017 participants for milestones/activities they achieved in 2019.

The “expired” amounts (columns “d” and “h”) contain the remaining balance of previous years’ deferred customer incentive deposits that have not been utilized within the designated commitment period and are considered expired as of December 31, 2019. These “expired” amounts are credited back to the current year offering’s budget.

The “Beginning of Year Balance” amounts (column “a”) aligns with the corresponding “End of Year Balance” from the previous year’s table (in this case, from the 2018 year provided in the 2017/2018 DSM Deferrals, EB-2020-0067).

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff (STAFF)

INTERROGATORY

Reference:

- (i) Exhibit B, Tab 2, Schedule 1, Pages 7
- (ii) Exhibit B, Tab 3, Schedule 1, Page 1
- (iii) Exhibit C, Tab 2, Schedule 1, Page 11
- (iv) Exhibit C, Tab 3, Schedule 1, Page 1

Enbridge Gas has provided the estimated annual bill impact for residential customers should the OEB provide the requested approvals of 2019 DSM deferral and variance account balances. The following one-time billing adjustments for each of Enbridge Gas's rate zones are:

- EGD Rate Zone – Rate 1 - \$7.40
- Union South Rate Zone – Rate M1 - \$7.99
- Union North Rate Zone – Rate 01 - \$0.80

Questions:

- a) For all rate zones, please provide the total 2019 DSM cost and estimated annual rate impact for a Rate 1, Rate M1 and Rate 01 customers in the respective EGD rate zone, Union South and Union North rate zones. In your response, please incorporate all 2019-related DSM amounts, including previously approved 2019 DSM program budgets and the requested 2019 DSMVA, DSMSI and LRAMVA amounts.

Response:

Please see Table 1, 2 and 3 below for the 2019 DSM program budget in rates, the proposed 2019 DSMVA and DSMIDA balances, as well as the annual bill impact for a typical customer in Rate 1, Rate M1 and Rate 01, respectively. Note, the LRAMVA is not applicable to Rate 1, Rate M1 or Rate 01.

Table 1
 2019 DSM Program Budgets and Deferral and Variance Balances
EGD Rate Zone – Rate 1

Line No.	Particulars	DSM Cost (\$)	Unit Rate (¢/m ³)	Annual Bill Impact ⁵ (\$)
1	DSM Program Budget in Rates ¹	38,629,963	0.7830	18.79
2	DSMVA Including Interest ²	11,755,612	0.2194	5.27 ⁴
3	2019 DSM Program Costs ³ (line 1 + line 2)	50,385,576	1.0024	24.06
4	DSMIDA Including Interest ²	4,711,663	0.0879	2.11 ⁴
5	<u>Total 2019 DSM Costs (line 3 + line 4)</u>	<u>55,097,238</u>	<u>1.0903</u>	<u>26.17</u>

Notes:

- (1) EB-2018-0305, Exhibit F1, Tab 1, Rate Order, Working Papers, Schedule 8.
- (2) Exhibit B, Tab 2, Schedule 1, Appendix A4 and Exhibit B, Tab 3, Schedule 1, Appendix A1.
- (3) The breakdown of actual 2019 DSM program costs are:
- (4) These amounts do not add up exactly to \$7.40 due to rounding

Line No.	Particulars	DSM Cost (\$)	Unit Rate (¢/m ³)	Annual Bill Impact (\$)
1	Incentives	32,370,401	0.6440	15.46
2	Program Admin/Overheads	7,122,841	0.1417	3.40
3	Low Income & Other Costs	10,842,292	0.2157	5.18
4	DSMVA Interest	50,041	0.0010	0.02
5	<u>Total 2019 DSM Program Costs</u>	<u>50,385,576</u>	<u>1.0024</u>	<u>24.06</u>

- (5) Annual bill impacts based on a typical residential customer consuming 2,400 m³ per year in the EGD rate zone.

Table 2
 2019 DSM Program Budgets and Deferral and Variance Balances
Union South Rate Zone – Rate M1

Line No.	Particulars	DSM Cost (\$)	Average Unit Rate (¢/m ³)	Annual Bill Impact ⁴ (\$)
1	DSM Program Budget in Rates ¹	27,163,647	0.9234	20.31
2	DSMVA Including Interest ²	7,400,175	0.2471	5.44
3	2019 DSM Program Costs ³ (line 1 + line 2)	34,563,822	1.1704	25.75
4	DSMIDA Including Interest ²	3,475,720	0.1160	2.55
5	<u>Total 2019 DSM Costs (line 3 + line 4)</u>	<u>38,039,542</u>	<u>1.2865</u>	<u>28.30</u>

Notes:

(1) EB-2018-0305, Exhibit F1, Tab 2, Rate Order, Working Papers, Schedule 10. The unit rate provided for the DSM program budget is the average rate for a residential customer.

(2) Exhibit C, Tab 2, Schedule 1, Appendix A7 and Exhibit C, Tab 3, Schedule 1, Appendix A1.

(3) The breakdown of actual 2019 DSM program costs are:

Line No.	Particulars	DSM Cost (\$)	Average Unit Rate (¢/m ³)	Annual Bill Impact (\$)
1	Incentives	19,504,203	0.6605	14.53
2	Program Admin/Overheads	3,837,820	0.1300	2.86
3	Low Income & Other Costs	11,093,936	0.3757	8.26
4	DSMVA Interest	127,863	0.0043	0.10
5	<u>Total 2019 DSM Program Costs</u>	<u>34,563,822</u>	<u>1.1704</u>	<u>25.75</u>

(4) Annual bill impacts based on a typical residential customer consuming 2,200 m³ per year in the Union South rate zone.

Table 3
 2019 DSM Program Budgets and Deferral and Variance Balances
Union North Rate Zone – Rate 01

Line No.	Particulars	DSM Cost (\$)	Average Unit Rate (¢/m ³)	Annual Bill Impact ⁴ (\$)
1	DSM Program Budget in Rates ¹	6,344,581	0.6674	14.68
2	DSMVA Including Interest ²	(339,725)	(0.0347)	(0.76)
3	2019 DSM Program Costs ³ (line 1 + line 2)	6,004,856	0.6327	13.92
4	DSMIDA Including Interest ²	697,373	0.0711	1.56
5	<u>Total 2019 DSM Costs (line 3 + line 4)</u>	<u>6,702,229</u>	<u>0.7038</u>	<u>15.48</u>

Notes:

(1) EB-2018-0305, Exhibit F1, Tab 2, Rate Order, Working Papers, Schedule 10. The unit rate provided for the DSM program budget is the average rate for a residential customer.

(2) Exhibit C, Tab 2, Schedule 1, Appendix A7 and Exhibit C, Tab 3, Schedule 1, Appendix A1.

(3) The breakdown of actual 2019 DSM program costs are:

Line No.	Particulars	DSM Cost (\$)	Average Unit Rate (¢/m ³)	Annual Bill Impact (\$)
1	Incentives	2,014,623	0.2123	4.67
2	Program Admin/Overheads	460,662	0.0485	1.07
3	Low Income & Other Costs	3,535,441	0.3725	8.20
4	DSMVA Interest	(5,870)	(0.0006)	(0.01)
5	<u>Total 2019 DSM Program Costs</u>	<u>6,004,856</u>	<u>0.6327</u>	<u>13.92</u>

(4) Annual bill impacts based on a typical residential customer consuming 2,200 m³ per year in the Union North rate zone.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 64, HER Program

Preamble:

“Recommendation: Consider ways to increase uptake in insulation upgrades, such as increasing the rebate amount or better communicating the benefits of installing insulation. Anticipated for the 2020 program year, Enbridge Gas will add additional participation requirements that any job with a furnace requires two additional measures. Furthermore, in Q3 2019 Enbridge Gas launched the limited time offer packages to encourage homeowners to implement attic insulation.”

Question(s):

- a) Has Enbridge Gas any results from this initiative? Please provide any preliminary information.
- b) Was the same initiative implemented in the Union Rate zone? If so please provide preliminary results.

Response:

- a) Two limited time offers were introduced for homeowners who completed the pre-renovation assessment from September 1, 2019 to December 31, 2019.

The limited time offers were successful in generating enhanced uptake for attic insulation. A summary comparison of attic insulation uptake between participants completing the pre-renovation energy assessment in September to December of 2018 versus this timeframe in 2019, is provided in the table below.

	Legacy Union Gas		Legacy Enbridge Gas	
	2018	2019	2018	2019
Share of Total Participants Upgrading Attic Insulation (%)	16%	43%	13%	55%

- b) Yes. See response to part a.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 69, Table 8.7; Evaluation Report, Table 1.1

Question(s):

- a) Please confirm that out of the 2019 Run it Right RA budget of \$1,618,946, EI spent \$200,725 for promotion and \$17,000 for incentives leaving \$1,401,221 unspent?
- b) Please confirm nothing was spent on the CEM.
- c) Please provide the 2019 TRC plus and PAC ratios for the Run it Right RA and CEM programs.
- d) Given these minimal 2019 results why should Enbridge Gas continue to offer these programs in 2021?

Response:

- a) Confirmed. The majority of promotional spend covered the cost of customer metering upgrades.
- b) In 2019, \$5,356 was spent on customer incentives and \$218,462 on promotion in the Comprehensive Energy Management Offering under the Market Transformation Scorecard. There was no spending for the Comprehensive Energy Management Offering under the Resource Acquisition Scorecard.

- c) The 2019 TRC-Plus and PAC ratios for the Run it Right Offering (Resource Acquisition) were 0.70¹ and 0.56², respectively. There were no CEM Offering (Resource Acquisition) results in 2019 and therefore no TRC-Plus or PAC ratio results.
- d) Enbridge Gas notes that this question relates to issues that are out of scope for this proceeding. Notwithstanding, in the interest of being responsive, Enbridge Gas responds as follows.

The low-cost/no-cost measures addressed through Run-it-Right, by their nature, will generate lower results (i.e., CCMs) in comparison to the results achieved through capital measures, which are captured in the Custom and Prescriptive offers. Nevertheless, Enbridge Gas continues to offer Run-it-Right because of its effectiveness at engaging both small volume and large volume customers in DSM, influencing them to become more energy aware, and because of how it works in concert with Enbridge Gas' other offers to address the spectrum of capital and operational savings opportunities available to customers.

The CEM offer continues in market because it supports the needs of industrial customers who want to enhance their energy management focus. CEM does this by providing a comprehensive suite of enablement tools, including energy modelling and funding for audits, capacity building and EMIS installations.

¹ DNV-GL, 2019 Natural Gas Demand-Side Management Annual Verification report, Page 223, Table 11-173 (<https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>)

² DNV-GL, 2019 Natural Gas Demand-Side Management Annual Verification report, Page 221, Table 11-169 (<https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>)

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 70,8.4.1 Collaboration and Innovation

Question(s):

a) For the 9 initiatives listed please complete the following Table:

Initiative	Partner(s)	2019 Budget \$	EI Funding	Partner Funding	Results

- b) For the GTI and UTD Membership describe if this is for DSM technologies or all gas technologies?
- c) Specifically list the DSM Technologies for each initiative.
- d) How many FTEs are involved in management of the Collaboration and Innovation portfolio? What are the 2019 annual overhead costs?

Response:

- a) For this response Enbridge interprets 2019 Budget to mean 2019 DSM spend from the Collaboration and Innovation fund and EI Funding to mean EGI's non-DSM O&M funding.

Initiative	Partner(s)	2019 Budget \$	EI Funding	Partner Funding	Results
AeroBarrier		\$10,000			Air tightness, energy savings and GHG reductions from applying AeroBarrier to 139 new construction homes.
Affordability Fund Trust Pilot	Affordability Fund Trust; Peterborough Distribution Inc	\$0			Experience targeting moderate income customers and collaborating with electric utility and provincial energy affordability program on delivering energy-saving measures, to inform future program design.
Centre for Energy Advancement through Technological Innovation ("CEATI") Cannabis Research	BC Hydro, Enbridge, FortisBC, Independent Electricity System Operator, National Rural Electric Cooperative Association	\$21,000		~\$84,000	Estimated energy consumption of cannabis sector; energy saving measures applicable to indoor cannabis operations; energy management strategies, barriers and suggested program design approaches.
"GTI" Utilization Technology Development ("UTD") Membership	Approximately 20 other gas or combo gas and electric utilities, US DOE, California Energy Commission, NYSERDA & numerous manufacturers	\$168,463	\$168,463	\$17,100,000 USD	Research and development of about 40 projects involving energy efficient end-use gas technologies.
Independent Electricity System Operator ("IESO") Training	IESO	\$44,253		~\$45,000	Training for approximately 183 customer employees within the C&I sectors.

iFLOW Combination Heating System Assessment Project	Union Gas	\$149,124		\$35,298	The annual gas consumption and GHG emissions of the combo heating systems tested in this study are less than the traditional gas fired heating system (forced air gas furnace and gas storage tank water heater) by up to 29%.
Power House Hybrid ("PHH") Net Zero Energy Emissions ("NZEE")	Alectra, City of Markham, NRCan, Ryerson	\$267,747		\$2,762,425	Systems are currently being commissioned. Technical results expected to begin in June.
Sustainable Buildings Canada ("SBC") Combined Heat and Power ("CHP") Study		\$74,680			Marginal electricity emission factors were used to calculate GHG saving for 6 CHP sizes for a new construction multi-unit residential building (MURB) designed to meet the energy efficiency requirements of Ontario Building Code Supplementary Standard SB-10. The CHP system reduced the GHG emissions by 10% - 14% by displacing the gas consumed in the boiler and displacing grid purchased power in all six scenarios.
Stone Mountain Technologies ("SMTI") Rinnai Gas Heat Pump Water Heaters ("GHPWH")	GTI and 7 other gas utilities	\$244,430		\$4,812,000 US	Lab testing of 2 units and field demonstration of 56 units with the goal of achieving a thermal efficiency of 130%.

b) UTD Mission:

Identify, select, fund, and oversee research projects resulting in innovative customer solutions which maximize the environmental performance, affordability, efficiency and safety of equipment and processes that use natural gas and renewable energy resources.

UTD Goals:

- Save consumers money
- Save energy
- Ensure safe, reliable and resilient operation of end user’s equipment and energy delivery systems
- Achieve superior environmental performance
- Integrate with renewable energy sources

More than 50% of UTD’s total funding is spent on projects specific to energy efficiency gas technologies. Not all technologies researched through UTD are DSM specific. For this reason, EGD has allocated the membership cost 50/50 between Collaboration and Innovation Fund and EGI’s non-DSM utility O&M.

c)

Initiative	DSM Technology
AeroBarrier	AeroBarrier air sealing technology
Affordability Fund Trust Pilot	N/A
Centre for Energy Advancement through Technological Innovation (“CEATI”) Cannabis Research	Energy Curtains; VFD on Supply/Exhaust Fan; Condensing Boiler; Condensing Unit Heater; Chiller - Air-Cooled; Chiller - Water-Cooled; Dehumidifier; DX Unit Gas Heating; DX Unit Heat Pump; Warehouse LED Lighting; Waterside Economizer;
“GTI” Utilization Technology Development (“UTD”) Membership	Various technologies. Here are some examples: Gas heat pumps, Hybrid heating, New burner designs, Food service equipment, mCHP, Integrated energy solutions, Self-powered gas appliances, tankless water heaters, high performance building initiatives, Space conditioning, Industrial heat recovery, and clothes dryers

Independent Electricity System Operator (“IESO”) Training	N/A
iFLOW Combination Heating System Assessment Project	High-efficiency smart air handler/heat exchanger with intelligent boiler demand control and pump modulation control
Power House Hybrid (“PHH”) Net Zero Energy Emissions (“NZEE”)	Hybrid Heating and mCHP
Sustainable Buildings Canada (“SBC”) Combined Heat and Power (“CHP”) Study	CHP
Stone Mountain Technologies (“SMTI”) Rinnai Gas Heat Pump Water Heaters (“GHPWH”)	Gas Heat Pump Water Heaters

- d) Management of the Collaboration and Innovation, Research and Pilot budgets and execution of the various projects is a cross-functional effort and includes individuals from Program Design, Technology and Development, Technical Services, Evaluation and the Strategy and Policy teams. While many people are involved in work funded by these budgets, FTEs and the associated overhead costs are not tracked at a sufficient level of detail to attribute to the Collaboration and Innovation portfolio. DSM compensation costs are not included in the Collaboration and Innovation, Research or Pilot budget spending.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 71 -8.4.2 DSM IT system; Exhibit B, Tab 2, Schedule 1, Page 4, Table 2.

Preamble:

“As per the OEB Decision, Enbridge Gas was budgeted an annual \$1 million chargeback for the DSM IT system. In practice, Enbridge Gas spent \$0.1M in 2016, \$3.1M in 2017, and \$2.5M in 2018. In 2019, the Company will incur an additional cost of \$0.3M. As spending for a project of this nature is not linear, it is understood that some years will have a significant underspend and some years will have a significant overspend. These imbalances will flow through the DSMVA as a credit or debit to ratepayers.”

Question(s):

- a) Please confirm no prior years' DSM IT balances > \$1 million/yr are included in the 2019 DSMVA.
- b) Were there any 2020/2021 DSM IT budget costs? If so which year and amount(s).
- c) Is the underspend in 2019 being disposed of or carried into 2020 as a credit?

Response:

- a) Confirmed.
- b) While the budgeted amounts for the DSM IT system for 2020 and 2021 are not the subject of this proceeding, the Company confirms that the approved budget for 2020 includes \$1M for DSM IT as shown in Table 2 of Exhibit B, Tab 2, Schedule 1. As this budget was rolled over for the purposes of the 2021 DSM Plan, this amount is also included in the approved budget for 2021 (EB-2019-0271). Any variance from

the amounts included in budget for these years will be accounted for in the DSMVA for the applicable year which will then be included in the clearance application for that year.

- c) The 2019 underspend is being credited to ratepayers through the 2019 DSMVA.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 75 Table 9.5 2019 Performance-Based Scorecard Results (Union) Tables 9.7, 9.8 and 9.9; Evaluation Report Table 1.2

Question(s):

- a) Why is the Total Scorecard Target Achieved for RunSmart and SEM so low at 30% and with no incentive earned?
- b) Why is the RunSmart and SEM TRC Plus and PAC Ratios so low at 0.02?
- c) Please confirm out of the 2019 RunSmart and SEM Budget of \$833,000, \$423,00 was spent on promotion \$117,207 on evaluation and only \$39,000 in incentives.
- d) Given these 2019 results why should Enbridge Gas continue to offer this program in 2021, given it is costing ratepayers \$800,000/yr. for minimal results?

Response:

- a) & b)

Enrollment for new SEM participants ended in 2018 as per the 2016-2020 DSM plan. However, some enrolled participants have disengaged from the program due to changes and challenges with their business operations and were unable to follow through with recommended projects. This has resulted in reduced gas savings as compared to the initial forecast in the plan and ultimately negatively impacted the TRC Plus and PAC Ratios.

With regards to RunSmart, gas savings results have been much lower than what was forecast in the plan. This is due to the lack of granularity in metered data, which prevents the accurate identification of variables affecting consumption; it is also due to the design of the program, where customer incentives are based on metered results as opposed to measure implementation, causing some customers to not following through with recommendations.

- c) In 2019, \$39,048 was spent on customer incentives, and \$423,591 on promotion in the Runsmart and Strategic Energy Management Offerings. Promotional spend covers initial walk-throughs for RunSmart participants and on-going technical support for SEM participants. There was no evaluation spending for these offerings in 2019.

- c) Enbridge Gas notes that this question raises issues that are out of scope for this proceeding. Notwithstanding, in the interest of being responsive, the Company responds as follows. Enbridge Gas stopped actively promoting the RunSmart offer in 2020 due to the challenge of generating savings. Enbridge Gas reviewed the design of this offer and undertook an initiative with Sustainable Schools (via the Climate Challenge Network) to investigate data analysis and workshops to enhance the effectiveness of its performance-based offers. Enbridge Gas has proposed a Whole Building P4P offer in its 2022-2027 DSM Plan Application that reflects the lessons learned from its existing performance-based program and its work with Sustainable Schools. This offering and its budget will be the subject of the 2022-2027 DSM Multi-Year application and proceeding which has been filed with the OEB.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 79 -9.4.1 Research Fund

Question(s):

a) For each of the projects please complete the following table:

Initiative	Partner(s)	2019 Budget \$	EI Funding	Partner Funding	Results

b) Specifically list the DSM Technologies for each project.

c) How many FTEs are involved in management of the Research Fund portfolio? What are the 2019 annual overhead costs?

Response:

a) For this response Enbridge interrupts 2019 Budget to mean 2019 DSM spend from the Collaboration and Innovation fund and EI Funding to mean EGI's non-DSM utility O&M funding.

Initiative	Partner(s)	2019 Budget \$	EI Funding	Partner Funding	Results
Aquanta Domestic Hot Water Tank ("DHWT") Control		\$18,809			Energy savings associated with Aquanta control system.

Cold Climate Air Source Heat Pump ("ccASHP")	NRCan; BKR Energy	\$42,652		\$102,000	Performance assessment of cold climate air source heat pumps.
Consortium for Energy Efficiency ("CEE") Emerging Technologies Collaborative	18 other gas or combo gas and electric utilities (project sponsors), other CEE members, national laboratories and numerous manufacturers	\$20,189		\$440,000	11 projects involving energy efficient end-use gas and electric technologies, including a Catalog of Emerging Opportunities Assessments, preliminary research reports, and in-depth Working Group reports.
Consortium for Energy Efficiency ("CEE") Membership	Approximately 42 other gas or combo gas and electric utilities, Energy Efficiency Organizations and National Laboratories	\$66,959		\$1,880,932	14 projects and standards involving energy efficient end-use gas technologies.
Commercial Kitchen Combioven & Rack Oven Research		\$18,233			New measures in TRM and calculator for the Custom C&I offer.
Demand Control Ventilation with Variable Frequency Drive ("VFD") Rooftop Unit Research		\$39,374			Market and technical assessment of the technology.
Home Efficiency Rebate Participant Survey		\$49,716			Market research to support Residential Program Design
BKR Energy Hybrid System with Smart Fuel Switching Controller ("SFSC")		\$26,593			Energy, cost and GHG reductions associated with hybrid heating at four test homes. Result published by Union Gas in ASHRAE Winter conference W2020.

Hybrid System with Smart Fuel Switching Controller ("SFSC")	NRCan	\$15,812		In-kind	Energy, cost and GHG reductions associated with hybrid heating at two test homes in Ottawa. Result published by NRCan in ASHRAE Winter conference W2020.
iFLOW Combination Heating System Assessment Project	Enbridge	\$35,298		\$149,124	The annual gas consumption and GHG emissions of the combo heating systems tested in this study are less than the traditional gas fired heating system (forced air gas furnace and gas storage tank water heater) by up to 29%.
Indigenous Home Weatherization New Measures Test		\$20,500			Received technical savings and market intelligence for Indigenous Communities.
McMaster Integrated Community Energy ("ICE") Meter Install Research	Natural Sciences and Engineering Research Council of Canada (NSERC); Ontario Centre of Innovation (formally OCE); HCE Energy Inc.; s2e Technologies Inc.; GeoSource Energy Inc.; Siemens Canada Limited; Alectra Utilities Corp.; GridSmartCity a LDC Cooperative	\$7,348		~\$2,000,000	Evaluation of the performance of the ICE Harvest system modelling tool.
On Demand Controls for Domestic Hot Water ("DHW") Recirculation Systems		\$47,265			Energy and cost reductions for an on-demand control system for multi-unit residential building DHW recirculation system.

Stone Mountain Technologies (“SMTI”) Gas Heat Pump Furnace Research	GTI and five other sponsors	\$264,100		\$900,000 USD	Field testing of 7 units and lab testing of one unit to assess energy and GHG reductions. Also gained valuable experience about the installation and in-field operation.
Yanmar Three-Pipe System Research		\$81,992	\$39,157		In-field performance of this first-of-its-kind technology demonstration in Canada. Results will be published in a paper entitled “Performance Evaluation of a 3-Pipe Engine Driven Gas Heat Pump VRF System in Cold Climate” at the ASHRAE 2021 Annual Conference.

b)

Initiatives	DSM Technologies
Aquanta Domestic Hot Water Tank (“DHWT”) Control	Aquanta domestic hot water control
Cold Climate Air Source Heat Pump (“ccASHP”)	Cold Climate Air Source Heat Pumps
Consortium for Energy Efficiency (“CEE”) Emerging Technologies Collaborative	Various – including integrated HVAC controls and air source heat pumps.
Consortium for Energy Efficiency (“CEE”) Membership	Gas Boiler Systems, Kitchens, Gas Water Heating, Residential Heating and Cooling Systems, Industrial Steam Systems
Commercial Kitchen Combi-oven & Rack Oven Research	Combination-oven & Rack Oven
Demand Control Ventilation (“DCV”) with Variable Frequency Drive (“VFD”) Rooftop Unit (“RTU”) Research	Demand Control Ventilation (“DCV”) with Variable Frequency Drive (“VFD”) Rooftop Unit (“RTU”)
Home Efficiency Rebate Participant Survey	N/A
BKR Energy Hybrid System with Smart Fuel Switching Controller (“SFSC”)	Smart fuel switching control
Hybrid System with Smart Fuel Switching Controller (“SFSC”)	Smart fuel switching control
iFLOW Combination Heating System Assessment Project	Residential Air Handler with Zone Control, Smart Fuel Switching Control

Indigenous Home Weatherization New Measures Test	N/A
McMaster Integrated Community Energy ("ICE") Meter Install Research	CHP, PV, Geothermal Seasonal Energy Storage, Daily Thermal Storage, Heat Pumps .
On-Demand Controls for Domestic Hot Water ("DHW") Recirculation Systems	On-Demand Controls for DHW Recirculation Systems
Stone Mountain Technologies ("SMTI") Gas Heat Pump Furnace Research	Gas Absorption Heat Pump
Yanmar Three-Pipe System Research	Gas Engine Driven Heat Pump

c) Please see response to part d) at Exhibit I.EP.3.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 159, Econoler Report, Appendices 1-III

Question(s):

- a) Other than Appendix V is there a summary of the results of the three questionnaires in the Econoler Appendices I-III? If so please provide a copy.
- b) Has EI done any customer satisfaction surveys on the HER Programs? If so please provide the results.

Response:

- a) The results of the evaluation, including the results from the questionnaires for Service Organizations and utility staff, are presented throughout Section 3 Evaluation Results of the final 2019 DSM Annual Report (Exhibit A, Tab 4, Schedule 1, pages 129 to 152).

Specifically, Service Organization results are summarized in Section 3.4 Service Organization and Certified Energy Advisor Perspectives. Utility staff considerations are included in Section 3.5 Program Processes and were used to ensure clarity in Section 1 Program Overview, Section 3.1 Program Theory and Logic Model, Section 3.2 Program Participation, and Section 3.3 Participant Perspectives.

Enbridge was not provided additional summaries of the questionnaire results.

- b) Yes, customer satisfaction surveys are conducted on the HER program offering. Econoler reviewed the results from the HRR Participant Satisfaction Survey conducted for Union Gas by NRG Research (now part of Leger Marketing Inc.), specifically looking at survey responses from HRR participants (1,672 customers and 662 non-customers) who were interviewed between February 2018 and January 2019.

Section 3.3 Participant Perspectives (Exhibit A, Tab 4, Schedule 1, pages 133 to 138) of the Econoler Report provides the main findings of the survey. The HRR Participant Satisfaction Survey that was shared with Econoler can be found at Attachment 1 to this response. The Participant Satisfaction Survey continues to be active with Legacy Union Gas HER participants, and the survey was extended to Legacy Enbridge Gas Distribution participants in October 2019.

Home Reno Rebate Participant Satisfaction

2018 Survey Results (Legacy Union Gas)
Report



Participant Tracking Survey



Methodology & Objectives

Methodology

- A portion of customers and non-customers who participated in the Home Reno Rebate Program are asked to provide feedback on their experience with the program.
- Participants are contacted by telephone in the calendar month after the month in which their rebate cheque is mailed out to them by Legacy Union Gas.
- Interviewing is conducted by NRG Research.

Objectives

- The research focuses on participant perceptions of the rebate program and its delivery. Its aim is to accomplish the following:
 - Measure overall satisfaction with the program;
 - Measure overall satisfaction with the energy auditor that completed the pre- and post-renovation assessments;
 - Identify opportunities for improvement in the participant experience;
 - Improve understanding of the participants (e.g. demographic profile) in the program to support future marketing efforts; and
 - Measure perceptions of Legacy Union Gas' brand and reputation.

Reporting Groups

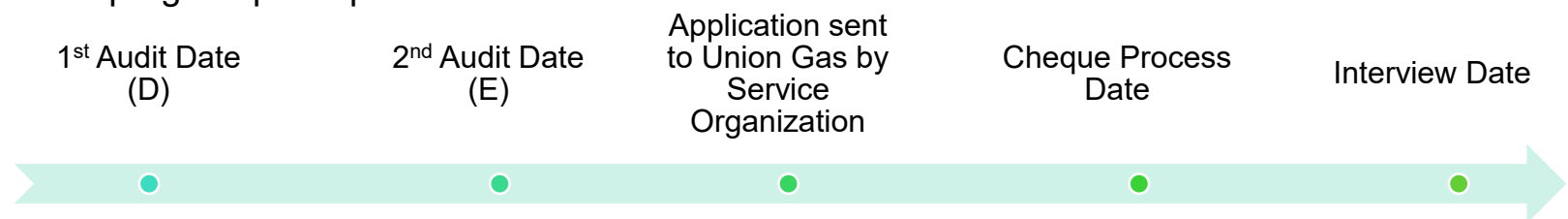


Definitions

- Participants are categorized into different groups (as determined in the participation process):
 - **Customer – pre-IESO:** Legacy Union Gas customers who participated in the program prior to May 2017 and were not eligible for additional IESO-related incentives through the HRR program at the time
 - **Customer – post-IESO:** Legacy Union Gas customers who participated in the program after May 2017 and before October 2018 and were eligible for additional IESO-related incentives through the HRR program
 - **Customer – Gov’t:** Legacy Union Gas customers who participated in the program, completing a D Audit in October 2018
 - **Customer – DSM:** Legacy Union Gas customers who participated in the program, completing a D Audit after October 2018
 - **Non-customer – pre-IESO:** Non-Union Gas customers, excluding electrically heated homes, who participated in the program prior to May 2017 and were not eligible for additional IESO-related incentives through the HRR program at the time
 - **Non-customer – post-IESO:** Non-Union Gas customers, including electrically heated homes, who participated in the program after May 2017 and were eligible for additional IESO-related incentives through the HRR program
 - **Non-Customer – Gov’t:** Non-Union Gas customers who participated in the program, completing a D Audit in October 2018

Time Periods

- Results are reported monthly, based on the month of interviewing, which is one month after the cheque has been sent to the participant
- Length of time in the program varies for each program participant
- Steps in the process are as follows:



Number of Interviews

By Reporting Group



Month in which participant is called for interview (month of reference in this report)	Legacy Union Gas Customers				Non-Customers		
	Legacy UG Customers Pre-IESO	Legacy UG Customers Post-IESO	Legacy UG Customers Gov't	Legacy UG DSM Program	Non-Customers Pre-IESO	Non-Customers Post-IESO	Non-Customers Gov't
January 2018	15	135	--	--	10	61	--
February 2018	No dialing						
March 2018	21	129	--	--	10	68	--
April 2018	--	150	--	--	--	8	--
May 2018	--	150	--	--	--	69	--
June 2018	--	150	--	--	--	30	--
July 2018	--	151	--	--	--	54	--
August 2018	--	150	--	--	--	33	--
September 2018	--	150	--	--	--	52	--
October 2018	--	150	--	--	--	16	--
November 2018	--	150	--	--	--	129	--
December 2018	--	151	--	--	--	76	--
January 2019	--	125	26	19	--	103	14
2018 Total	21	1606	26	19	10	638	14

2018 Participants Customers (n=1672)

Non-Customers (n=662)

About the Performance Indicators



Top-3, Top-2, Bottom-6

- We typically use top-3 box, or ratings of “8”, “9” and “10”, to report customer satisfaction research results.



- However, because of the high performance ratings observed, this report refers to top-2 box, or ratings of “9” and “10” out of 10.



- Where appropriate, this report also refers to bottom-6 box, or ratings of “1” to “6” out of 10, as a measurement of dissatisfaction.



Highlights



- Participants are very satisfied with the program – overall satisfaction with the program is strong and overall likelihood to recommend the program is high.
 - Overall satisfaction is tempered somewhat by the time it takes for customers to receive their rebate cheque – timely payment matters to participants which helps to explain lower results in 2018 compared to 2017 (during this time fewer customers indicated that their cheque arrived within a time frame that they were expecting).
 - Results vary somewhat by service organization – this suggests that there might be opportunities to share best practices across organizations.
- The majority of participants implemented all recommended measures (suggested by the auditor), and those that did not generally indicate that are not intending to do them due to financial reasons.
- Most participants are new to energy conservation programs, and a sizeable group learned about the program from a contractor or professional as they dealt with an equipment-related issue suggesting that contractors are critical to driving participants to the program.
 - While contractors are key to entry to the program, some participants felt that the program should have been advertised better, so that more people can participate (and plan accordingly).



Overall Advocacy

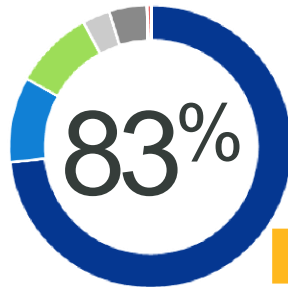
Overall program advocacy is strong – the majority of customers will recommend the program to others

Customer

Likelihood to Recommend the HRR Program

(base: all program participants)

Top 2 Box %

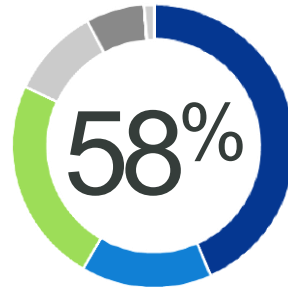


2017 86%

■ Ratings of 10 ■ Ratings of 9 ■ Ratings of 8 ■ Ratings of 7 ■ Ratings of 1 to 6 ■ Don't Know

Overall Impression of Legacy Union Gas

(base: all program participants)



2017 61%

Non-Customer

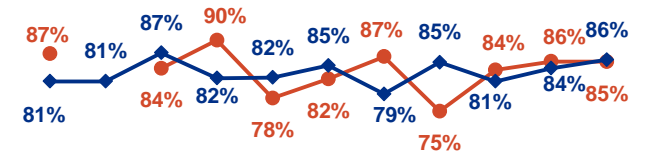
84%

2017 86%

59%

2017 53%

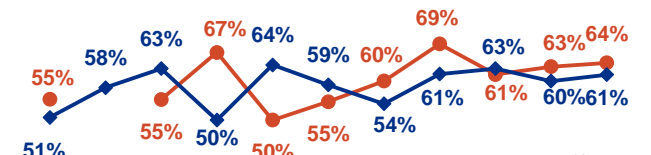
Likelihood to Recommend the HRR Program



Top 2 Box %

Mar '18 Apr '18 May '18 Jun '18 Jul '18 Aug '18 Sep '18 Oct '18 Nov '18 Dec '18 Jan '19

Overall Impression of Legacy Union Gas



Top 2 Box %

Mar '18 Apr '18 May '18 Jun '18 Jul '18 Aug '18 Sep '18 Oct '18 Nov '18 Dec '18 Jan '19

◆ Customer ● Non-Customer

Q: Using a scale where 1 means "Not at all Likely" and 10 means "Extremely Likely" and thinking about your recent experience with Home Reno Rebate program, how likely would you be to recommend the program to a family member, friend, neighbour or colleague? Q: I would like to hear about your overall impression of Union Gas. Using a scale of 1 to 10 where 1 means "Poor" and 10 means "Excellent" and all things considered, what is your overall impression of Union Gas as a company?



Overall Satisfaction

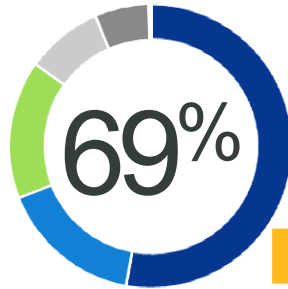
Overall satisfaction with the program is strong and after some lower ratings in early 2018 has been improving in recent months

Customer

Overall Experience with the Home Reno Rebate Program

(base: all program participants)

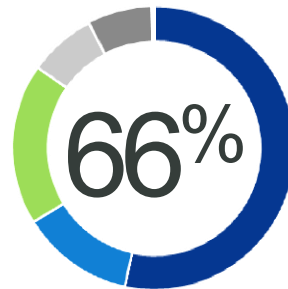
Top 2 Box %



2017 73%

Ease of Participating in the Home Reno Rebate Program

(base: all program participants)



2017 71%

■ Ratings of 10 ■ Ratings of 9 ■ Ratings of 8 ■ Ratings of 7 ■ Ratings of 1 to 6 ■ Don't Know

Non-Customer

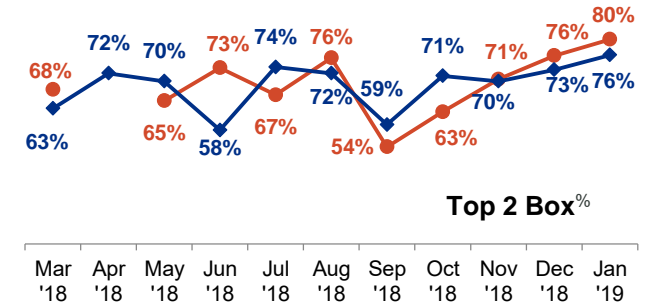
70%

2017 72%

67%

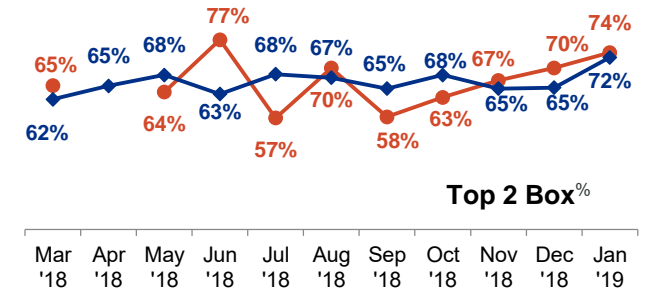
2017 67%

Overall Experience with the Home Reno Rebate Program



Top 2 Box %

Ease of Participating in the Home Reno Rebate Program



Top 2 Box %

◆ Customer ● Non-Customer

Q: Thinking about your overall experience, how satisfied were you with the following? Please use a scale from 1 to 10 where 1 means "Very Dissatisfied" and 10 means "Very Satisfied". Overall experience with the Home Reno Rebate program. Ease of participating in the Home Reno Rebate program.

Why does program satisfaction matter?



Satisfied customers are more likely to recommend the program to others and have a stronger overall impression of Legacy Union Gas

Customer			Non-Customer	
Ratings of Overall Satisfaction with HRR	Likelihood to Recommend (Top 2 Box Score)	Overall Impression of Legacy UG (Top 2 Box Score)	Likelihood to Recommend (Top 2 Box Score)	Overall Impression of Legacy UG (Top 2 Box Score)
1 to 6	26%	26%	33%	33%
7 to 8	61%	29%	66%	31%
9 to 10	96%	72%	95%	71%

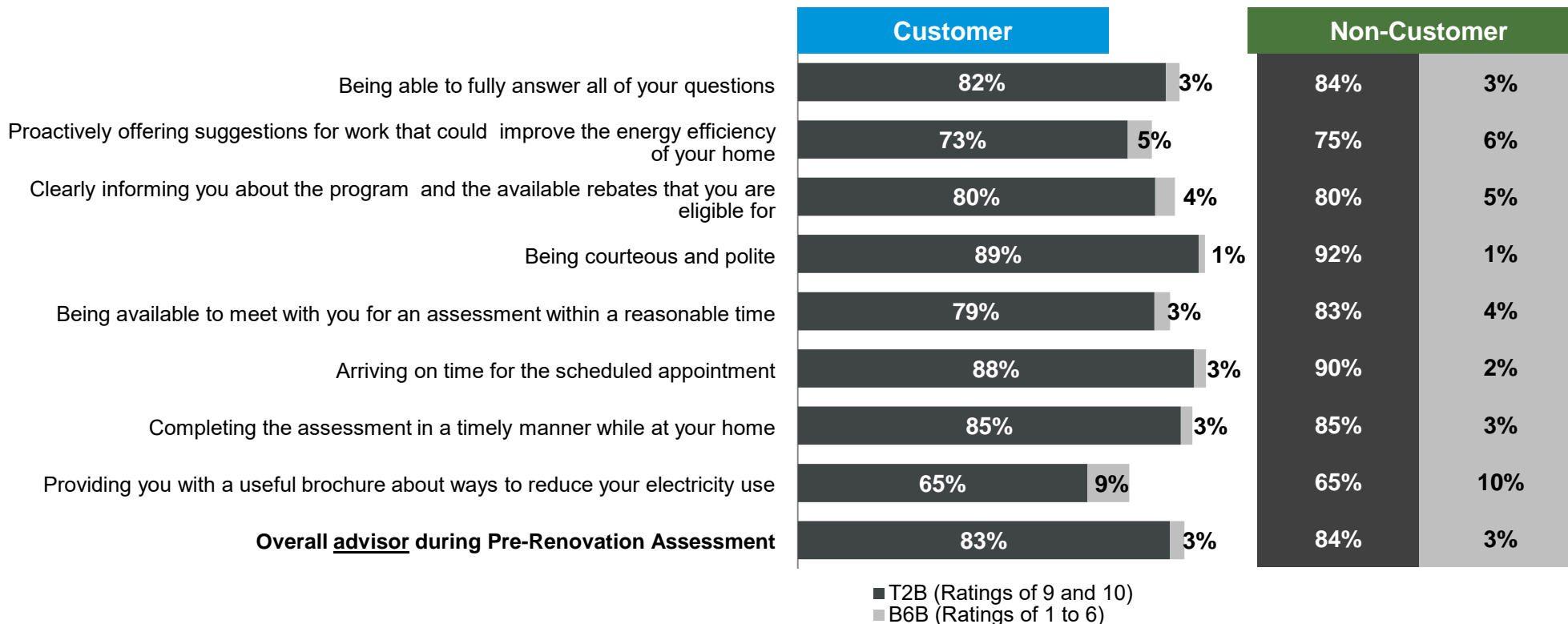
Pre-Renovation Assessment (D Audit)



Satisfaction with the advisor and elements of the pre-renovation assessment are very strong – lower ratings are observed for being proactive and providing a useful brochure

Evaluation of the Pre-Renovation Assessment

(base: program participants who dealt with auditor)



Q: Thinking about the auditor who came to the home for the pre-renovation assessment, how satisfied were you with the following aspects of service? Q: And just thinking about the pre-renovation assessment, done before the renovation work, how satisfied, overall, were you with the auditor?

Pre-Renovation Assessment (D Audit)



Satisfaction with the auditor tends to be quite stable month-over-month

Evaluation of the Pre-Renovation Assessment (Top 2 Box Ratings)

(base: program participants who dealt with auditor)

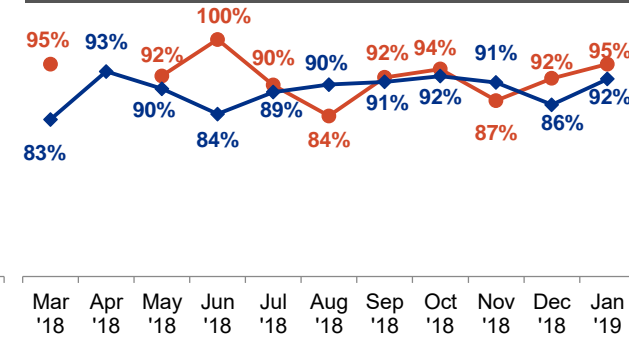
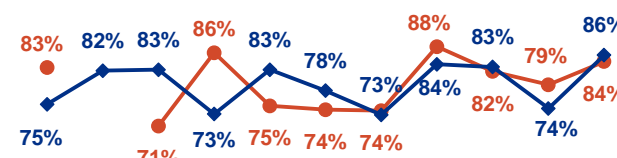
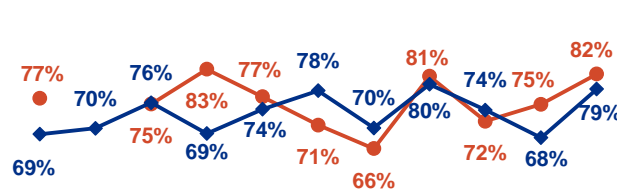
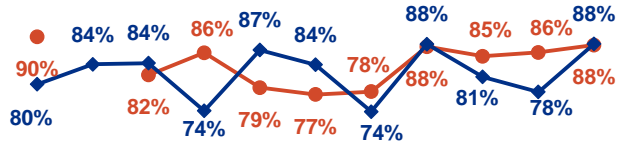
Customer Non-Customer

Able to fully answer all your questions

Proactively offer suggestions for EE work

Informing you clearly about the program

Being courteous and polite

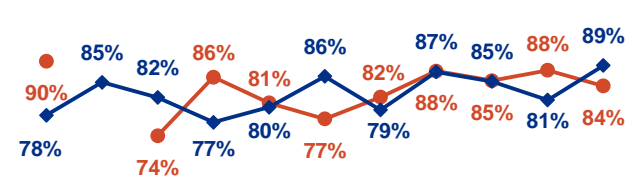
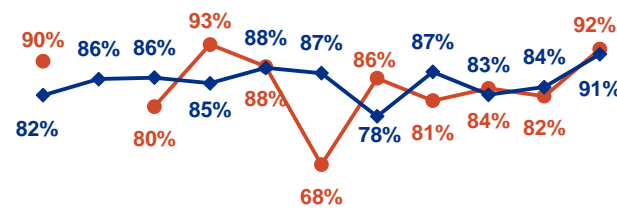
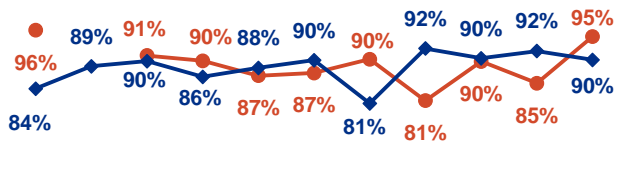
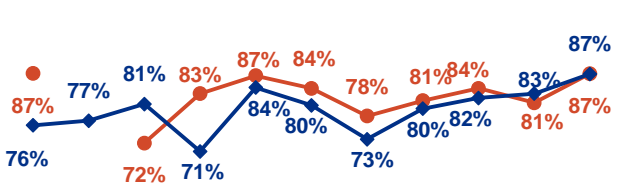


Available to meet for an assessment

Arriving on time for appointment

Completing assessment in timely manner

Overall Auditor



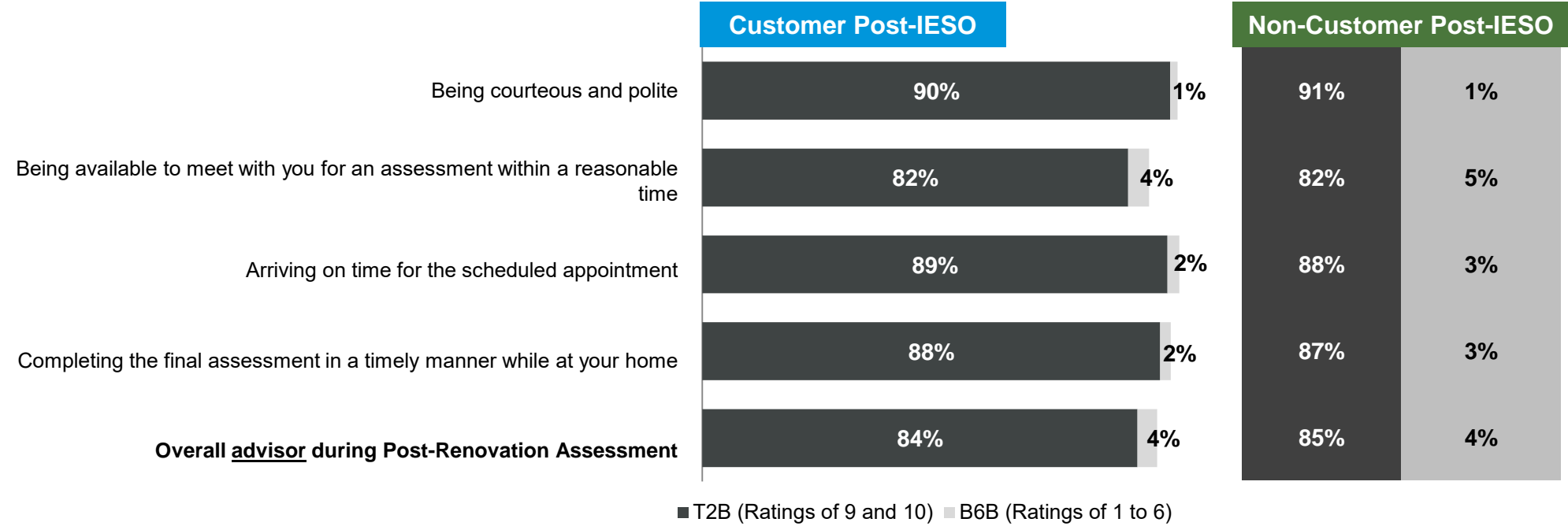
Q: Thinking about the auditor who came to the home for the pre-renovation assessment, how satisfied were you with the following aspects of service? Q: And just thinking about the pre-renovation assessment, done before the renovation work, how satisfied, overall, were you with the auditor?

Post-Renovation Assessment (E Audit)



Similar to the pre-renovation, satisfaction with the advisor and elements of the post-renovation assessment is very strong

Evaluation of the Post-Renovation Assessment
(base: program participants who dealt with auditor)



Post-Renovation Assessment (E Audit)

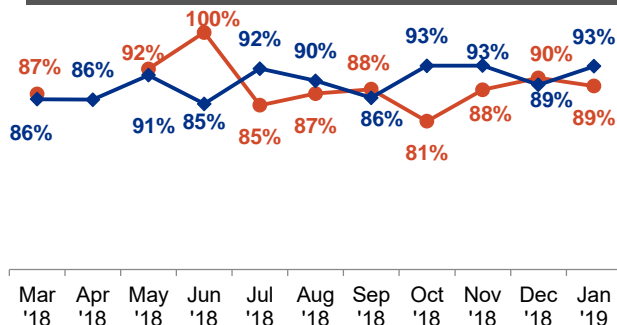


Satisfaction with elements of the experience are quite stable month-over-month, especially soft skills like “being courteous and polite”

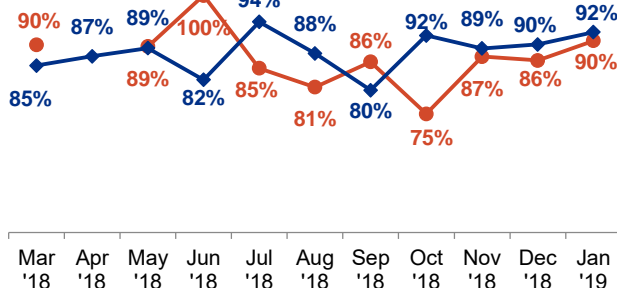
Evaluation of the Post-Renovation Assessment (Top 2 Box Ratings)

(base: program participants who dealt with auditor)

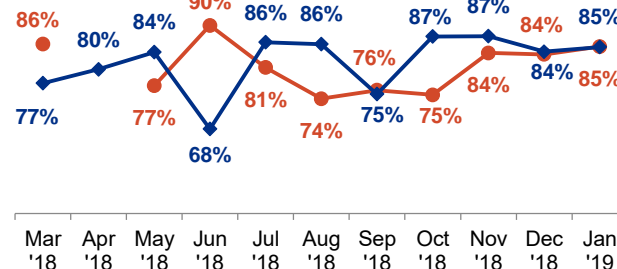
Arriving on time for appointment



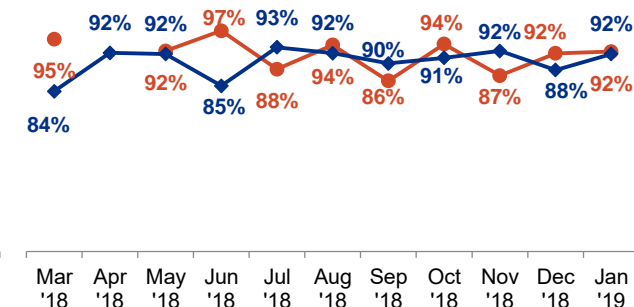
Completing assessment in timely manner



Available to meet for an assessment

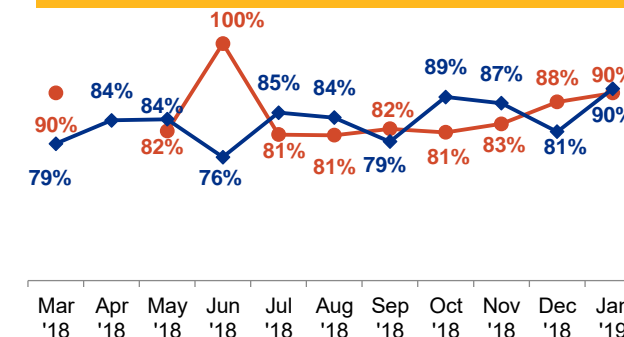


Being courteous and polite



◆ Customer ● Non-Customer

Overall Auditor

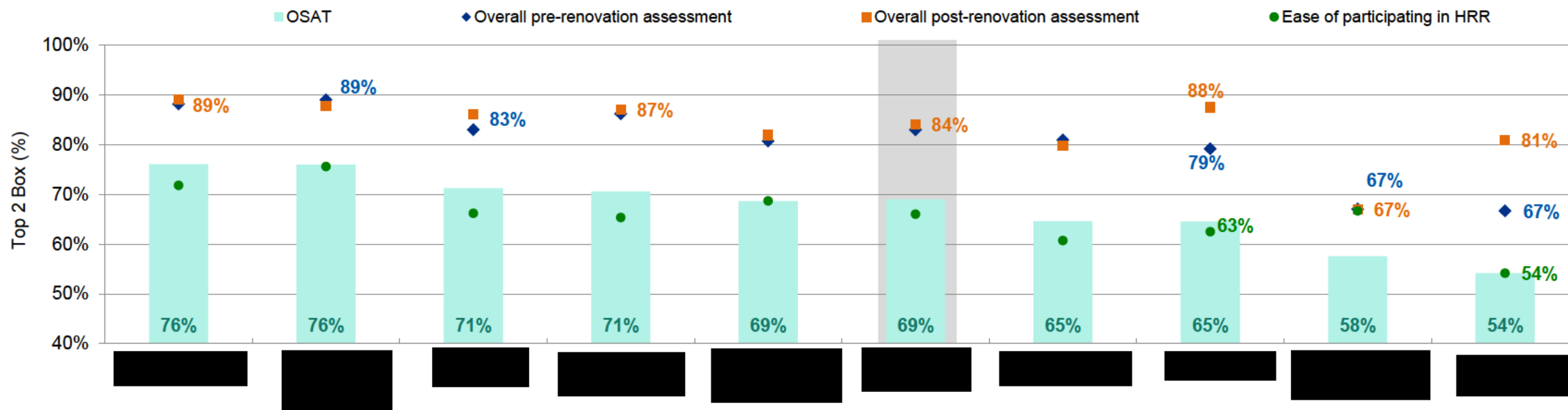


Satisfaction by Service Organization



High levels of OSAT are observed across service organizations with Top 2 Box scores ranging from 54% to 76%

Evaluation of assessment by service organization – customers only
 (base: program participants who dealt with auditor, only showing SOs with 20 or more interviews)



Work Completed

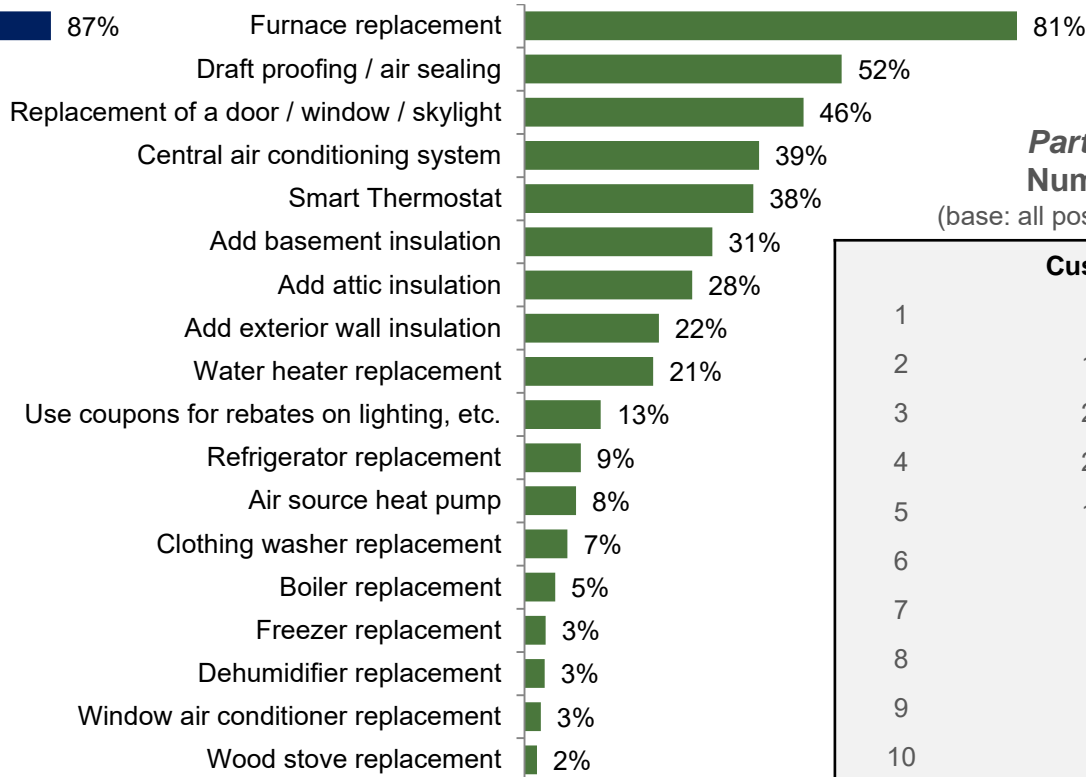
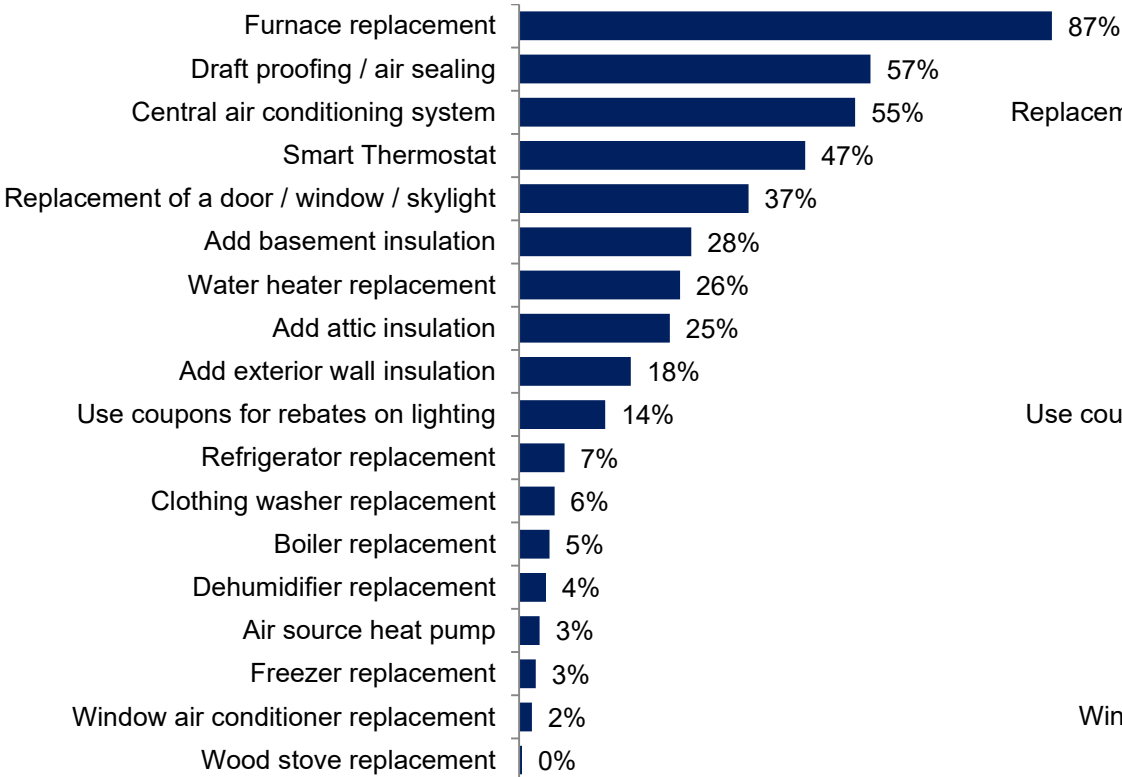


On average, participants identify that they have completed 4 measures in their homes, among which a furnace replacement and draft proofing are the most common

Participant Identified program-eligible work completed (*Aided*)
(base: all program participants)

Customer (Post-IESO Participants Only)

Non-Customer (Post-IESO Participants Only)



Participant Identified
Number of Measures
(base: all post-IESO program participants)

	Customer	Non-Customer
1	3%	4%
2	13%	16%
3	21%	23%
4	24%	24%
5	18%	13%
6	9%	6%
7	5%	6%
8	3%	3%
9	1%	2%
10	2%	2%
Mean	4.3	4.1

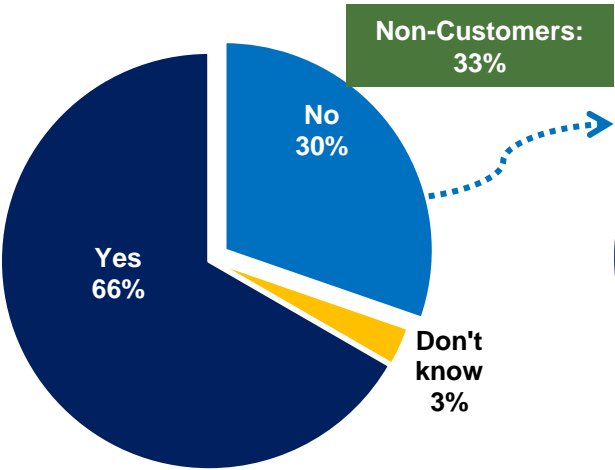
Q: Which of the following eligible, program-related, projects did you recently complete? Please note that "program-related" refers to projects eligible for a rebate under the program.

Recommended Measures

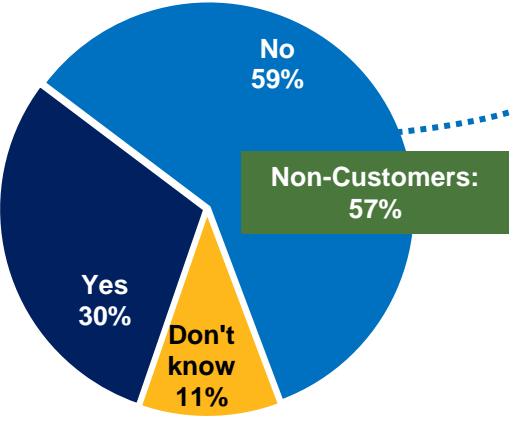


The majority of participants implemented all recommended measures, and those that did not generally indicate that are not intending to due to financial reasons

Implemented all recommended measures
(base: program participants who received report)



Intend to complete the recommended measures not yet installed within the next 12 months
(base: program participants who did not complete all recommended measures, n=423)



Reasons for not completing the remaining recommended measures
(base: program participants who received report, n=248 for customers, n=102 for non-customers)

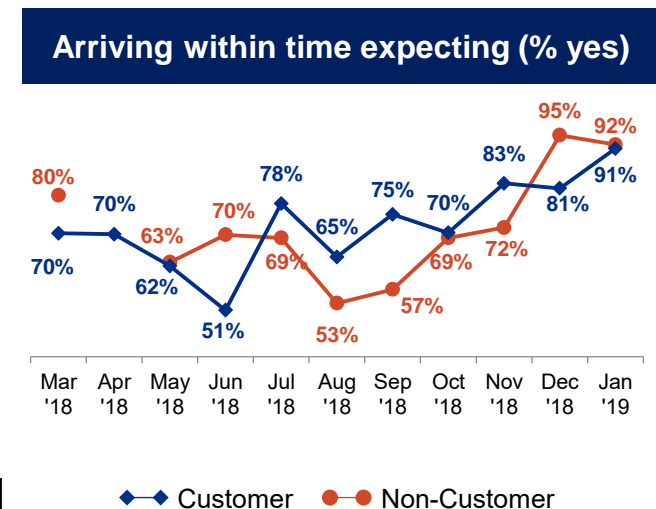
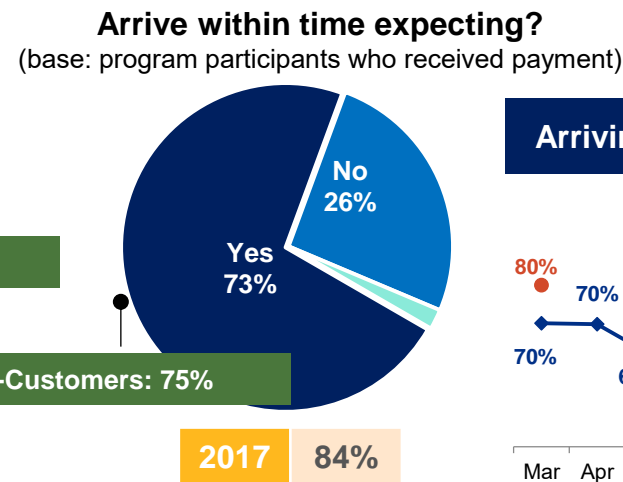
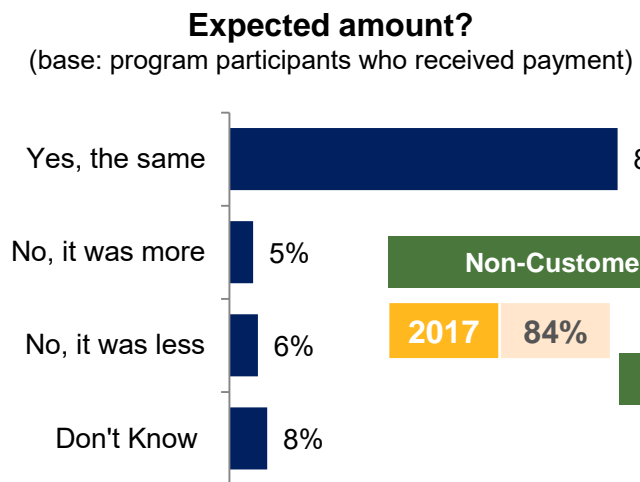
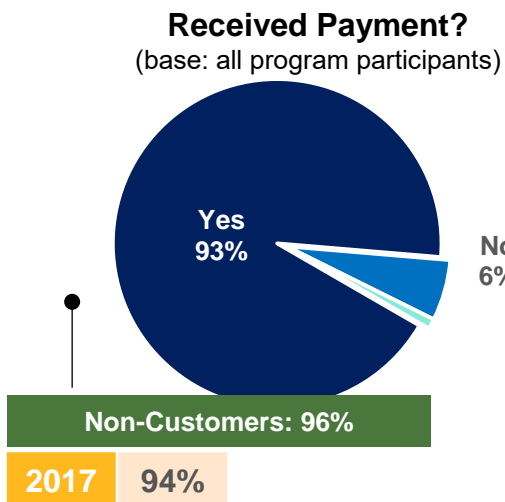
	Customers	Non-Customers
Financial reasons	48%	57%
Disagree that they are necessary / not needed	33%	36%
Work is too complicated / extensive	7%	6%
Not planning to stay / moving soon / won't benefit from upgrades	5%	2%
No time / too busy	3%	5%
Program might be cancelled	4%	1%
Other	7%	1%

Q: Did you install or implement all recommended measures offered in the report provided by the auditor? Q: Do you intend to complete the recommended measures you have not yet installed or implemented within the next 12 months?
Q: What would you say is the reason that you do not intend to complete the remaining recommended measures in the next 12 months?



Payment Experience

Timely payment matters – ratings decline significantly when payment comes later than expected, especially for overall satisfaction with the program



	Yes	No
OSAT (T2B)	78%	51%
LTR (T2B)	87%	73%
Impression of UG (T2B)	63%	46%

Q: Have you received your rebate payment? Q: Was the dollar amount of the rebate payment the same amount as your energy auditor had indicated you would receive? Q: Did the payment arrive within the time frame you were expecting?

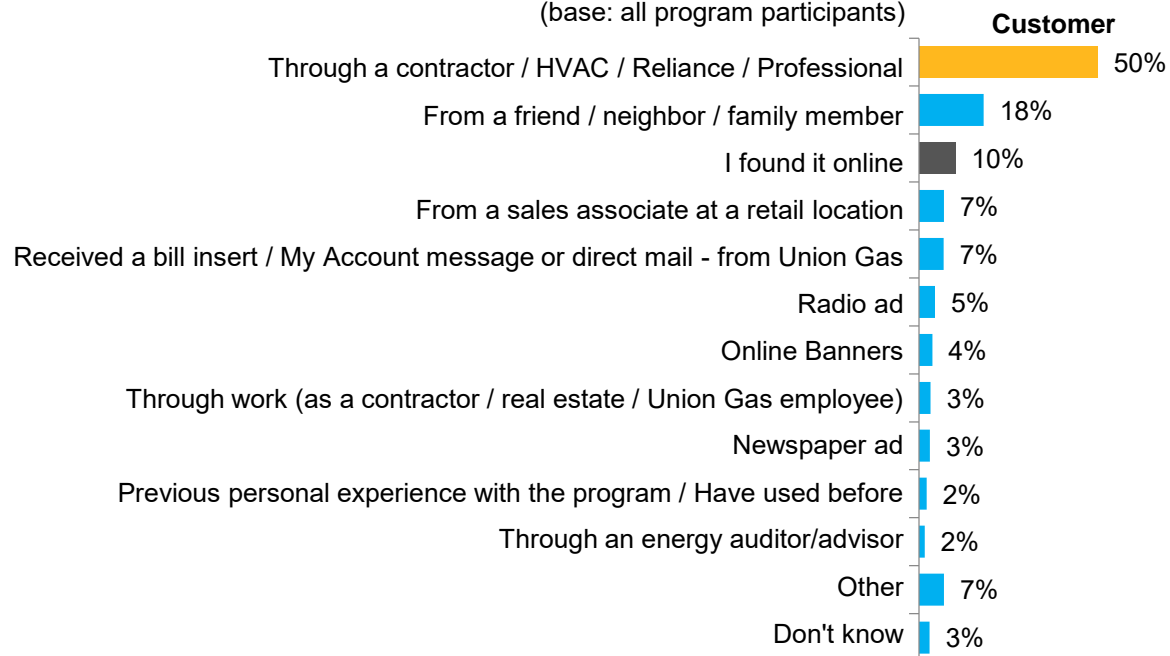


Program Marketing

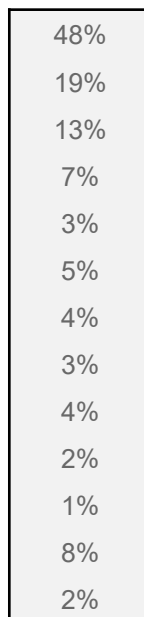
The majority of customers heard about the program from a contractor or professional, suggesting contact with these individuals are a key entry point into the program

How did you learn about the program?* (Unaided)

(base: all program participants)



Non-Customer



Type of Contractor	
HVAC	70%
Reliance	23%
General Contractor	4%
Window Contractor / Installer	3%
Other	4%

Type of Issue for which Contractor was contacted	
Water Heating	10%
Home Heating	85%
Home Cooling	34%

Websites through which learned about the program (n=170)

Union Gas	52%
Ontario Home Energy Incentive Conservation Program	12%
SaveONEnergy	11%
Other	32%
Don't Know	19%

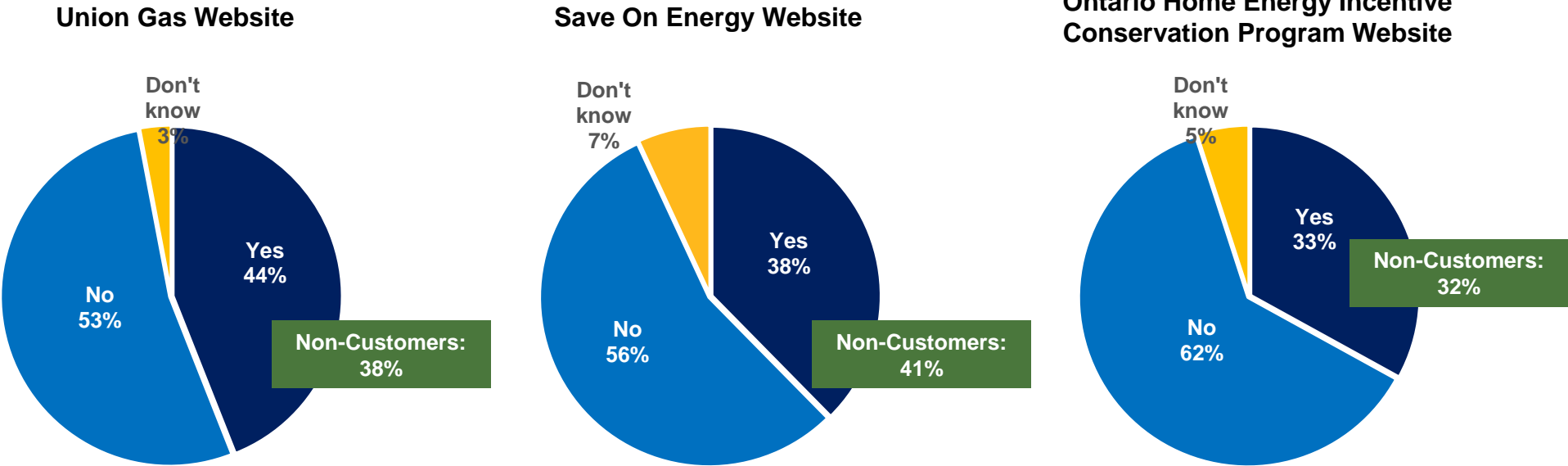
Q: How did you learn about the program? Q: Which specific type of contractor did you learn about the program from? Any other contractors? Q: Specifically, which website(s) did you learn about the program from? Any other websites? Q: When you were dealing with the contractor who told you about the program, was it originally for a water heating, home heating- or home cooling-related issue?

Website Visits



Just over half of participants visited at least one of the sponsor websites prior to deciding to participate in the program, the remainder did not visit any of the websites for more information

Visited websites before deciding to participate in the Home Reno Rebate Program
(base: all program participants)



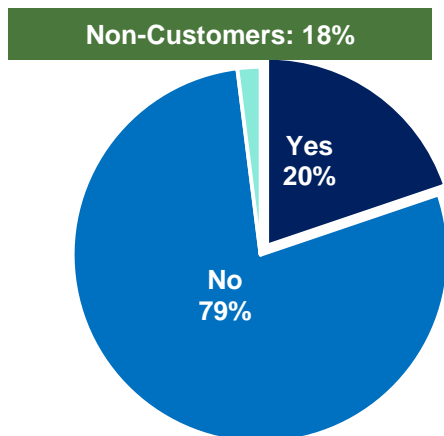
Q: Before deciding to participate in the Home Reno Rebate program did you visit the Save on Energy website for more information? Visit the Union Gas website for more information? Visit the Ontario Home Energy Incentive Conservation Program website for more information?



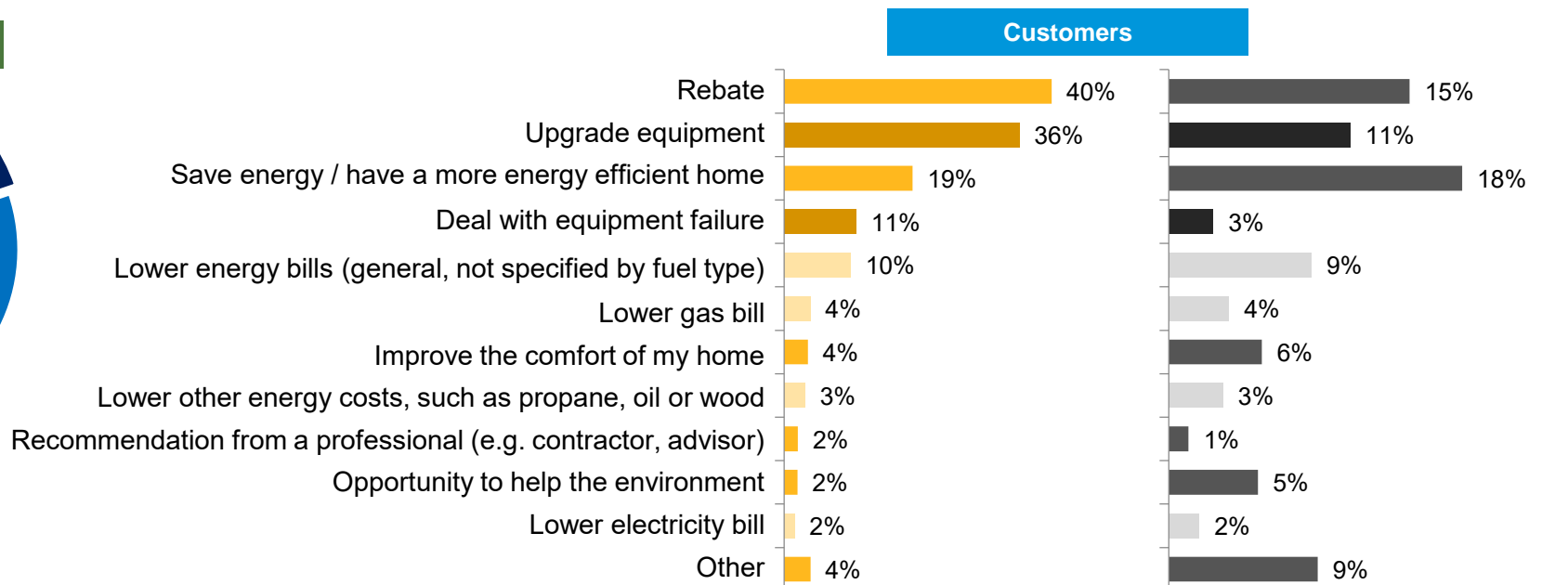
Reasons for Participation

Most participants have not previously participated in an energy conservation program and are drawn to the rebates in this program

Participation in other Conservation Programs
(base: all program participants)



Main Reason for participating (Unaided)
(base: all program participants)



Other Reasons (Unaided)
(base: all program participants)

Non-Customers	
Main	Other
42%	18%
32%	12%
21%	17%
7%	2%
8%	8%
4%	1%
4%	4%
4%	4%
2%	1%
2%	5%
1%	1%
7%	10%

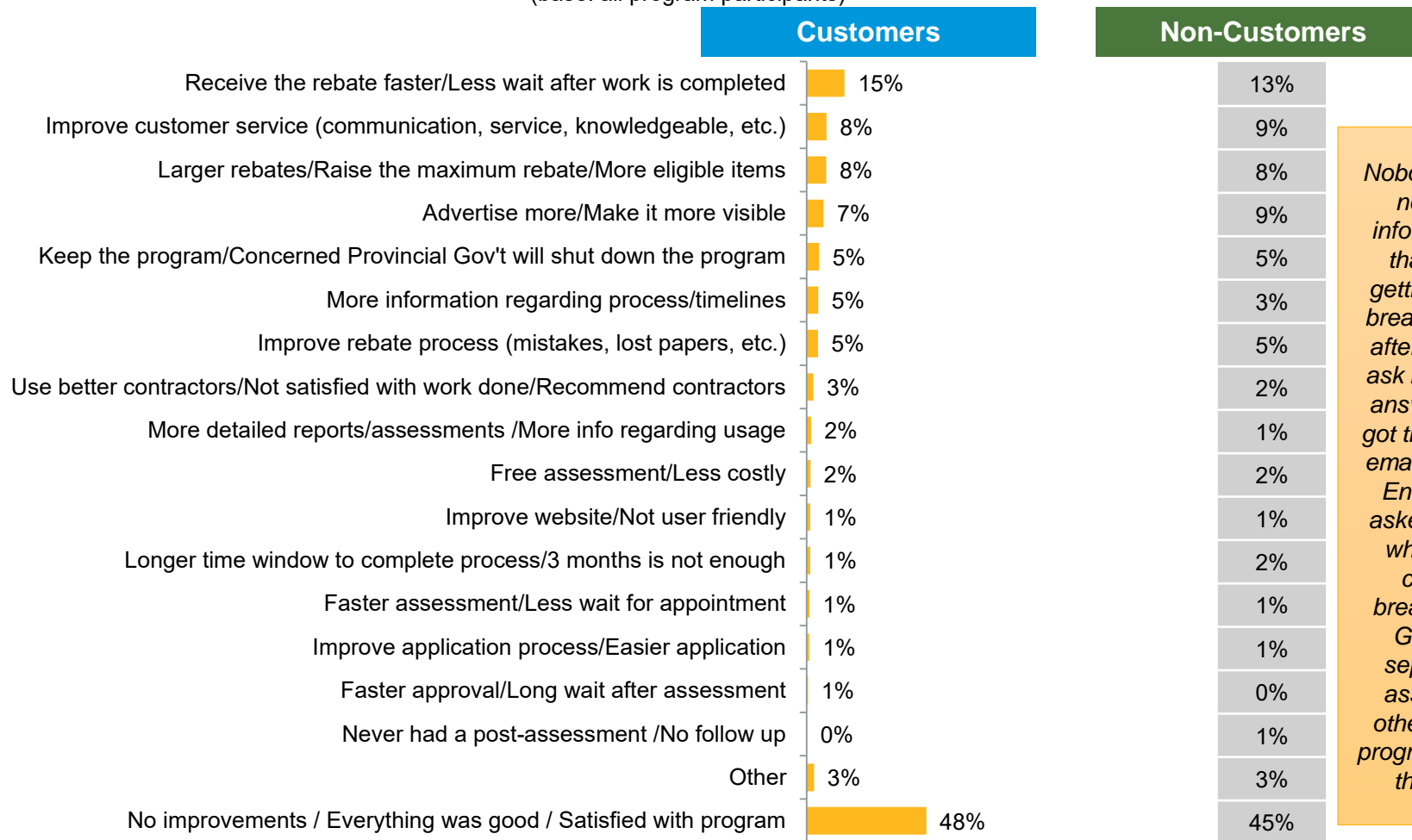
Q: Other than your recent participation in the Home Reno Rebate Program, have you participated in any energy conservation programs (with Union Gas, with an electric utility or through other programs) in the past? Q: What would you say was your main reason(s) for participating in the Home Reno Rebate program? Q: Other than this, what were your other reasons for participating in the program?



Overall Comments and Suggestions

About half of participants had no improvements to suggest, but among those who did, “faster” and “more” were key themes

Themes of overall comments or suggestions
(base: all program participants)



Sample of comments

Speed. It took me almost a year to get the rebate. That was really, really wrong.

Might be good for some people if the cheque got there faster. That would be the main thing or issue for some users.

Nobody could answer questions, I need to get some details on information on the breakdown of that email of how much I was getting but there was no detailed breakdown for what I got paid for, after he did the assessment I did ask him questions but he couldn't answer them, he said to wait till I got the email. Then when I got the email it wasn't detailed so I called Energuide and Union Gas and asked the amount that I received what did that include and they couldn't give me a detailed breakdown either one but Union Gas said that I'd receive two separate cheques, one for the assessment cost and then the other my money from the rebate program and I still haven't received the assessment cheque yet.

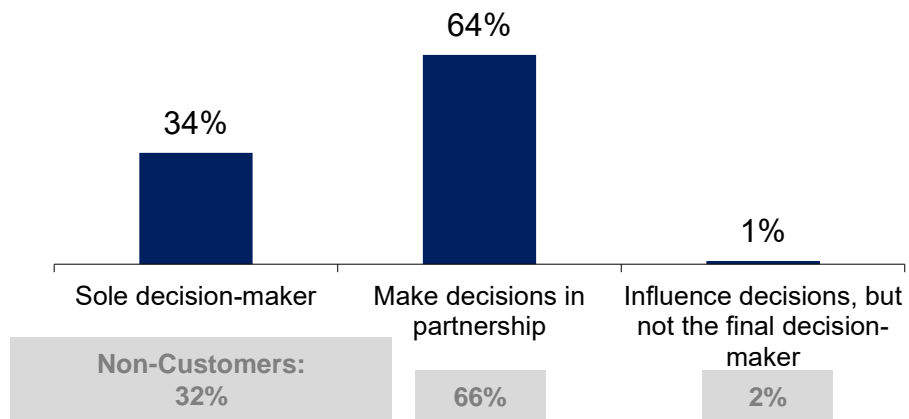
Increase the rebate. Increase the amount of the rebate because it costs so much to do the replacement. Replacing the windows, doors, insulation, crawl space insulation, the furnace, the air conditioning, the hot water tank. Because they cost so much to replace, by increasing the rebates it would give homeowners more incentive to do these renovations, to take advantage of the rebate. Senior citizens, retirees to take advantage of a higher rebate.

Demographics

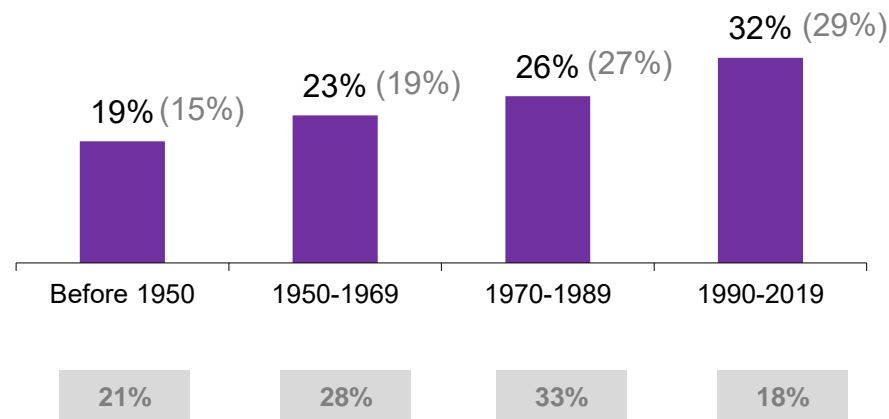
Home Characteristics



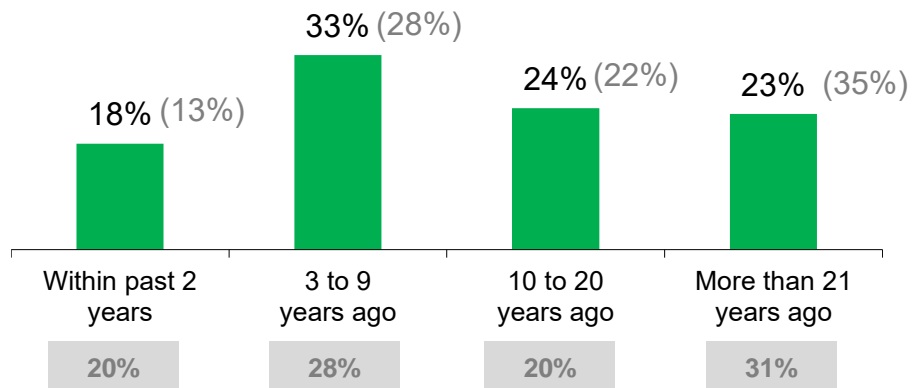
Role in Planning Energy Efficiency Projects



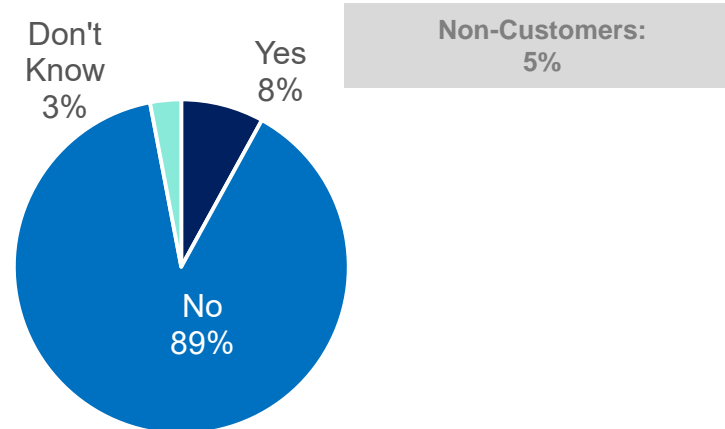
Age of Home (compared to SF population)



Length of time in the Home (compared to SF population)



Intention to Sell Home in Next 24 Months



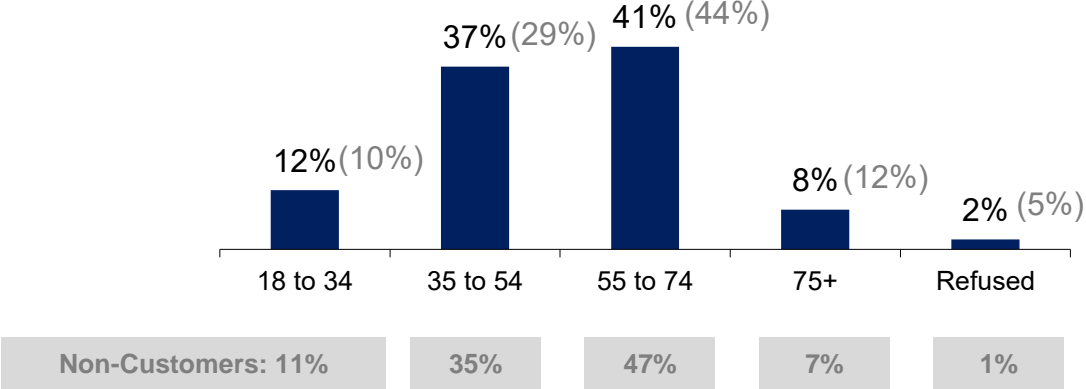
Compared to SF population refers to results from the 2018 Single Family Natural Gas Penetration Study.

Demographics

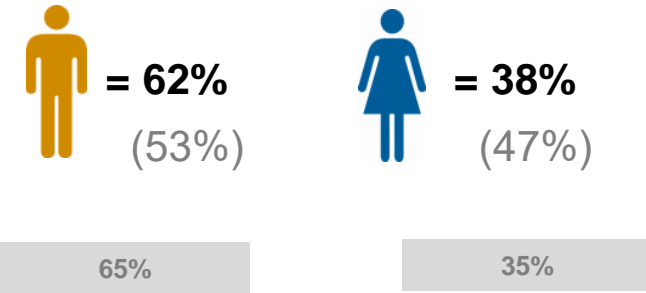
Participant Characteristics



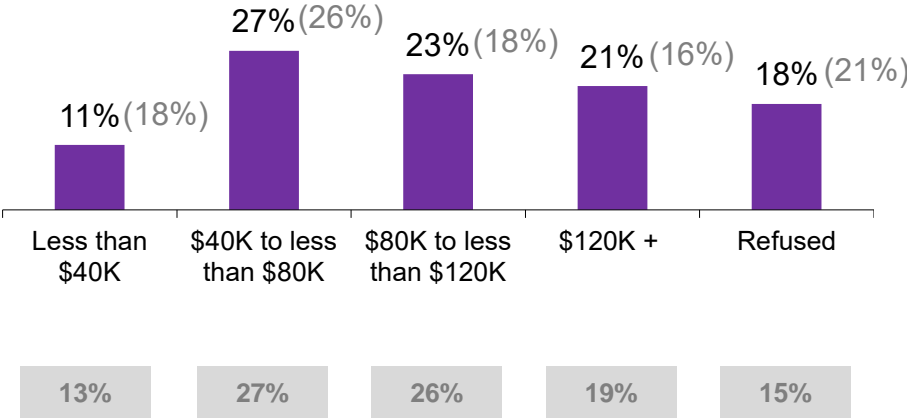
Age (compared to SF population)



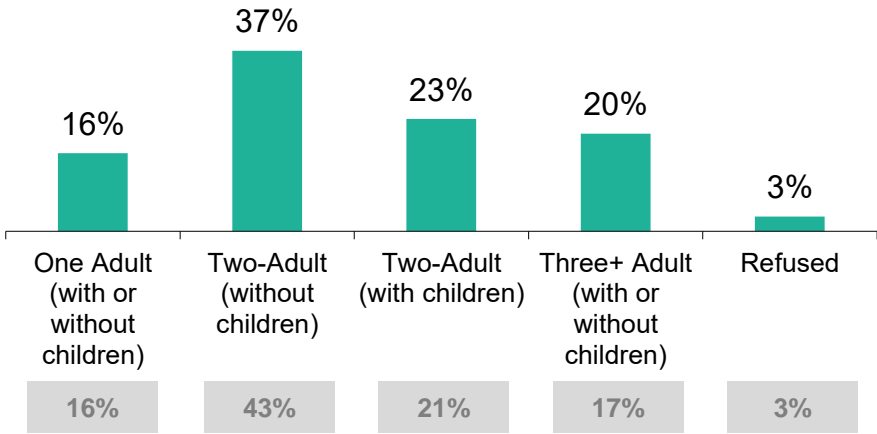
Gender (compared to SF population)



Household Income (compared to SF population)



Household Size



Compared to SF population refers to results from the 2018 Single Family Natural Gas Penetration Study.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe (EP)

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Pages 7; Exhibit B, Tab 3, Schedule 1, Page 1;
Exhibit C, Tab 2, Schedule 1, Page 11 Exhibit C, Tab 3, Schedule 1, Page 1

Preamble:

Enbridge Gas has provided the following estimated annual bill impact for residential customers:

- EGD Rate Zone – Rate 1 - \$7.40
- Union South Rate Zone – Rate M1 - \$7.99
- Union North Rate Zone – Rate 01 - \$0.80

Question(s):

- a) For all residential rate zones, please provide the the total 2019 DSM cost and estimated annual rate impact for Residential Rate 1, Rate M1 and Rate 01 customers in each Zone.
- b) Please provide a breakout of the 2019-related DSM amounts, including previously approved 2019 DSM program budgets and the requested 2019 DSMVA, DSMSI and LRAMVA, Incentive amounts and Overhead/Program Admin costs.
- c) Please reconcile to unit rates.

Response:

a), b) and c)

Please see the response at Exhibit I.STAFF.2.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Industrial Gas Users Association of Ontario (IGUA)

Interrogatory

Reference:

Ex B/T2/S1/p.7, Table 4; Ex C/T2/S1/p.11, Table 5; Ex A/T4/S1.

Preamble:

In the EGD Rate Zone, the DSM DVA balance allocation to Rate 100 customers includes \$340,000 of DSM costs not budgeted for.

In the Union Rate Zones, the DSM DVA balance allocation includes DSM costs not budgeted for to;

- (a) Rate M4 in the amount of \$1.873 million; and
- (b) Rate M7 in the amount of \$1.668 million.

In the Union Rate Zone, the DSM DVA balance allocation also includes a credit relative to DSM costs budgeted to;

- (a) Rate T2 in the amount of \$608,000; and
- (b) Rate 100 of \$405,000.

Questions:

- a) For each of Enbridge Rate 100 and Union Rates M4 and M7, please provide, with references to the pre-filed materials as appropriate, an explanation of the material drivers for the incurrence of DSM costs not included in costs budgeted for.
- b) For each of Enbridge Rate 100 and Union Rates M4 and M7, please indicate which EGI DSM programs customers in these rate classes participated in during 2019.
- c) For each of Union Rates T2 and 100, please provide, with references to the prefiled materials as appropriate, an explanation of the material drivers for the credit to customers relative to DSM costs budgeted.

Response

- a) As described in evidence, with the exception of Low Income costs, actual DSM costs are allocated to rates classes based on the allocation of actual customer incentive costs between rate classes^{1,2}. Therefore, the material driver for actual DSM costs exceeding budgeted costs is higher actual incentive payments to customers in these rate classes than was forecasted for in the underlying budget assumptions used for the DSM costs included in rates.
- b) During the 2019 program year, Enbridge Rate 100 customers participated in the EGD rate zone Custom Industrial Offering. Union M4 and M7 customers participated in the Union rate zone Commercial/Industrial Custom, Commercial/Industrial Prescriptive and Strategic Energy Management offers.
- c) Based on the reference in the response to question a), one of the material drivers for the credit to customers in these rate class is lower actual incentive payments to customers in the rate class than was forecasted for in the underlying budget assumptions used for the DSM costs included in rates. Additionally, another material driver for the credit is lower Large Volume program administration spending compared to the OEB approved budget.

¹ EB-2021-0072, Exhibit B, Tab 2, Schedule 1, page 1.

² EB-2021-0072, Exhibit C, Tab 2, Schedule 1, page 1.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Industrial Gas Users Association of Ontario (IGUA)

Interrogatory

Reference:

Ex A/T4/S1/pp. 57-58; Ex A/T4/S1/p.78.

Preamble:

The evidence describes EGI's Large Volume Direct Access program for Union Rate T2 and Union Rate 100 customers. Also, in evidence are the direct program costs of this program.

Questions:

- a) Please provide the total costs - budgeted and actual - attributable to or allocated to the Large Volume Direct Access Offering in 2019, broken down by major program cost elements (i.e. incentives, promotion, evaluation, administration, portfolio costs) but excluding low-income program costs allocated.
- b) If possible, please break out the information provided in response to part (a) between Rate T2 and Rate 100 customers.

Response

a) & b)

Program Cost Elements	Rate T2		Rate 100		Total	
	Budget	Actual	Budget	Actual	Budget	Actual
LV Program Incentives/ Promotion	\$ 2,497,889	\$ 2,340,404	\$ 652,111	\$ 344,207	\$ 3,150,000	\$ 2,684,610
LV Program Evaluation	\$ 49,958	\$ -	\$ 13,042	\$ -	\$ 63,000	\$ -
LV Program Administration	\$ 624,076	\$ 352,198	\$ 162,924	\$ 51,798	\$ 787,000	\$ 403,996
DSM Portfolio Overhead (1)	\$ 310,550	\$ 258,378	\$ 81,074	\$ 38,000	\$ 391,624	\$ 296,378
Total Costs (Excluding Low Income)	\$ 3,482,473	\$ 2,950,980	\$ 909,151	\$ 434,005	\$ 4,391,624	\$ 3,384,984

(1) - Inclusive of allocation of portfolio evaluation costs

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe (PP)

Interrogatory

Reference:

Ex. A, T3, Sch. 1

“On August 21, 2015, the OEB issued a letter which provided additional details regarding a new OEB-Staff coordinated evaluation governance structure.” (page 2)

“The EC concluded 2019 DSM program year EM&V activities in 2020 with the release and presentation of the following report to OEB Staff and the EAC:
- 2019 Natural Gas DSM Annual Verification (December 3, 2020).” (page 4)

Question:

- a) Please provide the scope of work for the 2019 Natural Gas DSM Annual Verification Report.
- b) Please provide the scope of work for the Evaluation Advisory Committee (“EAC”).
- c) Please provide the scope of work for the third-party Evaluation Contractor (“EC”).
- d) Please provide a summary of any 2019 DSM activities or costs not covered by the 2019 Natural Gas DSM Annual Verification Report.

Response

- a) The Evaluation Contractor’s 2019 annual verification plan provides a detailed scope of planned activities for the 2019 verification. Please see Attachment 1.
- b) EGI is not aware of any scope of work for the EAC beyond the referenced OEB August 21, 2015 evaluation governance letter.
- c) OEB Staff was the coordinator of the 2015-2020 evaluation process and issued a Request for Services (RFS) to select a 2018-2020 Evaluation Contractor. The RFS

included an expected EC scope of work. EGI is not aware of any subsequent EC scope of work. The RFS document is attached as Attachment 2.

- a) EGI does not have insight into which specific activities the EC might have explored but did not include in its report. However, EGI can confirm all 2019 DSM programs and offerings within the EGD and Union rate zones' DSM Scorecards were addressed in the EC's verification report, in the manner described in Appendix B of the EC's report.¹

The EC noted it was unable to complete a planned study verifying the custom project savings (CPSV) during the 2019 program year due to complications from the COVID-19 pandemic. Instead, the EC used the same adjustment factors resulting from custom projects implemented in the 2017 and 2018 program years, adjusted for the mix of projects installed in 2019.²

The EC also does not verify spending figures or conduct a financial audit of EGI's 2019 DSM spend.³

¹ <https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>, Appendix B.

² <https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>, Appendix B, footnote 25.

³ <https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>, Page 28.

DNV·GL

Natural Gas Demand Side Management - Detailed Plan for 2019 Annual Verification

Submitted to the Ontario Energy Board

June 22, 2020



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1 INTRODUCTION

This document has been prepared for the Ontario Energy Board (OEB) and outlines the detailed plan for conducting the annual verification of Enbridge Gas Distribution Inc.'s (Enbridge) and Union Gas Limited's (Union) natural gas demand-side management (DSM) programs delivered in 2019. These verifications will be conducted by the Evaluation Contractor (EC) team.

1.1 Overall Objectives

The overall objectives of the evaluations are to:

- Assess portfolio impacts to determine annual savings results, shareholder incentive and lost revenue amounts, and future year targets.
- Assess the effectiveness of energy efficiency programs on their participants and/or market, including results on various scorecard items.
- Identify ways in which programs can be changed or refined to improve their performance.

The lost revenue and DSMSI are based on the following metrics:

- Lost revenue: the verified natural gas energy savings (in annual cubic meters) by rate class using the best available information and the cost of the natural gas by rate class for the program year.
- DSMSI: the actual program achievements compared to the scorecard metrics for that program, the weight placed on each metric within each scorecard, and the maximum incentive achievable for that scorecard.

The information that must be verified for 2019 includes program natural gas savings and the program achievements compared to the scorecard metrics. The verified savings and program achievements will be used to confirm the lost revenue and DSMSI amounts.

The remainder of this document provides the following:

- An overview of the 2019 programs and their scorecard metrics
- A list of the data, documentation, and other information necessary to conduct the verification
- A list of the activities that will be conducted as part of the verification
- An accounting of the expected verification outcomes and the process for reviewing those outcomes
- A proposed schedule for completing the verification

While some information related to the verification of custom projects (i.e. Custom Project Savings Verification, or CPSV) may be found in this document, it is not considered part of the "annual verification" and the details are located elsewhere.

2 REPORTED METRICS TO VERIFY

To verify the lost revenue and DSMSI, the EC must verify the reported legacy utility achievements for each scorecard and the energy savings achieved by each rate class.

DSMSI results are evaluated at the Scorecard Metric level, with calculations based off of targets and achievements at the metric, not program, level. It is possible to have:

- One program, One metric (e.g. Enbridge’s Low Income New Construction Participants metric),
- Multiple metrics, One program (e.g. Union’s RunSmart program with Participants and Savings (%) metrics),
- One metric, Multiple programs (either legacy utilities’ Resource Acquisition CCM metrics),
- Multiple metrics: One program within multiple scorecards (e.g. Enbridge’s Run it Right program).

As a result, this work plan will use metrics identified in the OEB Decision and Order and the subsequent DSM Mid-Term Review for descriptions wherever possible, unless otherwise noted.

2.1 2019 Metrics

Table 2-1: Enbridge 2019 Scorecard, Programs, and Metrics

Scorecard	Program	Metric	Metric Type
Resource Acquisition	C&I Custom C&I Direct Install C&I Prescriptive Comprehensive Energy Management Home Energy Conservation Residential Adaptive Thermostats Run it Right	Small Volume (CCM)	CCM
		Large Volume (CCM)	CCM
	Home Energy Conservation	HEC Participants	Other
Low Income	Home Winterproofing (Single Family)	LISF (CCM)	CCM
	Low Income Multi Residential	LIMR (CCM)	CCM
	Low Income New Construction	LINC Applications	Other
Market Transformation	Commercial Savings by Design	CSBD Developments	Other
	Residential Savings by Design	RSBD Builders	Other
		RSBD Homes	Other
	School Energy Competition	SEC Schools	Other
	Run it Right	RiR Participants	Other
Comprehensive Energy Management	CEM Participants	Other	

Table 2-2: Union 2019 Scorecard, Programs, and Metrics

Scorecard	Program	Metric	Metric Type
Resource Acquisition	C&I Custom C&I Prescriptive C&I Direct Install Home Reno Rebate Residential Adaptive Thermostats	RA (CCM)	CCM
	Home Reno Rebate	HRR Participants	Other
Low Income	Indigenous	Low Income Single Family (CCM)	CCM
	Furnace End-of-Life		
	Home Weatherization		
	Multi-Family (Social and Assisted)	LIMF-SA (CCM)	CCM
	Multi-Family (Market Rate)	LIMF-MR (CCM)	CCM
Large Volume	Large Volume Program	LV (CCM)	CCM
Market Transformation	Optimum Home	OH Builders	Other
		OH Homes	Other
		% of Homes Built	Other
	Commercial New Construction	CNC Developments	Other
Performance Based	RunSmart	RS Participants	Other
		RS Savings %	Other
	Strategic Energy Management	SEM Savings %	Other

2.2 2019 Metric Targets

The OEB’s Decision and Order identified all targets for the 2016, 2017, and 2018 program years. These targets were generally identified as ‘fixed’ or ‘prescribed’ values or as formula-based, calculated on the previous year’s achievement in the OEB Decision and Order. All targets for the 2019 program year are identified in the Mid-Term Review report.¹

All formula-based targets are calculated with a single formula, with the exception of the Union Large Volume Program. In general, metric targets follow this generic formula:

$$\text{Metric Target} = \frac{\text{Program Year Achievement}}{\text{Program Year Spend}} \times \text{Calendar Year Budget} \times \text{Multiplier}$$

The exception to the generic formula is the Union Large Volume Program, which uses the same general formula as 2017 and 2018. The formula for calculating the target uses the 3-year average of cost effectiveness (CE)², the current year (CY) budget, and a multiplier of 2% (1.02):

$$\text{Union Large Volume Target} = 3 \text{ Year CE} \times \text{CY Budget} \times 1.02$$

Table 2-3, Table 2-4, and Table 2-5 provide the specific values used to calculate the 2019 metric targets.

Table 2-6 and Table 2-7 provide the targets for all 2019 metrics, both calculation-based and prescribed.

¹ Ontario Energy Board Mid-Term Review, EB-2017-0127/EB-2017-0128, November 19, 2018, Appendix A

² Three-year rolling average (2016-2018) Rate T2/T100 cost effectiveness where cost-effectiveness here is defined as “Final verified metric achievement used for MRAMVA purposes divided by final actual program spend for that year.”

Table 2-3: Enbridge Metric Target Calculation Inputs – 2019*

Scorecard	Metric	2018 Achievement	2018 Spend	2019 Budget	Multiplier	
Resource Acquisition	Small Volume (CCM)	297,696,422	\$27,668,137	\$27,208,500	1.02	
	Large Volume (CCM)	377,757,871	\$8,600,359	\$9,725,713		
	HEC Participants ³	14,413	\$23,256,751	\$18,360,000		
Low Income	Single Family (CCM)	15,978,389	\$5,224,730	\$6,605,744		
	Multi Residential (CCM)	114,168,897	\$4,417,079	\$3,889,562		
	New Construction Applications	13	\$1,752,191	\$1,428,000		
Market Transformation	CSBD Developments	31	\$1,234,997	\$1,098,300		1.10
	RSBD Builders	35	\$4,257,045	\$3,320,443		
	RSBD Homes	2,956				
	SEC Schools	14	\$248,768	\$510,000		
	RiR Participants	62	\$608,623	\$322,236		
	CEM Participants	5	\$314,424	\$923,100		

*All Enbridge targets were formula-based in 2018, thus remain so for 2019 targets.

Table 2-4: Union Metric Target Calculation Inputs - 2019

Scorecard	Metric	2018 Achievement	2018 Spend	2019 Budget	Multiplier	
Resource Acquisition	RA (CCM)	976,013,726	\$38,681,594	\$29,683,000	1.02	
	HRR Participants ⁴	16,118	\$24,194,382	\$12,226,000		
Low Income	LISF (CCM)	32,053,813	\$7,046,887	\$9,438,000		
	LIMF-SA (CCM)	19,542,032	\$1,985,957	\$2,304,730		
	LIMF-MR (CCM)	6,573,109	\$625,818	\$726,270		
Large Volume	LV (CCM) [†]	42.85 (see Table 2-5)		\$3,150,000		
Market Transformation	OH Builders	8	\$847,194	\$841,000		1.10
	OH Homes	83.33%				
	OH Homes %	3.97%				
	CNC Developments	18	\$984,548	\$1,000,000		
Performance Based	RS Participants	44	\$157,074	\$182,000		
	RS Savings %	0.51%	\$145,265	\$182,000		
	SEM Savings %	3.86%	\$357,804	\$400,000		

[†]Union's Large Volume program metric target is based on different inputs; instead of the previous year's CCM metric, the formula is based off the three-year rolling average (2016-2018) Rate T2/Rate 100 cost effectiveness. This average value (42.85) is what is listed for the 2018 achievement.

³ HEC budget is a subset of, and not a separate line item from, the \$36M Resource Acquisition budget.

⁴ HRR budget is a subset of, and not a separate line item from, the \$39M Resource Acquisition budget.

Table 2-5: Union Large Volume Cost Effectiveness* Ratios

Year	CE Ratio
2016	31.30
2017	59.14
2018	38.10
3-Year Average	42.85

*Final verified metric achievement divided by final actual program spend for that year.

Table 2-6: Enbridge Metric Targets - 2019

Scorecard	Metric	2019 Target
Resource Acquisition	Small Volume (CCM)	298,605,963
	Large Volume (CCM)	435,731,127
	HEC Participants ⁵	11,606
Low Income	Single Family (CCM)	20,605,874
	Multi Residential (CCM)	102,544,768
	New Construction Applications	11
Market Transformation	CSBD Developments	30
	RSBD Builders	30
	RSBD Homes	2,536
	SEC Schools	32
	RiR Participants	36
	CEM Participants	16

Table 2-7: Union Metric Targets – 2019

Scorecard	Metric	2019 Target
Resource Acquisition	RA (CCM)	798,585,979
	HRR Participants ⁶	8,308
Low Income	LISF (CCM)	43,788,748
	LIMF-SA (CCM)	23,132,372
	LIMF-MR (CCM)	7,780,746
Large Volume	LV (CCM) [†]	137,666,792
Market Transformation	OH Builders	4
	OH Homes	90%
	OH Homes %	4.34%
	CNC Developments	20
Performance Based	RS Participants	56
	RS Savings %	0.70%
	SEM Savings %	4.75%

*These metric targets are prescribed for 2019.

⁵ HEC budget is a subset of, and not a separate line item from, the \$36M Resource Acquisition budget.

⁶ HRR budget is a subset of, and not a separate line item from, the \$39M Resource Acquisition budget.

2.3 2019 Maximum Incentives

Table 2-8 and Table 2-9 identify scorecard weights and maximum incentive levels. Scorecard weights are prescribed in the OEB Decision and Order. Maximum incentive levels are calculated based on the distribution of the approved budget for each scorecard, prorated to the total maximum incentive.

Table 2-8: Enbridge Scorecard Metric Weights and Maximum Incentive from Budget - 2019

Scorecard	Metric	Scorecard Weight	2019 Budget ⁷	Budget %	Maximum Incentive
Resource Acquisition	LV RA (CCM)	40%	\$42,056,270	67.1%	\$7,013,471
	SV RA (CCM)	40%			
	HEC Participants	20%			
Low Income	LISF (CCM)	45%	\$13,576,837	21.7%	\$2,264,127
	LIMR (CCM)	45%			
	LINC Applications	10%			
Market Transformation	CSBD Developments	25%	\$7,030,304	11.2%	\$1,172,401
	CEM Participants	20%			
	RSBD Builders	10%			
	RSBD Homes	15%			
	RiR Participants	20%			
	SEC Schools	10%			
Total			\$62,663,411	100.0%	\$10,450,000

Table 2-9: Union Scorecard Metric Weights and Maximum Incentive from Budget - 2019

Scorecard	Metric	Scorecard Weight	2019 Budget	Budget %	Maximum Incentive
Resource Acquisition	RA (CCM)	75%	\$36,310,983	63.0%	\$6,584,609
	HRR Participants	25%			
Low Income	LISF (CCM)	60%	\$14,144,720	24.5%	\$2,564,994
	LIMF-SA (CCM)	35%			
	LIMF-MR (CCM)	5%			
Large Volume	LV (CCM)	100%	\$4,000,000	6.9%	\$725,357
Market Transformation	CNC Developments	50%	\$2,338,070	4.1%	\$423,984
	OH Builders	10%			
	OH Homes	10%			
	OH Homes %	30%			
Performance Based	RS Participants	10%	\$833,000	1.4%	\$151,056
	RS Savings %	40%			
	SEM Savings %	50%			
Total			\$57,626,773	100.0%	\$10,450,000

⁷ Budget values from OEB Decision and Order 2015 – 2020 (revised), PDF pages 12-13. These budget values include scorecard-specific overhead costs. As noted previously, this is different from budget values used to calculate targets, where overheads are not applied.

3 METRIC VERIFICATION ACTIVITIES

The activities broadly outlined in this plan for the 2019 program year are the same activities that were conducted for the 2017 and 2018 Annual Verification. Details can be found in those reports (specifically, data requests and program-specific activities and results can be found in Appendices F through K).

3.1 Overview

To verify the 2019 program achievements, the EC will conduct the activities outlined in Table 3-1 and Table 3-2. The utilization of each activity depends on the “type” of measure being reviewed. DNV GL defined four different “types” of measures, listed below. A single program or scorecard metric may have more than one type of measure.

- **Prescriptive (P):** Prescriptive gas savings measures are those where all savings inputs can be identified in the technical resource manual (TRM). This includes not only the prescribed savings but also additional prescribed inputs such as expected useful life (EUL) and free ridership rates.
- **Custom (C):** Custom gas savings measures are those gas measures of equipment or actions (tune up, process) which are not prescribed by the TRM. Examples include measures verified as part of the CPSV process as well as non-prescribed programs like Run it Right.
- **Whole Home (W):** Whole home savings are savings calculated using home modelling software (HOT2000).
- **Other (O):** In addition to direct gas savings measures, the scorecards recognize additional metrics, such as the number of enrolled participants, new developments, schools in a program or the percentage of homes built by a participating builder achieving certain efficiency levels.

Activities to verify the measures fall into three general categories. As previously stated, the utilization of each method is determined by the measure type.

- **Tracking Confirmation:** Confirmation of data and calculations within submitted tracking data accurately contribute to scorecard metrics.
 - ♦ *Prescriptive measures:* For prescriptive savings measures, the EC will confirm measure-level inputs were appropriately applied from the TRM where appropriate (such as free ridership ratio and savings per unit), then recalculate gross and net savings based on those inputs to verify the recorded net savings for a census of measures.
 - ♦ *Custom measures:* A full verification of savings takes place through Custom Project Savings Verification (CPSV), not through the Annual Verification. As a result of the COVID-19 pandemic, a full verification of the CPSV program was postponed. The EC will determine the appropriate CPSV adjustment factors in conjunction with the OEB and EAC.
 - ♦ *Whole Home and Other measures:* The EC will confirm that tracking records match utility-reported achievement. Additional verification takes place in other activities.
- **Desk Review:** File review of utility-provided documentation to verify whether the achievements in the tracking data were actually realized. Unless specifically mentioned otherwise, desk review methods will be similar to those used in the prior verification.

- ♦ *Whole Home:* Desk review includes tasks such as review of energy software (HOT2000) modelling records for whole home programs.
- ♦ *Other:* For scorecards with Other metrics, program achievements such as customer participation, eligibility for participation, and developer homes are evaluated using program records specific to each scorecard, program, and metric.

Table 3-1 and Table 3-2 identify the measure types within each scorecard and program as well as the method used to evaluate that program, corresponding with the measure type. For example, the Home Winterproofing program has a mix of prescriptive and whole home measures, and the methods used to evaluate the program will include confirming tracking data, applying factors, and desk review.

Table 3-1. 2019 Annual verification activities by program: Enbridge

	Program	Measure Types	Confirm Tracking	Apply Factors	Desk Review
Resource Acquisition	C&I Custom	C		✓	
	C&I Direct Install	P	✓	✓	
	C&I Prescriptive	P	✓	✓	
	Comprehensive Energy Management	No 2019 activity reported			
	Home Energy Conservation	P W O	✓	✓	✓
	Residential Adaptive Thermostats	P	✓	✓	
	Run it Right	C	✓	✓	✓
Low Income	Home Winterproofing	P W	✓	✓	✓
	Multi Residential	P C	✓	✓	
	New Construction	O	✓		✓
Market Transformation	Commercial Savings by Design	O	✓		✓
	Comprehensive Energy Management	O	✓		✓
	Residential Savings by Design	O	✓		✓
	Run it Right	O	✓		✓
	School's Energy Competition	O	✓		✓

Table 3-2. 2019 Annual verification activities by program: Union

	Program	Measure Types	Confirm Tracking	Apply Factors	Desk Review
Resource Acquisition	C&I Custom	C		✓	
	C&I Direct Install	P C	✓	✓	
	C&I Prescriptive	P	✓	✓	
	Home Reno Rebate	P W O	✓	✓	✓
Large Volume	Large Volume	P C	✓	✓	
Low Income	Indigenous	P W O	✓	✓	✓
	Furnace End-of-Life	P	✓	✓	
	Home Weatherization	P W O	✓	✓	✓
	Multi-Family Social & Assisted	P C	✓	✓	
	Multi-Family Market Rate	P C	✓	✓	
Market Transformation	Commercial New Construction	O	✓		✓
	Optimum Home	O	✓		✓
Performance-Based	RunSmart	O	✓		✓
	Strategic Energy Management	O	✓		✓
	Strategic Energy Management	O	✓		✓

Desk reviews required for Whole Home and Other measures require information beyond what is provided in tracking documents. For example, the EC will request HOT2000 files and other documentation to confirm participation and eligibility for a sample of relevant participants in the Home Energy Conservation, Home Reno Rebate, Winterproofing, and Home Weatherization programs. Table 3-3 and Table 3-4 show the number of records for which the EC requests the additional Documentation.

Table 3-3. Desk Review Sample: Enbridge

	Program	Additional Sample for Desk Review
Resource Acquisition	Home Energy Conservation	30 Randomly Selected Homes
	Run it Right	10 Randomly Selected Projects
Low Income	Home Winterproofing	30 Randomly Selected Homes
	New Construction	Census
Market Transformation	Commercial Savings by Design	10 Randomly Selected Sites
	Comprehensive Energy Management	Census
	Residential Savings by Design	Census of New Builders List of Homes Built
	Run it Right	Census
	School’s Energy Competition	Census

Table 3-4. Desk Review Sample: Union

	Program	Additional Sample
Resource Acquisition	Home Reno Rebate	60 Randomly Selected Homes
Low Income	Home Weatherization	60 Randomly Selected Homes
	Indigenous	Census
Market Transformation	Optimum Home	4 Newly Enrolled Builders 4 Prototype Homes Built List of Homes Built
	Commercial New Construction	Census
Performance-Based	RunSmart	Census

The EC sent a formal request for tracking data and documentation, specified in section 4.

3.2 Changes from 2018 Evaluation

There were no major changes between the 2018 and 2019 program year verifications.

Program not previously executed: The Union Residential Adaptive Thermostat program, previously a pilot, became a full program in 2019. As such, it will be evaluated for the first time in this verification.

Programs no longer executed: The Energy Leaders Program had no activity in the 2019 program year.

Changed metrics: One metric was altered, and another eliminated, as a part of the 2019 Scorecards.

- Union’s Resource Acquisition:** The 2018 Optimum Home metric measured the percentage of homes built by participating builders that exceeded Ontario Building Code 2012 by at least 20%. The 2019 metric measures the percentage of Homes Built by participating builders that exceeded Ontario Building Code 2017 by at least 15%, as shown in Figure 1.

Figure 1: Union Gas 2018 and 2019 Market Transformation Metrics⁸

Union Gas Limited - 2018 Market Transformation Scorecard		Metric Target			Weight
Programs	Metrics	Lower Band	Target	Upper Band	
Optimum Home	Participating Builders (Regional Top 10)	6	8	12	10%
	Prototype Homes Built	45%	60%	90%	30%
	Percentage of Homes Built (>20% above OBC 2012) by Participating Builders	3.75%	5%	7.5%	10%
Commercial New Construction	New Developments Enrolled by Participating Builders	75% of Target	2017 metric achievement / 2017 actual program spend without overheads x 2018 program budget without overheads x 1.1	150% of Target	50%

Union Gas Limited - 2019 Market Transformation Scorecard		Metric Target			Weight
Programs	Metrics	Lower Band	Target	Upper Band	
Optimum Home	Participating Builders (Regional Top 10)	3	4	6	10%
	Prototype Homes Built	68%	90%	100%	10%
	Homes Built (>15% above OBC 2017) by Participating Builders	75% of Target	2018 metric achievement / 2018 actual program spend without overheads x 2019 program budget without overheads x 1.1	150% of Target	30%
Commercial New Construction	New Developments Enrolled by Participating Builders	75% of Target	2018 metric achievement / 2018 actual program spend without overheads x 2019 program budget without overheads x 1.1	150% of Target	50%

- Union’s Performance Based Metrics:** This scorecard has removed the Participants metric for the Strategic Energy Management program, highlighted in Figure 2.

Figure 2: Union Gas 2018 and 2019 Performance Based Scorecard Metrics⁹

Union Gas Limited - 2018 Performance-Based Scorecard		Metric Target			Weight
Programs	Metrics	Lower Band	Target	Upper Band	
RunSmart	Participants	75% of Target	2017 metric achievement / 2017 accrued program cost without overheads x 2018 program budget without overheads x 1.1	150% of Target	10%
	Savings (%)	75% of Target	2017 metric achievement / 2017 accrued program cost without overheads x 2018 program budget without overheads x 1.1	150% of Target	40%
Strategic Energy Management (SEM)	Participants	75% of Target	2017 metric achievement / 2017 accrued program cost without overheads x 2018 program budget without overheads x 1.1	150% of Target	10%
	Savings (%)	4%	5%	8%	40%

Union Gas Limited - 2019 Performance-Based Scorecard		Metric Target			Weight
Programs	Metrics	Lower Band	Target	Upper Band	
RunSmart	Participants	75% of Target	2018 metric achievement / 2018 accrued program cost without overheads x 2019 program budget without overheads x 1.1	150% of Target	10%
	Savings (%)	75% of Target	2018 metric achievement / 2018 accrued program cost without overheads x 2019 program budget without overheads x 1.1	150% of Target	40%
Strategic Energy Management (SEM)	Savings (%)	75% of Target	2018 metric achievement / 2018 accrued program cost without overheads x 2019 program budget without overheads x 1.1	150% of Target	50%

⁸ Ontario Energy Board Mid-Term Review, EB-2017-0127/EB-2017-0128, November 19, 2018, Appendix A

⁹ Ibid.

4 DATA REQUESTS & NECESSARY INFORMATION

As with previous annual verifications, DNV GL will request data and documentation in three rounds.

1. The first request, for the portfolio tracking data, has been delivered for 2019.
2. The second request is for full documentation for specific participants and/or projects has been delivered.
3. The third request is to capture any additional documentation as needed; these are usually project-specific to supplement the documentation already delivered.

4.1 First Request

The first documentation request addressed the tracking data for each program and for desk review documentation for all programs where a census is defined as the sample size. Tracking data was requested for all data fields except those that include personally identifiable information such as name, address, telephone number, or account ID. The first request also asked for a copy of the operational and quality assurance documentation associated with the tracking database. This request is included as Appendix A to this work plan.

The only change from previous years was moving the documentation request for programs with the census sample size to the first request rather than the second or third.

4.2 Second Request

The second documentation request addresses documentation necessary for desk reviews for programs where a sample of projects or measures and not a census is utilized for the verification, indicated by Desk Review and Sample Size in Table 3-3 and Table 3-4. These are randomly selected from the tracking data, and thus cannot be requested until that data is received and analyzed. The second request also asks for data elements that were missing in the tracking file or required additional clarification.

This request will not vary greatly from previous years except as identified in Section 3.2.

4.3 Third Request

The third request is for homes and developments within the new construction market transformation programs. It is also to capture any additional documentation as needed; these are usually project-specific to supplement the documentation already delivered. These follow-up requests could continue until the EC and utilities come to consensus on the verified savings.

5 OUTCOMES AND REVIEW PROCESS

5.1 Identified Review Process Goals from Previous Review

For the 2017 and 2018 Program Years, the verification results were delivered in a single report for each year. The utilities challenged the results more than once, which caused the EC to update the report more than once before the final version was produced. It was a costly and lengthy process.

For the 2017 Program Year, the EC identified three primary goals for the review process which continue to apply to the 2019 Program Year. Drawn from notes from phone conversations, email communications, and report comments, the EC has identified the following goals for the review process:

1. Allow the EAC to properly understand and critique results
 - 2015 –review was too big, with too much information to effectively review at once
 - 2016 – pieces were too small and came too quickly (weekly) to be able to consistently review
 - 2017-2018 – too many interim pieces, prefer results together in a workbook format
2. Allow the EAC to prepare for verbal discussions with ample opportunity to know what is to be reviewed and discussed
 - Right-sizing review section size and reporting frequency, along with a published calendar
3. Allow for critiques that facilitate improved readability for the report and continuous improvement for the programs and verification process
 - Separate review of results from review of the report, allowing EAC members the opportunity to focus on results

5.2 Deliverables

For the 2017 and 2018 verification, the EC provided for review by the EAC interim review documents (PowerPoint summaries), a draft report without cost effectiveness results, and a second draft report with cost effectiveness results. Based on feedback, the EAC would prefer fewer deliverables and less iteration on the results. As such, the EC proposes the following deliverables and a schedule to accommodate. These documents are:

- **Detailed Results Files (live calculator)**
 - As requested in previous cycles, the EC will provide to the EAC detailed workbooks that show how most of the program results were determined. This will include a live calculator for review.
 - Sensitive information, such as measure name, will be redacted from files, as done in the 2016-2018 processes.
- **Macro results**
 - Following approval of the final values of all program metrics, the EC will provide to the EAC the “macro” level results. These will include the calculations and results for Scorecard totals, DSMSI, Lost Revenue, and Cost Effectiveness.
- **Reports**
 - The EC will deliver draft and final reports to the EAC at the end of the evaluation cycle.

6 SCHEDULE

This section outlines the project tasks and schedule for the 2019 annual verification to be executed in 2020. The schedule is shown in Table 6-1, which lists each verification task and end dates for completing that task. Several assumptions are incorporated into the project schedule.

1. This schedule is for the verification of the 2019 programs.
2. Assumes complete data delivery within prescribed timeframe. Delays in receiving all necessary data will result in delays to results, deliverables, and possibly to the project overall.

Table 6-1: Initial Estimated Schedule from Assumptions and Dependencies including (D)raft, (U)pdate, and (F)inal dates

(T)ask or (D)eliverable	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
T: Data Request 1 submitted/received		5	7								
T: Data Request 2 submitted/received				12	1						
T: Data Request 3 (ongoing as needed)											
D: Results –Metrics Achieved- live calculator							31 (D)	14 (F)			
D: Results – Scorecard, DSMSI, LRAM, CE								14 (D)	12 (F)		
D: AV Report									19 (D)	16 (F)	

7 EVALUATION ASSUMPTIONS

7.1.1 Definitions

The EC acknowledges that there are differences in definitions used by various stakeholders such as the OEB and the utilities. For the purposes of the annual verification, the EC will use definitions based on the OEB Decision and Order. A glossary of terms and concepts can be found in Appendix B Glossary of Terms and Key Concepts.

7.1.2 TRM

All energy values for the evaluation of the 2019 programs will utilize the values from TRM 3.0 (2018) for calculating savings related to DSMSI and TRM 4.0 (2020) for calculating savings related to Lost Revenue.

7.1.3 Data Sharing

Data sharing – As agreed in the 2016-2018 verifications, the EC will provide detailed workbooks for review of verified savings values which have been redacted. Unless agreed to, the variables included for review will be the same as those shared in the 2016-2018 evaluations.

APPENDIX A DATA REQUEST

Memo to:

Harris Ginis, Enbridge Gas
 Eric Buan, Enbridge Gas
 Daniel Johnson, Enbridge Gas

Date:

March 5, 2020

Copied to:

Tammy Kuiken, DNV GL
 Valerie Bennett, OEB
 Josh Wasylyk, OEB

Prep. By:

Samuel Harms, DNV GL

Ontario Gas Portfolio Data Request

This memo formally requests, for delivery by **Wednesday April 1, 2020**, for all Enbridge and Union DSM programs:

- Anonymized program tracking data, including
 - Documentation that individually lists all projects/sites/builders/etc. not included in tracking data (e.g. list of Residential Savings by Design Homes), and any available operational and quality documentation.
- Other data
 - Annual spend data
 - Rates
 - Avoided Costs
- 2019 DSM Program Reports (Draft), by legacy utility

Tracking data requested

The EC team is requesting the following items in association with the tracking data:

- Tracking database including all individual measures and projects, for all programs.
- Where program records are not included with tracking data, a copy of the spreadsheets or other documentation that confirms all 'Other' (non-CCM) metrics for Year 2019,
 - Spreadsheet documentation should include listing of *all individual* projects/homes/builders/etc so that a random sample can be drawn and verifiably requested.
 - For programs where both participants and projects are measured (e.g. participants and homes), it is requested that the data be structured so that a participant can be matched to all its projects for 2019 as well as previous years.
 - In previous years, initial documentation sometimes included a summary of projects instead of a listing of all individual projects/measures; this is intended to clarify that a full listing is needed for selecting sample.
- Any available documentation of operational and quality assurance associated with the tracking database

The programs/projects for which we are requesting 2019 tracking data are shown in Table 1. Please provide all anonymized records associated with the measures installed through these programs as part of the 2019 program year. Please note: if there are deviations from the programs identified in Table 1

programs requested, such as the omission of a program, the EC asks that data also be provided for those programs; the intent of this request is for tracking data from all 2019 programs.

Table 1: 2019 programs requested

Union Programs	Enbridge Programs
Resource Acquisition Requested	
Home Reno Rebate	Residential Home Energy Conservation
Commercial & Industrial Prescriptive	Residential Adaptive Thermostats
Commercial & Industrial Direct Install	Commercial & Industrial Prescriptive
Commercial & Industrial Custom	Commercial & Industrial Direct Install
	Commercial & Industrial Custom
	Run-It-Right
	Comprehensive Energy Management
	Small Commercial New Construction
	Energy Leaders Initiative
Large Volume Requested	
Large Volume	
Low Income Requested	
Home Weatherization	Low Income Home Winterproofing
Low Income Multi-Residential Housing (including both Social and Assisted and Market Rate)	Low Income Multi-Residential Housing
Furnace End-of-Life	Low Income New Construction
Indigenous ¹⁰	
Market Transformation Requested	
Optimum Home	Residential Savings by Design
Commercial New Construction	Commercial Savings by Design
	School Energy Competition
	Comprehensive Energy Management (CEM)
	Run It Right
Performance-Based Requested	
Run Smart	
Strategic Energy Management (SEM)	

¹⁰ Originally named the Aboriginal Program in the Decision and Order EB-2015-0029 / EB-2015-0049

Evaluation requires the database fields shown in Table 2. The names of the fields are indicative of the content and do not reflect the names that the utilities use in their tracking systems.

Table 2: Minimum Database Fields Required for Matching Database to Utility Filings

Required Database Field	Field Description
Measure ID	Unique Identifier – smallest grain of analysis, a measure is a unique calculation within a project. For example, 2 identical boilers at a single site would be one measure with a quantity of 2, while 2 different boilers would be two separate measures
Project ID	Unique Identifier - project can include multiple measures at one site and at one time; typically, projects affect a single account
Account ID	Unique Identifier - billing account
Site ID	Unique Identifier - unique to a facility or group of facilities at a location
Customer ID	Unique Identifier - customer may have multiple sites, multiple accounts
Annual gross savings	Gross savings per year for natural gas, electricity, and water (where applicable)
Annual net savings	Net savings per year for natural gas, electricity, and water (where applicable)
Cumulative gross gas savings	Gross savings over the lifetime of the measure for natural gas, electricity, and water (where applicable)
Cumulative net gas savings	Net savings over the lifetime of the measure for natural gas, electricity, and water (where applicable)
Estimated useful life	Lifetime of the measure
Incentive amount	Amount of financial incentive paid (may be multiple fields if more than one party received a financial incentive)
Incentive type	Participant Rebate, Grant, Vendor Rebate/Spiff, participant loan
Program Year	The program year in which the measure impacts are claimed
Program	The program under which the measure impacts are claimed
Market segment	Business type or rate class for C&I (both in separate fields are best) 4-way single/multi-family by low income/market rate for residential
Measure	Measure name, specific to and identifiable in the TRM
Applied factors	Factors such as the net-to-gross (NTG) or removal rates used for the program /measure in calculating net savings for the filing

For prescriptive measures, the next step is to confirm the inputs and assumptions used in the savings estimates versus those required by the technical resource manual (TRM) or agreed-on prescriptive savings documentation applicable to the 2019 program year. This step is best completed on a measure level dataset, where each row in the tracking data conforms to a single measure defined in the TRM. The information required for this task depends on the measures covered by the TRM and implemented by the programs. For the verification, the EC needs a tracking database which includes all of the site-specific inputs required to

estimate savings using the TRM. An example of the type of information required in the database for this process is shown in Table 3. This list is not comprehensive; please provide all necessary fields for calculating the prescriptive measure savings.

Table 3: Example of the type of information required to verify prescriptive savings

Example Database Field	Verification Purpose
Measure description	Connects the tracking measure to the TRM measure to determine the per-unit savings.
Quantity	Identifies the number of units installed to produce the total measure savings.
New or existing installation	Connects the tracking measure to the appropriate savings value in the TRM.
Measure TRM	TRM descriptor used as basis for gross and net savings calculations
Measure Capacity	Capacity value necessary for determining savings (e.g. MBH for high efficiency boilers)
Details of efficient equipment	Connects the tracking measure to the appropriate savings value in the TRM.
Base equipment	Connects the tracking measure to the appropriate savings value in the TRM.

Please provide tracking data for the programs identified in Table 1 which includes the fields listed in Table 2 and Table 3, in addition to any similar or relevant fields that will aid in the verification.

Data Recommendations

In previous Natural Gas Demand Side Management Annual Verification Reports, the EC provided summary and program specific recommendations. Most relevant to this request are those regarding data, including:

- Deliver tracking data in a single flat file.
- Include site-level information for all measures installed through the program.

In addition, the EC again emphasizes the importance of **anonymized** records.

Other data requested

The EC team is requesting that the utility provide program spending, rates by class, and avoided costs. It is requested that this information is provided within the attached workbook (EC 2019 Data Request 1 – Spend, Rates, Avoided Costs.xlsx). Please note the format requested for Spend; this format is intentional as the level of detail is required for a variety of calculations including annual Cost Effectiveness calculations.

In addition to tabs for annual Spends, the EC requests submission of 2019 rates and avoided costs tables, to be included in respective tabs for each legacy utility.

Draft reports requested

The EC requests submission of the Annual DSM Reports (draft versions) for both legacy utilities for the 2019 program year.



Notice for future requests

After receiving and reviewing the data and documentation requested in this memo, the EC will follow up with a second documentation request for a sample of program participants in some programs. The final details will be established after the EC reviews the tracking data requested in this memo.

Please contact me with any questions or concerns related to this information request at:

(608) 259-9152, ext. 70224 or Samuel.Harms@dnvgl.com.

Thank you in advance for your assistance.

APPENDIX B GLOSSARY OF TERMS AND KEY CONCEPTS

Adjustment factor	The adjustment factors are ratios of savings that allow evaluation findings from a sample of projects to be applied to and “adjust” the population of program savings. Realization rates and ratios are other common terms.
Attribution	The portion of a program’s verified energy savings that the utility influenced, including the effects of free ridership and spillover. When multiplied by the utility’s claimed savings, the attribution ratio produces the volume of energy saved as a result of program implementation.
Baseline, base case	Energy use or equipment in place if the program measure had not been done
Building envelope	Exterior surfaces (e.g., walls, windows, roof, and floor) of a building that separate the conditioned space from the outdoors.
Capacity expansion (CE)	Measure that allows the customer to increase production or productivity
CCM	Cumulative Cubic meters (cumulative m ³)
Code	Measure required by regulations for safety, environmental, or other reasons
C&I	Commercial and Industrial
Cost Effectiveness	Ratio of the net present value of the stream of benefits to the stream of costs for a given set of measures, programs, or portfolios. Two primary cost effectiveness ratios are calculated, PAC and TRC+.
Custom Project Savings Verification (CPSV)	Activities related to the collection, analysis, and reporting of data for purposes of verifying gross custom program savings impacts.
Customer - Enbridge	Unique customers can be identified based on the account number and the contact information provided by Enbridge. A customer may have multiple site addresses, decision makers, account numbers, and utilities. Customers can only be identified for records for which we received contact information (i.e. records associated with account number that have measures in the sample or backup sample).
Customer - Union	Unique customers can be identified based on the customer ID and the contact information provided by Union. A customer may have multiple site addresses, decision makers, customer IDs, and utilities. Customers can only be identified for records for which we received contact information (i.e. records associated with customer ID that have measures in the sample or backup sample).
Demand side management (DSM)	Modification of customer demand for a product (in this case, energy) through various methods such as financial incentives, education, and other programs
Early replacement (ER)	Measure that replaces a piece of equipment that is not past its expected useful life and is in good operating condition
Domain	Grouping of like projects. A domain may be defined as projects within a specific sector or a category of measure types, end uses or other criteria.
Dual Baseline	Savings calculation approach which addresses or combines the savings associated with early replacement and the savings after the early replacement period.
Early replacement Period (ER Period)	Years that the existing equipment would have continued to be in use. This is the same as remaining useful life, or RUL.
Energy Advisors	Energy Advisors are utility and/or program staff who provide information to customers about energy saving opportunities and program participation. This term includes, but is not limited to, Enbridge’s Energy Solutions Consultants and Union’s Account Managers

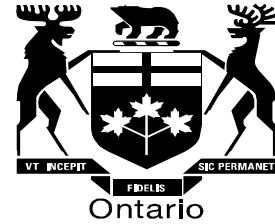
Expected useful life (EUL)	The length of time that a measure is expected to provide its estimated annual savings. EUL is a function of equipment life and measure persistence.
Ex ante	Program claimed or reported inputs, assumptions, savings, etc.
Ex post	Program inputs, assumptions, savings, etc. which are verified after the claimed savings are finalized. Does not include assessment of program influence. Synonym for verified gross savings.
Free rider	A customer who would install the same energy efficiency measure without intervention from the utility.
Free ridership	The portion of a program’s verified energy savings that would naturally occur without intervention from the utility.
Free ridership based attribution	The portion of a program’s verified energy savings that the utility influenced if one only considers free ridership and not spillover. Free ridership based attribution is the complement of free ridership. (free ridership based attribution = 100% - free ridership)
Gross savings	Gross savings are changes in energy consumption and/or demand directly associated with projects incented by the utilities, regardless of reasons for participation (savings relative to baseline, defined above)
In situ	Existing measure, conditions, and settings
Incentive	An incentive is a transfer payment from the utility to participants of a DSM program. Incentives can be paid to customers, vendors or other parties.
Incremental cost	The difference in purchase price (and any differences in related installation or implementation costs), at the time of purchase, between the efficient measure and the base case measure. In some early retirements and retrofits, the full cost of the efficient technology is the incremental cost.
Industry standard practice (ISP)	Common measure implemented within the industry
Input assumptions	Assumptions such as operating characteristics and associated units of resource savings for DSM technologies and measures
Lifetime cumulative savings	Total natural gas savings (CCM) over the life of a DSM measure. Can be claimed, gross, or net. Sometimes referred to as just “cumulative” or “lifetime.”
Maintenance (Maint.)	Repair or maintain, restore to prior efficiency
Measure	A technology, practice, or behavior that, once installed or operational, results in a reduction in energy use.
Measure – Enbridge	Measures are identified in the tracking data as a unique combination of project ID and measure ID. Multiple measures may belong to the same project.
Measure – Union	Measure refers to a project ID and line ID in the tracking data. Multiple measures may belong to the same project.
Measurement and Verification (M&V)	Verification of savings using methods not including attribution/free ridership assessment.
Metric	Metrics used within OEB Order and Decision to describe program achievement units.
MF	Multifamily (multi-residential).
New construction (NC)	New buildings or spaces
Non-early replacement period (non-ER period)	Years after the ER period up to the EUL
Normal replacement (NR)	Measure that replaces a piece of equipment that has reached or is past its EUL and not in good operating condition

Persistence	The extent to which a DSM measure remains installed, and performing as originally predicted, in relation to its EUL
Program	Programs as listed within the OEB Decision and Order. Generally sub-units of Scorecards; for example, Commercial and Industrial Prescriptive Program within the Resource Acquisition Scorecard.
Program evaluation	Activities related to the collection, analysis, and reporting of data for purposes of measuring program impacts from past, existing, or potential program impacts
Program spending	Amount spent for implementation of programs, not including portfolio overhead. This value can be divided into spending for program measures and incentives, as well as program specific overhead.
Project - Enbridge	Projects are identified in the tracking data based on the project ID. A project may have multiple measures as indicated by measure IDs in the current data tracking system.
Project – Union	Projects are identified in the tracking data based on project ID. A project may have multiple measures as indicated by line IDs in the current data tracking system.
Remaining useful life (RUL)	The number of years that the existing equipment would have remained in service and in good operating condition. This is the same as ER Period.
Realization Rate	A combination of adjustment factors, which represents ratios between two savings values. For example, the final realization rate is the ratio between evaluated savings and program claimed savings.
Replace on burnout (ROB)	Measure that replaces a failed or failing piece of equipment
Retrofit add-on (REA)	Measure reduces energy use through modification of an existing piece of equipment
Scorecard	A scorecard allows for multiple different kinds of metrics such as cumulative natural gas savings and/or participants enrolled to be used simultaneously to measure annual utility performance. Each utility has a scorecard identified for each program year, which can be found in the Ontario Energy Board Decision and Order EB-2015-0029/EB-2015-0049.
Scorecard Achievement	The verified value for program-specific metric targets (CCM, applications, etc.) of each scorecard identified by the Annual Scorecard. This is the value that is verified as the achieved value by the Annual Verification report and used for calculation of the shareholder incentive.
Shareholder Incentive	As part of the current DSM Framework, an annual performance incentive is available to the gas utilities in the event program performance is at or above 75% of the OEB-approved targets. The shareholder incentive is in place to motivate the gas utilities to pursue natural gas savings and recognize exemplary performance as DSM program delivery is not mandatory. Each gas utility is eligible to receive a total annual maximum shareholder incentive of \$10.45M; 40% of the shareholder incentive (or \$4.2M) is available if the utility achieves a scorecard weighted score of 100%; the remaining 60% (or \$6.3M) is available for performance beyond 100% up to 150%.
Site	Sites are identified based on unique site addresses provided by Union and Enbridge through the contact information data request. A site may have multiple units of analysis, measures, and projects. Sites can be identified by the evaluation only for records for which we receive contact information – i.e. records associated with account number (EGD) or customer ID (Union) that have projects in the sample or backup sample.

Spillover	Energy savings that occur as a result of the utility’s intervention, but are not part of the utility’s verified savings.
System optimization (OPT)	Improve system or system settings to exceed prior efficiency
TRM	“Technical Reference Manual” – Generally accepted acronym and term for document that identifies standard methodologies and inputs for calculating energy savings.
TSER	Telephone Supported Engineering Review
Unit of Analysis – Enbridge	The level at which the data are analyzed, which in 2017 is a “measure” or sub-project level for Enbridge.
Union Influence Factor	Factor applied by Union to a small number of projects. The factor reduces ex ante (claimed) savings to account for anticipated partial free ridership.
Unit of Analysis - Union	The level at which the data are analyzed, which in 2017 is a project for Union. A project is equivalent to a measure for Union as the database did not have a sub-project level.
Vendors	Program trade allies, business partners, contractors and suppliers who work with program participants to implement energy saving measures

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ONTARIO ENERGY BOARD ("OEB")

Request for Services

for

**Natural Gas Demand Side Management (DSM)
Evaluation Contractor**

**under the Request for Proposals
issued by the Ontario Energy Board Services for
Regulatory Expertise,
reference VOR # RFPOEBRE11232017**

RFS Number: RFSDSMEC12172018

Date RFS Issued: December 17, 2018

Requested Submission Date: January 25, 2019 @ 3:00:00pm

REQUEST FOR SERVICES

1.1 Invitation to Submit

This Request for Services (“RFS”) is an invitation to the Vendor to put forward a submission for the provision of services to the OEB as contemplated under the Regulatory Expertise VOR arrangement, reference RFPOEBRE11232017. Other Vendors may also have been invited to put forward submissions for these services. In responding to this RFS, you will be deemed to have taken into account all of the provisions of the RFP, this RFS and the Master Agreement.

If you do not intend to put forward a submission, please notify the OEB that you will not do so via email to the OEB Contact.

1.2 The Services

Information about the OEB and its requirements are set out in Supplement A (OEB’s Information and Requirements).

1.3 Type of Contract

The selected Vendor will be expected to enter into a Statement of Work (“SOW”) as contemplated by this RFS. Terms and conditions set out in the form of SOW are not terms and conditions of this RFS process, and are only intended to inform you of the terms and conditions that are contemplated for a SOW that may be entered into between the OEB and a successful Vendor as a result of this RFS process.

1.4 Definitions

Unless otherwise specified in this RFS, capitalized words and phrases have the meanings set out in the Master Agreement.

"Business Day" means any working day, Monday to Friday inclusive, excluding statutory and other Ontario provincial government holidays, namely: New Year's Day; Family Day; Good Friday; Easter Monday; Victoria Day; Canada Day; Civic Holiday; Labour Day; Thanksgiving Day; Remembrance Day; Christmas Day; Boxing Day and any day which the government of the Province of Ontario has elected to be closed for business

“Master Agreement” means, in respect of any Vendor, the signed Master Agreement for Regulatory Expertise entered into, pursuant to the RFP, executed by the Vendor and the Ontario Energy Board.

“OEB Contact” **Catherine Torrese Benyi, Procurement Specialist**
Ontario Energy Board (“OEB”)
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Email: Catherine.Benyi@oeb.ca

“RFP” means the Request(s) for Proposals for Establishment of a Vendor of Record VOR for Regulatory Expertise (RFPOEBRE11232017) issued by the Ontario Energy Board and any addenda to it.

“RFS” means the Request(s) for Services, which is a secondary process, used to request services from an approved list of Vendors selected for Regulatory Expertise.

“SOW ” means a Statement of Work which will govern the deliverables requested by the OEB for a specific task/project assigned under the Regulatory Expertise VOR. The OEB and Vendor will be required to sign the SOW once a successful Vendor has been selected during the Secondary stage process. All terms and conditions as per the Master Agreement.

“Vendor” means a vendor listed by the Ontario Energy Board as a Vendor of Record for Regulatory Expertise, as a result of the RFP.

“VOR Arrangement” means a contractual arrangement with successful Vendors for Services selected by the OEB in accordance with the RFP, and that have signed a Master Agreement.

1.5 Interpretation

All references to days in this RFS and in your submission are to Business Days, unless expressly set out otherwise.

2.1 GENERAL INFORMATION AND INSTRUCTIONS

2.1.1 Eligibility

To be eligible for consideration, you must be a Vendor that has been invited to submit a response to this RFS.

2.1.2 Timetable

The following is the schedule for this RFS

Milestone	Target Date
Issue date of RFS	December 14, 2018
Vendor Deadline for Questions	January 7, 2019
OEB response to Questions from Proponents*	January 14, 2019
Deadline for issuing Addenda	January 15, 2019
Proposal Submission Deadline	January 25, 2019 before 3:00:00pm (local time in Toronto, Ontario)
Interviews (if required)*	TBD
Anticipated Start Date for Contract	February 8, 2019
Term of Agreement	The term of the agreement is for three years but will be carried out in three (3) segments, with each segment being for the duration of one year of annual DSM program results evaluation. The first one-year segment is for the 2018 program year evaluation, the second segment is for the 2019 evaluation and third and final segment is for the 2020 evaluation. The OEB reserves the right to not continue with the selected Vendor for the entire 3-year term and can terminate after 1 or 2 segments at its sole discretion. Vendors should provide a breakdown of their total bid by providing pricing for each segment.

The RFS timetable is tentative only and may be changed by the OEB in its sole discretion. Responses to questions will be circulated to Vendors through MERX.

2.1.3 Parties Shall Bear Their Own Costs

The parties will bear their own costs associated with or incurred through this RFS process, including any costs arising out of or incurred in: (a) the preparation and issuance of this RFS; (b) the preparation and making of a submission; or (c) the conduct of interviews, negotiations or other activities related to this RFS process.

2.1.4 Inquiries

All inquiries regarding this RFS should be directed in writing via email on or before the Vendor question period to the OEB Contact.

2.2 VENDOR SUBMISSIONS

2.2.1 Submissions Made Only in Prescribed Manner

Proposals must be submitted by the following method:

Submissions shall be submitted on, and in accordance with, forms supplied by the Ontario Energy Board (OEB). All responses are to be submitted to the OEB through the use of MERX Electronic Bid Submission (EBS). Bidders shall be solely responsible for the delivery of their Bids in the manner and time prescribed.

****Please Note**** the bid submission process set-up through MERX is a two envelope stage process. The **mandatory** documents which should be in each envelope are as follows:

Envelope 1

- Technical submission which includes:
 - Secondary Stage Proposal Submission
 - Submission Form (Supplement B)
 - Experience and References
 - Resumes (Schedule B)

Envelope 2

- Pricing Schedule (Schedule A)

****Questions concerning submitting through MERX should be addressed to****

- MERX Customer Support
- Phone 1-800-964-6379
- Email merx@merx.com

RFS Documents and all amendments will be available only through MERX distribution. Any proposal response from a proponent whose name does not appear on the official MERX document request list (i.e. who has not downloaded the documents themselves) will be declared invalid, and the proposal response will not be considered.

MERX EBS does not allow submissions to be uploaded after the bid submission deadline, so the proponent should ensure they allow plenty of time to upload the documents.

****Please Note**** If all documents have not completed uploading by 3:00:00pm the MERX EBS

will close the file and the submission will not be accepted. For example, if a proponent commences uploading documents at **2:56:26pm** and all of the requested documents (both Technical (Envelope 1) and Financial (Envelope 2) are not uploaded before 3:00:00pm, the MERX system will automatically close the project and the submission will not be accepted. After the MERX EBS has closed a project, a Vendor may not submit its proposal to the OEB Procurement Specialist or in any other manner.

It is recommended that Vendors start submitting all files **at least 4 hours prior to the closing deadline.**

All files submitted through the use of MERX EBS must be less than 100 megabytes per file.

In order to submit through the use of MERX EBS, the Authorized signer **no longer** needs to have a Personal Identification Number (PIN). To submit your Proposal electronically, you need to use your MERX account password.

The Authorized user is an individual who has the authority to bind the organization.

****Only ONE authorized signer permitted per organization****

Proposals transmitted by facsimile or sent by any other electronic means shall not be considered. Notwithstanding anything to the contrary contained in any applicable statute relating to electronic documents transactions, any notice, submission, statement, or other instrument provided in respect of the RFS may not be validly delivered by way of electronic communication, unless otherwise provided for in this RFS.

The OEB reserves the right to make copies of the Vendor's Proposals as it may be required for the purpose of conducting a full evaluation of the Proposal submitted.

The Vendor should identify and mark any trade secret or proprietary intellectual property in its Proposal.

Late submissions will not be accepted.

You must complete the Pricing Schedule and submit it as a separate page. Submissions that do not present the Pricing Schedule as a separate page may not be evaluated further.

2.2.3 Amending or Withdrawing Submissions

You may amend your submission at any time prior to the Requested Submission Date. You may withdraw your submission at any time prior to the execution of the SOW. However, such withdrawals or amendments may adversely impact your selection as a Vendor or eligibility to participate in future RFS processes.

2.2.4 Evaluation of Submissions

Submissions will be evaluated on the basis of the Vendor's response to all information requested in this RFS, including but not limited to the proposed Deliverables and milestones, proposed pricing, the qualifications of the consultant(s) proposed (including reference checks, if required by the OEB), the timeframe proposed for completion of the services, and the proposed knowledge transfer process. A successful Vendor may be selected to enter into a SOW based on this RFS and the Vendor's submission.

2.3 EXECUTION OF AGREEMENT

2.3.1 Selection of Vendor

The Vendor selected by the OEB will be expected to enter into a SOW. The agreement execution process is subject to the Terms of Reference set out in Section 2.6 and will not constitute a legally binding offer to enter into a contract on the part of the Vendor or the OEB before the execution of a SOW.

2.3.2 Failure to Enter Into a Statement of Work

The selected Vendor is expected to enter into a SOW on or before the Anticipated Start Date set out in subsection 2.1.2. The failure to do so may result in the selection of another Vendor and may adversely impact the Vendor's eligibility to participate in future RFS processes.

2.4 CONFLICT OF INTEREST

You must not engage in any Conflict of Interest. In this RFS, "Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the RFS process, the Vendor has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including (i) having, or having access to, information in the preparation of its submission that is confidential to the OEB and not available to other Vendors; (ii) communicating with any person with a view to influencing preferred treatment in the RFS process including the giving of a benefit of any kind by or on behalf of the Vendor to anyone employed by or otherwise connected with Ontario or the OEB; or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity or competitiveness of RFS process and render that process non-competitive and unfair; or
- (b) in relation to the performance of its contractual obligations in a contract with Ontario or the OEB, the Vendor and its Personnel's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement; or (ii) could or could be seen to compromise, impair or be incompatible with the effective performance of its contractual obligations.

2.5 FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

If the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c.F.31, as amended ("FIPPA") applies to the OEB, information provided by you may be released in accordance with FIPPA.

You should identify any information in your submission or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the OEB. The confidentiality of such information will be maintained by the OEB, except as otherwise set out in this RFS or required by law or by order of a court or tribunal. Vendors are advised that their submissions will, as necessary, be disclosed on a confidential basis, to the OEB's advisers retained for the purpose of evaluating or participating in the evaluation of their submissions.

By submitting any Personal Information requested in this RFS, you agree to the use of such information as part of the evaluation process, for any audit of this procurement process and for contract management purposes. Where the Personal Information relates to an individual assigned by the selected Vendor to provide the Deliverables, such information may be used by the OEB to compare the qualifications of such individual with any proposed substitute or replacement in accordance with the Replacement of Personnel paragraph of the Master Agreement.

2.6 TERMS OF REFERENCE

These provisions apply to this RFS:

- this RFS process is not intended to create a formal legally-binding procurement process and shall not give rise to the legal rights or duties applied to a formal legally-binding procurement process;
- if you are the successful Vendor, you will be expected to enter into a SOW with the OEB;
- neither party shall have the right to make claims against the other (including any application or other proceeding for a review by any court or other body) with respect to this RFS process, the selection of any Vendor, the failure to be selected to enter into a SOW, or the failure to honour submissions prior to the execution of a SOW;
- no legal relationship or obligation regarding the procurement of any services shall be created between any Vendor and the OEB prior to the execution of a SOW;
- the OEB may make public the names of any or all Vendors;
- you consent to the OEB's collection of the information as contemplated under this RFS for the uses contemplated under this RFS;

- the OEB may elect not to consider a Vendor whose submission contains misrepresentations or any inaccurate, misleading or incomplete information;
- the OEB may cancel this RFS process at any time; and
- you agree to all of the terms of the procurement process set out in this RFS.

2.7 CONFIDENTIALITY

2.7.1 Confidential Vendor Information

In connection with this RFS, the OEB shall keep confidential all Confidential Vendor Information that comes into the knowledge, possession or control of the OEB in connection with the Vendor's response to this RFS, subject to: (i) the Privacy Provisions of the Master Agreement and the privacy provisions of this RFS; or (ii) any right of the OEB under this RFS to disclose. The OEB agrees to limit the disclosure of Confidential Vendor Information which comes into the knowledge or possession of the OEB in connection with the Vendor's response to this RFS only: (1) those of its advisors, personnel and subcontractors, (2) Ontario and those of its advisors, personnel and subcontractors; (3) those OPS Entities, offices of officers of the Legislative Assembly or of the Ontario Legislature, and Provincially Funded Organizations, and their respective advisors, staff and subcontractors, and (4) those members of the Executive Council of Ontario, and their advisors, staff and subcontractors; who have a need to know it and who have been specifically authorized to have such disclosure. The OEB agrees that: (A) it and its advisors, personnel and subcontractors, (B) Ontario and those of its advisors, personnel and subcontractors; (C) those OPS Entities, offices of officers of the Legislative Assembly or of the Ontario Legislature, and Provincially Funded Organizations, and their respective advisors, staff and subcontractors; and (D) those members of the Executive Council of Ontario, and their advisors, staff and subcontractors; shall not directly or indirectly disclose, destroy, exploit or use any Confidential Vendor Information (except to enable the OEB to exercise its rights under the Master Agreement, this RFS or the resulting SOW, or except if required by order of a court or tribunal), without first obtaining:

- (a) the written consent of the Vendor, and
- (b) in respect of any Confidential Vendor Information about any third party, the written consent of such third party.

2.7.2 OEB Confidential Information

The information contained in this RFS contains OEB Confidential Information. The Vendor is reminded of its obligations under the signed Master Agreement to maintain the confidentiality of OEB Confidential Information. Without limiting the generality of the obligations set out in the Master Agreement, the Vendor may not disclose this RFS without first obtaining the prior written consent of the OEB.

[Supplement A follows this page.]

SUPPLEMENT A - OEB'S INFORMATION AND REQUIREMENTS

1.1 PROJECT INFORMATION

Project Name: Natural Gas Demand Side Management (DSM) Evaluation Contractor

VOR Subject Area(s): Climate Change

VOR Topic Area(s): Evaluation, measurement and verification of conservation programs (EMV) including net to gross studies, impact and process evaluation and market effects

Anticipated Project Start Date: February 8, 2019

Project End Date: December 31, 2021. The term of the agreement is for three years but will be carried out in three (3) segments, with each segment being for the duration of one year of annual DSM program results evaluation. The first one-year segment is for the 2018 program year evaluation, the second segment is for the 2019 evaluation and third and final segment is for the 2020 evaluation. The OEB reserves the right to not continue with the selected Vendor for the entire 3-year term and can terminate after 1 or 2 segments at its sole discretion. Vendors should provide a breakdown of their total bid by providing pricing for each segment.

1.2 BACKGROUND INFORMATION

1.2.1 Project Background:

On March 31, 2014, the Minister of Energy directed the Ontario Energy Board (OEB) to develop a new framework for natural gas demand side management (DSM). On December 22, 2014, the OEB issued its [Report on DSM](#) (the DSM Framework) and the [DSM Filing Guidelines](#) where it indicated that the OEB will be taking on a larger role in the evaluation process of natural gas DSM program results. The DSM Filing Guidelines provide details regarding program evaluation deliverables and additional evaluation tasks contemplated over the course of the 2015 to 2020 DSM term.

On August 21, 2015, the OEB [issued a letter](#) establishing the process to evaluate the results of natural gas DSM programs from 2015 to 2020 with the assistance of an Evaluation Contractor (EC). Within its letter, the OEB outlined its DSM evaluation governance structure and established an Evaluation Advisory Committee (EAC) to act as an evaluation and technical expert advisory group to both the OEB and the EC. The EAC consists of representatives from the natural gas utilities, non-utility expert stakeholders, staff from the Independent Electricity System Operator (IESO), and observers from the Environmental Commissioner of Ontario and Ministry of Energy.

On January 20, 2016, the OEB issued its [Decision and Order](#) related to Enbridge Gas Distribution Inc. (Enbridge) and Union Gas Limited’s (Union) respective 2015-2020 DSM Plans. The approved annual budgets for the two utilities to implement natural gas DSM programs for residential (including low-income), commercial, and industrial and large volume customers are outlined in the table below:

Table 1 - Enbridge and Union 2015-2020 OEB-approved annual DSM budgets

Utility	2015	2016	2017	2018	2019	2020	2015-2020 Total
Enbridge Gas	\$37.7M	\$56.4M	\$62.9M	\$67.6M	\$66.4M	\$67.8M	\$358.8M
Union Gas	\$34.0M	\$56.8M	\$58.6M	\$63.3M	\$63.3M	\$64.3M	\$340.3M
TOTAL	\$71.7M	\$113.2M	\$121.5M	\$130.8M	\$129.7M	\$132.1M	\$698.1M

The final Annual Verification Reports produced by the current OEB Evaluation Contractor, DNV GL, can be found here:

- [2015 Annual Verification Report](#)
- [2016 Annual Verification Report](#)

All of the OEB’s DSM evaluation activities, including updates to the OEB’s Technical Resource Manual can be found [here](#).

1.2.2 OEB’s Evaluation Contractor

The OEB has relied on the services of an expert consultant to act as its Evaluation Contractor for the first half of the 2015 to 2020 DSM framework, up to and including the 2017 program evaluation. The Evaluation Contractor, DNV-GL, prepared the OEB’s [2016-2018 Evaluation, Measurement & Verification \(EM&V\) Plan](#) that guides the OEB’s evaluation activities.

DNV-GL will continue to act as the OEB’s evaluation contractor for all program evaluations related to the 2017 DSM program year.

As the term of the OEB’s initial agreement with DNV-GL expires with the completion of the evaluation of the 2017 DSM program results, the OEB is seeking an EC to oversee and manage the annual DSM program evaluations for the 2018 to 2020 program years. The selected EC will initially be expected to undertake the evaluation tasks discussed in this RFS in relation to the gas utilities’ 2018 programs. The term of the agreement is for three years but will be carried out in three (3) segments, with each segment being for the duration of one year of annual DSM program results evaluation. The first one-year segment is for the 2018 program year evaluation, the second segment is for the 2019 evaluation and third and final segment is for the 2020 evaluation. The OEB reserves the right to not continue with the selected Vendor for the entire 3-year term and can terminate after 1 or 2 segments at its sole discretion. Vendors should provide a breakdown of their total bid by providing pricing for each segment.

The OEB issued a separate RFS seeking a consultant to complete a specific program evaluation of the gas utilities' 2017 and 2018 custom commercial and industrial program results (savings verification and free ridership study). The evaluation of the gas utilities' 2017 and 2018 custom commercial and industrial programs will be completed on a combined basis as part of a single study. The OEB's current EC, DNV-GL, and the consultant hired as the EC for the 2018 program year will be expected to work collaboratively to jointly manage the 2017 and 2018 custom commercial and industrial program evaluation.

The Evaluation Contractor is expected to act in a management role for all evaluations conducted for the OEB. The Evaluation Contractor will oversee the work conducted by any other consultants undertaking program specific evaluations or studies to ensure consistency across evaluations, including providing guidance on development of the sampling plan. Further, the Evaluation Contractor will liaise directly with the Evaluation Advisory Committee (EAC). The Evaluation Contractor is responsible for completing the annual final results report that summarizes all evaluation results for a particular program year. The work undertaken by all consultants will be incorporated into the annual final results report. The Evaluation Contractor is also responsible for updating the Technical Reference Manual (TRM). The OEB will also consider the Evaluation Contractor to conduct specific evaluation activities if determined appropriate by the OEB.

1.2.3 Evaluation Advisory Committee (EAC)

As noted above, the OEB established an EAC to assist in the annual DSM evaluation activities. The consultant selected as the EC for the 2018 program year will be expected to interact with the EAC on a fairly regular basis as determined by OEB staff. Meetings with the EAC will be chaired by OEB staff and attended by the Evaluation Contractor. The consultant selected for the work outlined within this RFP will be expected to lead discussion, be prepared to respond to inquiries from the EAC and undertake additional analysis as directed by the OEB, if necessary. The EAC provides advice and input on a number of evaluation related items, such as: proposed evaluation approaches, work plans, written reports, analysis, results, consultant recommendations, evaluation policy questions, amongst other things. Members of the EAC who represent Enbridge and Union will also work directly with any selected consultants in order to provide program documentation.

Proponents should provision for twenty (20) 2-hour meetings/conference calls with the EAC in their proposal. EAC meetings will need to be attended by the project lead and, on most occasions, at least one technical staff. In the event that the final number of EAC meetings differs significantly from that which is included in the final scope of work, the consultant will be compensated proportionally.

1.2.4 Overview of Evaluation Objectives

This RFP provides details on the scope of work, timeline, and requirements for selecting an EC for the annual DSM program results evaluation, including instructions on how to submit a response.

The objective of the overall evaluation process is to undertake an expert, independent review of the utility-reported DSM program results. The outcome of the independent review of program results are the final, verified net DSM results for all natural gas utility DSM programs.

The annual verified DSM program results will be used by the OEB to measure utility performance relative to OEB-approved targets. The natural gas utilities will use the final verified DSM program results as part of utility applications to the OEB for recovery of financial amounts, such as lost revenues, shareholder incentives and incremental program spending. The final verified DSM results will also provide key information to the OEB, the gas utilities, and other interested stakeholders for consideration as part of future DSM plans.

OEB staff will oversee all tasks related to the DSM evaluation process, including those carried out by the EC. The OEB will seek input from the EAC throughout the annual evaluation process as described under each task below.

1.3 OEB'S REQUIREMENTS

As the gas utilities' DSM budgets are recovered through rates and an annual shareholder incentive is available based on performance relative to OEB-approved targets, the OEB needs to ensure that the gas utilities' DSM results are tested by expert, independent evaluators to confirm the accuracy and validity of the results.

The Evaluation Contractor plays a critical role in the OEB's evaluation process. The Evaluation Contractor will oversee and manage all annual evaluation activities. The Evaluation Contractor must have experience managing and completing large, complex energy efficiency and conservation program evaluations. The selected proponent will require experience working with utility staff and expert non-utility stakeholders. The specific details of the Evaluation Contractor tasks are described in more detail below.

Scope of Services and Deliverables - The Services and Deliverables to be provided by the Vendor will include the following:

1.3.1 Purpose and Scope:

The purpose of this RFP is to select an expert consultant to oversee, manage and undertake specific evaluation tasks related to evaluating the gas utilities' annual DSM program results.

The selected EC's primary roles includes the following tasks:

- 1) **Annual Verification:** the EC is expected to verify and finalize the annual DSM program results, beginning with the 2018 program year.
- 2) **Impact Studies:** the EC is expected to either conduct impact studies and other evaluation studies or manage and oversee other evaluation consultants hired by the OEB to conduct impact studies and other evaluation studies.
- 3) **Final Report:** the EC is expected to incorporate the results from Task 2 and Task 3 (described in Section D below) into a single report.
- 4) **Technical Resource Manual Update:** the EC is expected to maintain an updated, best-practice technical resource manual (TRM) for the programs offered by Union and Enbridge.

The OEB will hold separate procurement processes to select any consultants required to complete any incremental DSM impact studies. If found to have the proper expertise and resources, the OEB could select the EC to undertake other verification and impact studies.

The scope of work for evaluating natural gas DSM results includes planning and completing the evaluations in accordance with the OEB's 2015-2020 DSM Framework and DSM Filing Guidelines which indicate that evaluations will follow the Electricity Conservation First 2015-2020 [EM&V Protocols](#) developed by the IESO where applicable and relevant to the natural gas sector. OEB staff, with input from the EAC, will provide guidance on the applicability and relevance of the IESO EM&V Protocols when required.

1.3.2 Mandatory Requirements

1. Have prior experience conducting custom commercial and industrial natural gas conservation and energy efficiency program evaluations, including savings verification through site visits and telephone interviews, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.
2. Have prior experience undertaking net-to-gross analysis, specifically free ridership evaluations, including conducting customer interviews and developing survey questionnaires with both customers and vendors, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.
3. Have prior experience undertaking sample design and selection, including experience extrapolating the results of the gross savings verification and free ridership study for various purposes.
4. Have a proven ability to manage personnel and projects to schedule and deadlines.
5. Have prior experience working collaboratively with expert stakeholders in Ontario or similar jurisdictions.

1.3.3 Project Requirements (Description of Specific Deliverables/Milestones):

The project tasks are listed below. The consultant shall provide details on the approach/methodology and budget to carry out each task. All tasks should be included in the consultant's proposed budget as separate line items.

Task 1: Annual Verification

The purpose of this task is to verify and finalize the annual DSM results, beginning with the 2018 program year. As part of this task the EC must verify all program results that are not subject to a specific, standalone evaluation study (for example, the Custom Commercial and Industrial Programs undergo a focused evaluation carried out by a different consultant under a different scope of work). The EC will be responsible for the following:

- a) Reviewing the Annual Draft DSM Program Results Report from both Union Gas and Enbridge Gas. The Draft Reports contain the utility reported results for all DSM programs.
- b) Reviewing all of the programs offered by Union Gas and Enbridge Gas in order to verify:
 - 1. Natural gas savings and other resource savings
 - 2. Results for each of the utility scorecard metrics

The EC, with input from the EAC will ensure that the verification tasks reflect best practice.

- c) Soliciting input from the EAC regarding the types of verification tasks to be undertaken to finalize the results, including the methodologies to be followed.
- d) Forming an opinion on the accuracy of all DSM program results.
- e) Conducting final cost-effectiveness analysis for all programs, including the TRC-Plus and Program Administrator Cost tests.

The EC may be asked to defend the final verified results of the DSM programs that are used by the gas utilities in applications to clear amounts in the DSM deferral and variance accounts. If defense is necessary, the OEB will compensate the EC on a time and materials basis for all preparation, response to interrogatories, and testimony.

Deliverables/Milestones:

- a) Independent estimates, including calculations, of all final annual DSM natural gas savings and related program results (including input assumptions used), for all natural gas savings and scorecard metrics, as outlined in the approved EM&V plan, beginning with the 2018 program year.
- b) Presentation of the draft annual verification results to the EAC.
- c) Final annual DSM natural gas savings and related program results, beginning with the 2018 program year.

Task 2: Impact Studies

The purpose of this task is to oversee, manage and provide expert support to OEB staff and other consultants that are selected to complete incremental evaluation studies of select natural gas programs. For example, as part of the 2016 evaluation the OEB retained the following consultants incremental to the EC:

- DNV GL - savings verification of the gas utilities' 2016 Custom Commercial and Industrial Programs
- Michael's Energy - Custom Measure Life Review
- Itron - savings verification and free ridership analysis of the gas utilities' 2017 Commercial and Industrial Prescriptive programs.

The EC was expected to manage all evaluation projects.

As part of this task, the EC will be responsible for the following:

- a) Supporting OEB staff in the development of the scope of work and the RFP to select consultants to undertake the studies unless the EC will be bidding on the work.
- b) Overseeing and managing other, non-EC consultants hired by the OEB to undertake program evaluations and studies related to the annual DSM programs beginning with the 2018 program year, including, but not limited to the custom commercial and industrial program evaluation. As part of this task, proponents should plan on overseeing and managing the consultant hired to complete the annual Custom Commercial and Industrial Program Evaluation and up to three additional standalone evaluation projects.
- c) Providing methodology support to OEB staff, the EAC, and the consultant selected to undertake the studies.
- d) Ensuring that input from the EAC has been taken into consideration in the design of the studies and outstanding concerns/issues are addressed.

The EC may be asked to defend the results of the studies completed under this task. If defense is necessary, the OEB will compensate the EC on a time and materials basis for all preparation, response to interrogatories, and testimony.

The budget for this task assumes that no more than four (4) studies will be conducted over the course of the year.

Deliverables/Milestones:

- a) Approved work plans for each study, developed by the study contractors in cooperation with the OEB, EC, and EAC.
- b) Draft and final reports for the studies.
- c) Presentation of draft results to the EAC.

Task 3: Final DSM Results Report

The purpose of this task is to incorporate the results from Task 1 (Annual Verification) and Task 2 (Impact Studies) into a single report. The EC will be responsible for the following:

- a) Producing the final annual DSM results report for the OEB that incorporates the results from Task 1 and Task 2, including:
 1. The Lost Revenue Adjustment Mechanism (LRAM) and, Demand Side Management Shareholder Incentive (DSMSI) calculations and Demand Side Management Variance Account (DSMVA) summary that compares actual spending to approved spending.
 2. A description of the review conducted in Task 1
 3. A description of the methodologies used and analyses undertaken to verify the impacts of the DSM programs
 4. A list of input assumptions that should be updated with new information
 5. A discussion of the results of the EC's verification work of the programs, placed into the context of the final results from previous years' programs
 6. A discussion of the impacts of each program, including savings and other scorecard metrics
 7. A discussion of any additional impact studies (including, but not limited to, additional DSM program results verification, free ridership analysis, etc.) undertaken in Task 2
 8. Recommended changes to the programs or verification efforts
 9. Additional forward-looking evaluation work that should be considered
- b) Participating in meetings with and consider comments from the EAC

The EC may be asked to defend the results included in this report. If defense is necessary, the OEB will compensate the EC on a time and materials basis for all preparation, response to interrogatories, and testimony.

Deliverables/Milestones:

- a) Draft results report that includes the final results for both gas utilities, for review by OEB staff, and EAC, including calculations related to LRAM and DSMSI.
- b) Final report revised with comments addressed as appropriate.
- c) Presentation of draft and final report results to the OEB and EAC.

Task 4: Annual Technical Resource Manual (TRM) Review and Update

The purpose of this task is to maintain an updated, best-practice technical resource manual (TRM) for the programs offered by Union and Enbridge. The OEB, through its EC, established an annual TRM update process. This can be found in Appendix A. The EC will be responsible for the following the TRM update process and completing the following tasks:

- a) Reviewing and updating the TRM to ensure it is consistent and fully reflective of all appropriate measures and assumptions for the natural gas sector in Ontario.
 1. Review the technologies and data currently included in the TRM and undertake any updates to ensure they represent the best available information.
 2. Identifying technologies and input assumptions that should be examined and propose all appropriate updates for OEB staff and EAC to review.

The successful proponent should plan for a maximum of up to eight (8) measures requiring review for updates (existing measures) and/or additions (new measures) to the TRM over the course of the year.

Deliverables/Milestones:

- a) A document that assembles the proposed revisions and updates to the TRM, including those from the EC, the OEB, and the EAC
- b) A presentation of the proposed updates to the TRM to the EAC
- c) An annually-updated complete TRM document.

Task 5: Ad Hoc

This task is reserved for unanticipated activities specified by the OEB over the course of the annual program evaluation. Ad hoc activities may include, but are not limited to, such activities as conducting additional research on a specific area of the evaluation, producing incremental analysis related to the evaluation, responding to suggestions from the EAC, among other things. The OEB will provide written requests of the additional work with a clearly defined and restricted scope and budget.

Deliverables/Milestones:

The OEB will determine the deliverables and milestones of any ad hoc requests at the time that the work is requested of the consultant.

1.3.4 DSM Evaluation Schedule

The Evaluation Contractor is expected to start work immediately upon award of the contract and to complete the 2018 DSM program evaluation by December 1, 2019 (with a draft 2018 Final Annual Verification Report available by October 1, 2019).

The evaluation of the 2017 and 2018 DSM program results will happen simultaneously. The goal of completing two years of evaluation activities at the same time is to help expedite the evaluation schedule. The objective is to complete all evaluation activities for the 2017 and 2018 program years by December 1, 2019.

In order to accomplish this objective, the OEB’s current Evaluation Contractor, DNV-GL, and the consultant hired to act as the Evaluation Contractor for the 2018 program year evaluation, are expected to work together closely in order to coordinate deliverables and the final 2017 and 2018 program results. The manner in which the final results for 2017 and 2018 are provided to the OEB (for example, one report with sections for the specific program years or two entirely separate reports that document the results for each year on a standalone basis) will be confirmed by OEB staff following the selection of the Evaluation Contractor.

1.3.5 Resourcing and Budgeting

The bidder should provide, in detail, the expertise and experience of the staff that will carry out each of the tasks outlined above. In addition, annual budget amounts for 2018, 2019 and 2020 program evaluations for each of the four main tasks outlined above (proposals should not include a budget for Task 5: Ad Hoc), as well as the hourly rates of each staff involved, should be provided.

Below are estimated timelines (hours) provided for each of the tasks. These estimates are provided as a guide only and are not binding on those submitting proposals.

Table 2 – Estimated Annual Hours Required for EC Tasks

Task	Hours
Task 1: Annual Verification	950
Task 2: Impact Studies	400
Task 3: Final Report	525
Task 4: TRM Update	275
Total	2,150

1.4 REFERENCES AND EXPERIENCE

Previous Experience:

Please provide evidence of your firm's experience based on the requirements stated below, with examples from previous or current projects.

1. Have prior experience acting as an Evaluation Contractor and managing large scale DSM program evaluation projects that include multiple studies conducted by multiple consultants.
2. Have prior experience managing and/or conducting a wide range of energy efficiency program evaluations, including, but not limited to, custom commercial and industrial natural gas conservation and energy efficiency program evaluations, including savings verification through site visits and telephone interviews, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.
3. Have prior experience managing and/or conducting net-to-gross analysis, specifically free ridership evaluations, including conducting customer interviews and developing survey questionnaires with both customers and vendors, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.
4. Have prior experience undertaking sample design and selection, including experience extrapolating the results of the gross savings verification and free ridership study for various purposes.
5. Have a proven ability to manage personnel and projects to schedule and deadlines.
6. Have prior experience working collaboratively with expert stakeholders in Ontario or similar jurisdictions.

Specify the project as well as the start and end dates of each project. Provide a description of services as well as any lessons learned.

Work Location

The Vendor will perform the work at its offices or such other location(s) as Vendor determines to be suitable. If the Vendor will have any work performed outside of Canada, the Vendor must identify the location of where the work will be performed and the type of work to be performed.

Working Hours

The OEB's normal working hours are between 8:15 a.m. to 4:30 p.m. E.D.T., Monday to Friday inclusive and Vendor should be available to OEB staff during those working hours. If required, the Vendor must provide Services outside of these normal working hours and on non-Business Day. The Vendor will not be entitled to charge more than the Fixed Price or Hourly Rate, in case of a Change Order only, as set out in the applicable SOW as a result of providing Services outside of normal working hours or on a non-Business Day.

Travel, Meal and Hospitality Expenses (Government Directive)

In accordance with the Management Board of Cabinet Travel, Meal and Hospitality Expenses Directive (Government Directive) and OEB's internal travel policy the OEB shall reimburse the Contractor for reasonable expenses incurred in connection with the completion of the Deliverables, including travel and accommodation. The Contractor should refer to sections 5.6 and 5.7 of the Government Directive and submit invoices accordingly. The Contractor shall obtain OEB's approval prior to incurring such expenses and is responsible for providing proof of the expenses. In accordance with section 8 of the Government Directive the OEB will not provide meals to the Contractor or reimburse the Contractor for any meal expenses. For hotel accommodations, the maximum per night stay is \$200.00 excluding taxes. Should the hotel accommodations exceed \$200.00 per night, prior written approval will be required.

Please note that as of July 16, 2009, no ministry or classified agency shall pay or reimburse a consultant for any hospitality, incidental or food expenses.

The Vendor shall list travel and accommodation expenses as separate line items on its invoices, and shall support all of those expenses with receipts.

1.5 EVALUATION OF SUBMISSIONS

This Section 1.5 sets out the evaluation framework that will guide the evaluation by the OEB of Vendors’ submissions. A successful Vendor may be selected to enter into a SOW based on this RFS, the Vendor’s submission, its evaluation by the OEB, and other factors leading to an award decision.

RATED EVALUATION CRITERIA - TECHNICAL:

Note an overview of **project specific** evaluation categories for the Rated Criteria. Include the weights for each category listed.

The Vendor is required to include in its Bid a written response to enable the OEB to determine the degree to which the response addresses the requirement. It is the Proponent’s responsibility to address each of the stated rated requirements in sufficient detail to permit a complete analysis and assessment by the OEB. Responses that simply state “compliant” or equivalent, or that simply restate the requirement without providing details on how they meet the requirement, may be awarded a zero score for that requirement.

Where the response includes reference to supporting technical materials, Vendors are required to identify the document and page number to which the statement refers.

Requirements shall be evaluated strictly on the basis of the materials provided in the Bid. It is the Proponent’s responsibility to ascertain and understand the RFP requirements and to provide all of the information/documentation requested in the RFP.

Rated Evaluation Criteria	Points
A) TECHNICAL SECTION	80
i) Have prior experience acting as an Evaluation Contractor and managing large scale DSM program evaluation projects that include multiple studies conducted by multiple consultants, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.	25
ii) Have prior experience managing and/or conducting a wide range of energy efficiency program evaluations, including large savings verifications (that require site visits and telephone interviews), net-to-gross analysis, specifically free ridership evaluations (including conducting customer interviews and developing survey questionnaires with both customers and vendors), particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.	25
iii) Dedicated, experienced, expert personnel	15
iv) Clear, sound and effective methodologies for addressing the objectives of each task (Description of Specific Deliverables/Milestones)	15
B) PRICING SECTION	20
Total Fixed Fee	20
TOTAL POINTS	100

****PLEASE NOTE****

The minimum passing score for the technical section of the RFP is **eighty (80) per cent of the possible eighty (80) points** or (64 points out of 80 points).

Only Proposals that meet the minimum passing score will qualify to have their Proposal considered beyond evaluation of their technical submissions.

#	Evaluation of Rated Criteria	Description
1	Have prior experience acting as an Evaluation Contractor and managing large scale DSM program evaluation projects that include multiple studies conducted by multiple consultants, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.	<p>The bidder is asked to provide:</p> <ul style="list-style-type: none"> a) Description of prior/current large scale energy conservation and efficiency program evaluations where it acted as the lead consultant and was required to manage and coordinate the evaluation work of other consultants. Please provide a summary of the tasks performed, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts. The description should include a detailed account of all Evaluation Contractor tasks completed by the proponent to develop the final estimates of programmatic impacts such as, but not limited to: <ul style="list-style-type: none"> i) Project Management of other consultants, including specifics on when projects were completed vs. planned and final costs vs budget ii) Interactions with expert stakeholder advisory groups, including frequency, size and nature of advisory group, and response to comments b) Experience with planning and executing primary and secondary data collection, particularly in the commercial and industrial sectors, including customer site visits, telephone interviews and working with sub-contractors. c) Demonstrated expertise on energy efficient technology measures that affect natural gas consumption, including emerging technologies, and applicability to the commercial and industrial sectors. Experience in reviewing detailed savings analyses for commercial and industrial custom energy efficiency projects. Knowledge in addressing the interactive effects between natural gas and electricity energy efficient technologies.
2	Have prior experience managing and/or conducting a wide range of energy efficiency program evaluations, including large savings verifications (that require site visits and telephone interviews), net-to-gross analysis, specifically free ridership evaluations (including conducting customer interviews and developing survey questionnaires with both customers and vendors), particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts.	<p>The bidder is asked to provide:</p> <ul style="list-style-type: none"> a) Description of prior/current large scale energy efficiency and conservation program savings verification impact evaluations completed, including review of utility tracking data and project reporting information (also known as desk reviews), customer site visits, telephone assisted engineering reviews (interviews with key customer site staff), utility reported savings review and analysis, preparation of site reports, and drafting professional reports for regulatory use and public accessibility. b) Description of prior/current free ridership studies of large scale, long standing energy conservation custom commercial and industrial programs, particularly in leading jurisdictions including, but not limited to, Ontario, California, or Massachusetts. The description should include a detailed account of all tasks completed by the proponent to develop free ridership values that provide the best estimate of the utility influence on customer energy efficiency improvements, but not limited to: <ul style="list-style-type: none"> i) Sampling plan ii) Survey questionnaires (both for customers and vendors) iii) Scoring methodologies (including sensitivity analysis) iv) Extrapolation of the findings (for both prospective and retrospective application purposes) <p>The descriptions provided should also identify the importance of each task in ensuring an accurate estimate of programmatic impacts was developed.</p>

#	Evaluation of Rated Criteria	Description
		<ul style="list-style-type: none"> c) Experience developing sampling plans, particularly when also conducting a gross savings verification impact evaluation; including experience extrapolating the results of the study for various purposes. d) Demonstrated expertise on developing survey questionnaires, or other data collection techniques, in order to understand a customer's motivations for undertaking energy efficiencies improvements and participating in a utilities' conservation program. e) Experience soliciting input on technical projects from an expert stakeholder working group, including coordinating review of technical documentation and facilitation of group discussions.
3	Dedicated, experienced, expert personnel	<p>The bidder is asked to provide:</p> <ul style="list-style-type: none"> a) CVs of main personnel to be dedicated to project and years of relevant experience of proposed team members, demonstrating sufficient, knowledgeable technical staff to complete verifications. b) Description of project management structure. Description of areas of responsibility for main personnel. c) List of any additional resources that may be allocated, if required, including affiliation with potential subcontractors with relevant experience and expertise. d) A table listing all staff assigned to the project, their roles, responsibilities, brief indication of prior energy conservation gross savings verification and free ridership evaluations, and an indication of the percentages of each task dedicated to the staff person. e) Description of the proponent's experience managing multi-stakeholder evaluation projects as well as the proponent's proposed approach to managing the diverse set of stakeholders relevant to this assignment.
4	Clear, sound and effective methodologies for addressing the objectives for each task	<p>The bidder is asked to provide:</p> <ul style="list-style-type: none"> a) Well-documented and comprehensive methodology that effectively addresses the objective for each task outlined above, including: <ul style="list-style-type: none"> i) A clear description of how the methodologies proposed represent a "best-in-class" approach to large scale energy efficiency evaluation projects. ii) The level of statistical certainty that the proposed methodology is expected to provide as well as a discussion related to the level of uncertainty that is commonly industry-accepted in this type of evaluation process. iii) Clear description of the key challenges inherent in large scale custom commercial and industrial efficiency program evaluations, as well as the steps taken by the proponent during previous evaluation efforts to successfully address these challenges. iv) Describe lessons learned during previous large scale custom evaluations and how these lessons learned will be used to inform the evaluation methodologies applied to the programs contemplated in this RFP. b) A detailed schedule for when the tasks will be completed. Including an effective communication plan and document review schedule to solicit input and advice from the DSM Evaluation Advisory Committee. c) Indication of how third party consultants (sub-contractors) will be managed. d) Appropriateness of resources allocated to tasks identified in Section 3.2 Project Requirements.

RATED EVALUATION CRITERIA - FINANCIAL:

Pricing will be scored based on a relative pricing formula which consists as follows: each Proponent will receive a percentage of the total possible points allocated to price by dividing the Proponents price into the lowest bid price submitted.

The following formula will be used to evaluate pricing: **(A / B) x C = D**

Where Total Fixed Fee:

A = Lowest Evaluated Total Fixed Fee

B = Proponent's Evaluated Total Fixed Fee

C = Weight for the respective Evaluated Total Fixed Fee

D = Proponent's Financial Score

1.5.1 Submission Requirements

Submissions that do not meet the requirements set out below may be rejected.

(a) Submission Form (Supplement B)

- Submission Form (Supplement B), completed and signed.
- On the Submission Form, disclose any actual or potential Conflict of Interest to the OEB that may arise during the performance of the Vendor's contractual obligations.
- Other than inserting the information requested and signing the Submission Form, Vendors should not make any changes to the Submission Form or qualify in their Submission the acknowledgements contained in the Submission Form. Submission containing such qualifications, whether on the face of the Submission Form or elsewhere in a Submission (including the cover page or e-mail), may be rejected.

(b) Pricing Schedule (Schedule A)

- Pricing Schedule (Schedule A) completed and submitted as a separate file per section 2.2.1.
- If HST is applicable, Vendors must itemize HST as a separate line item in the Pricing Schedule
- Vendors must propose all dollar amounts in Canadian funds
- The Pricing Schedule must set out the full legal name of the Vendor; a list of each Role (including Experience Level) proposed; and the full legal name of each consultant proposed for each Role (by experience level) to achieve completion of the proposed services within the timeframe specified by the OEB; Fixed Price for each Deliverable; and total Fixed Price that the Vendor will charge the OEB for

Services performed and Deliverables provided

- The amount for Total Fixed Price is fixed and not subject to change unless otherwise agreed to by both the OEB and the Vendor in a Change Order
- If required by the OEB, the Vendor must also include a list of each Role (including experience level) proposed; and the hourly rate for each Role, to be applicable only in the case of a Change Order

(c) Resumes and References (Schedule B)

- Vendors are expected to submit a resume for each consultant proposed in the Submission Form - please include the resumes as Schedule B to your Submission Form
- For each proposed consultant, Vendors are expected to submit the consultant's most current project(s), and submit references (include name, title, organization and telephone number) whom the OEB may contact for the purpose of conducting reference checks
- Vendors are expected to demonstrate in their submission that each proposed consultant has the knowledge, experience and all other qualifications for the proposed Role, and will be able to provide the requested services
- Vendors must provide the OEB with the opportunity to interview each proposed consultant, and must not charge the OEB in connection with any interview
- Vendors must identify all subcontractors that they propose to use, and must also identify which consultant(s) is provided by which subcontractor

(d) Additional Submission Requirements

- Vendors must clearly describe the Deliverables and milestones and any other information, as required by the OEB.
- Vendors must specify the number of days required to complete the services.
- If requested by the OEB, Vendors must propose the number of consultant(s), the Roles and experience levels, and the estimated number of days required by each consultant to complete the project within the timeframe specified by the OEB. Vendors must then identify all of the consultant(s) needed to complete the Services.

1.6 Reference Checks

If required by the OEB, at the OEB's sole discretion, the OEB may check references of the Vendor and/or any of its proposed consultants at any stage of the evaluation process. Without limiting the right of the OEB to check references provided by the Vendor, the OEB reserves the right to check references other than those provided by the Vendor. Award of a Statement of Work to a Vendor is subject to satisfactory reference checks, if required by the OEB.

SUPPLEMENT B - SUBMISSION FORM

Request for Services Number: RFSDSMEC12172018

To: Ontario Energy Board

1. Vendor Information

(a) The full legal name of the Vendor is: _____

(b) Please identify any other relevant name under which the Vendor conducts business:

(c) The Vendor's address, telephone and facsimile numbers are:

(d) The name and title of the Vendor's Representative:

(e) The mailing address, phone number and e-mail address of the Vendor's Representative:

(f) State the name and title of each of the individuals that the Vendor is proposing for this Project:

[Instructions: Please add additional lines as required to accommodate each of the proposed Personnel]

2. Submission Requirements and Accuracy of Information

The Vendor accepts the terms and conditions set out in the RFS. While this submission is provided for evaluation purposes only and is not legally binding before the execution of a SOW, I confirm that the information provided is accurate.

3. Certificate(s) of Insurance

Please identify the status of the Vendor's Certificate(s) of Insurance by placing a check mark (✓) in one (1) of the following three (3) boxes:

- a) the Vendor has previously submitted a Certificate of Insurance to OEB, which has been approved
- b) the Vendor has included its Certificate of Insurance with this RFS submission (that will be subject to approval by OEB) prior to the OEB issuing a SOW
- c) the Vendor agrees to submit a Certificate of Insurance (that will be subject to approval by OEB) prior to the OEB issuing a SOW

4. Conflict of Interest

The Vendor must complete the following:

- (a) If the box below is left blank, the Vendor will be deemed to declare that: (1) there was no Conflict of Interest in preparing its submission; and (2) there is no foreseeable Conflict of Interest in the Vendor or any of its Personnel performing the contractual obligations contemplated in the Request for Services.
- (b) Otherwise, if the statement below applies, check the box.
 The Vendor declares that there is an actual or potential Conflict of Interest relating to the preparation of its submission, and/or the Vendor foresees an actual or potential Conflict of Interest in it and/or its Personnel performing the contractual obligations contemplated in the Request for Services.
- (c) If the Vendor declares an actual or potential Conflict of Interest by marking the box above, the Vendor must set out below details of the actual or potential Conflict of Interest:

- (d) The following individuals, as employees, advisors, or in any other capacity (i) participated in the preparation of our submission; **AND** (ii) were employees of the OEB and have ceased that employment prior to the Requested Submission Date:

Name of Individual:

Job Classification (of last position with OEB):

Last Date of Employment with OEB:

Name of Last Supervisor with OEB:

Brief Description of Individual's Job Functions (at last position with OEB):

Brief Description of Nature of Individual's Participation in Preparation of Submission:

(Repeat above boxed information for each identified individual)

- (e) The following are individuals that: (i) are proposed to be assigned by the Vendor to perform work under the SOW; **AND** (ii) were employees of the OEB and have ceased that employment prior to the Requested Submission Date:

Name of Individual:

Job Classification (of last position with OEB):

Last Date of Employment with OEB :

Name of Last Supervisor with OEB:

Brief Description of Individual's Job Functions (at last position with OEB):

(Repeat above boxed information for each identified individual)

- (f) We agree that, upon request, we shall provide the OEB with a Conflict of Interest Declaration from each individual identified above in the form prescribed by the OEB.

5. Schedules

This submission includes the following Schedules:

Schedule A (Pricing Schedule)

Schedule B (Resumes)

[Instructions to Vendor: List all other schedules.]

[FULL LEGAL NAME OF THE VENDOR.]

I acknowledge that providing my name on the line below in electronic form will constitute a signature for the purposes of the *Electronic Commerce Act, 2000*, S.O. 2000, c. 17.

I have authority to bind the Vendor.

Per:

Signature: _____

Name: _____

Title: _____

Date: _____

Schedule A - Pricing Schedule

To: Ontario Energy Board

With respect to RFS # RFSDSMEC12172018

VOR Subject Area(s): Climate Change

VOR Topic Area(s): Evaluation, measurement and verification of conservation programs (EMV) including net to gross studies, impact and process evaluation and market effects

Submitted by: _____

The Total Fixed Fee to provide Natural Gas Demand Side Management (DSM) Evaluation Contractor Services for the 2018, 2019 and 2020 program year evaluations is \$_____ CANADIAN DOLLARS

The breakdown for the Total Fixed Fee is as follows:

Evaluation Contractor Services - 2018 Program Evaluation	
Tasks	Price
1. Annual Verification	\$
2. Impact Studies	\$
3. Final Report	\$
4. TRM Update	\$
2018 Program Evaluation Sub-Total	\$

Evaluation Contractor Services - 2019 Program Evaluation	
Tasks	Price
1. Annual Verification	\$
2. Impact Studies	\$
3. Final Report	\$
4. TRM Update	\$
2019 Program Evaluation Sub-Total	\$

Evaluation Contractor Services - 2020 Program Evaluation	
Tasks	Price
1. Annual Verification	\$
2. Impact Studies	\$
3. Final Report	\$
4. TRM Update	\$
2020 Program Evaluation Sub-Total	\$

Evaluation Contractor Services - 2018-2020 Program Evaluations	
Combined 2018-2020 Program Evaluation Total	\$

Please be sure to include a time-task matrix by team member, without prices, within the main body of the proposal.

The pricing matrix below can be configured to add more or less of the roles. Rates must not exceed submitted rates listed within RFP submission.

The breakdown of the fee is as follows:

Team Members		
Name	Role	Hourly Rates
		\$
		\$
		\$
		\$

HST Itemized Separately \$_____ (If HST is applicable to this procurement include the amount for HST itemized separately here. Otherwise, note N/A).

SIGNATURE: _____

NAME / TITLE _____

I have authority to bind the Vendor.

_____ **Date**

Appendix A - TRM Update Process

Below is a the TRM update process. The selected proponent should plan on using this process, but may suggest revisions and/or enhancements.

1. PURPOSE OF THE TRM

The Ontario Energy Board (OEB) Technical Reference Manual (TRM) is designed to provide a transparent document that lists, describes and indicates the various energy efficient technologies included within the natural gas Demand Side Management (DSM) program portfolios of Enbridge Gas Distribution Inc. (Enbridge) and Union Gas Limited (Union). The TRM allows the OEB's Evaluation Contractor to consistently calculate estimated energy savings generated by the province of Ontario's natural gas energy efficiency programs which are administrated by Enbridge and Union.

The TRM intends to achieve several objectives:

- Provide uniform application of savings methods and the assumptions behind them which create a common reference for all stakeholders;
- Facilitate accounting and tracking by providing a high-level transparency for the methodology;
- Support the calculation of the Total Resource Cost-Plus test (TRC-Plus) as well as other cost-benefit tests in support of program design, evaluation and regulatory compliance;
- Help participants in the energy efficiency market save money and time by providing a single source to guide saving estimates and equations.

1.1 Objectives and purpose of this document

This document addresses several areas related to the annual process to update the TRM. Because the TRM is intended to be a living document, it is expected to be periodically updated with the inclusion of additional measures, modifications to existing measures, and removal of measures no longer relevant for Ontario's DSM programs.

The purpose of this document is to:

1. Provide a clear process that coordinates the needs of users, evaluators, and the regulator;
2. Define key steps for the annual update cycle, as well as the responsibilities of involved parties;
3. Offer guidance on the update frequency and maintenance of the records and on the preservation of a clear record of historical deemed savings.

2. TRM UPDATE PROCESS

It is critical to keep the TRM up to date. Changes to TRM entries can occur for several reasons but are usually related to:

- **New measure additions** – With the introduction of new technologies and technology advancements, there is a need to characterize new measures and add the new algorithms and savings estimates to the TRM.

Existing measure updates – The need to update the existing measures can be driven by a number of events including changes in the building code or legislative standards, alteration of program design and qualification criteria, improvement of TRM input values developed through evaluations, or discovery of errors in existing measure characterizations.

- **Retiring existing measures** – If a measure is no longer cost effective or is not economically viable, notably due to depletion of the existing potential, market transformation, or new codes and standards coming into effect, then it should be removed from the TRM.

It is important to track and archive changes and legacy measures to maintain the transparency and consistency of the TRM over time. The different versions are to be archived on OEB's server as multiple documents with the version completion date.

2.1 Update Process Description

The process of integrating new measures and maintaining the TRM will occur annually. The annual review will identify needed updates and revisions as new technologies mature and building operating environments change.

The EC team will assess the need for changes to future TRM's deemed savings based primarily on feedback from utilities and evaluators, and will manage the selection of measures for update and addition:

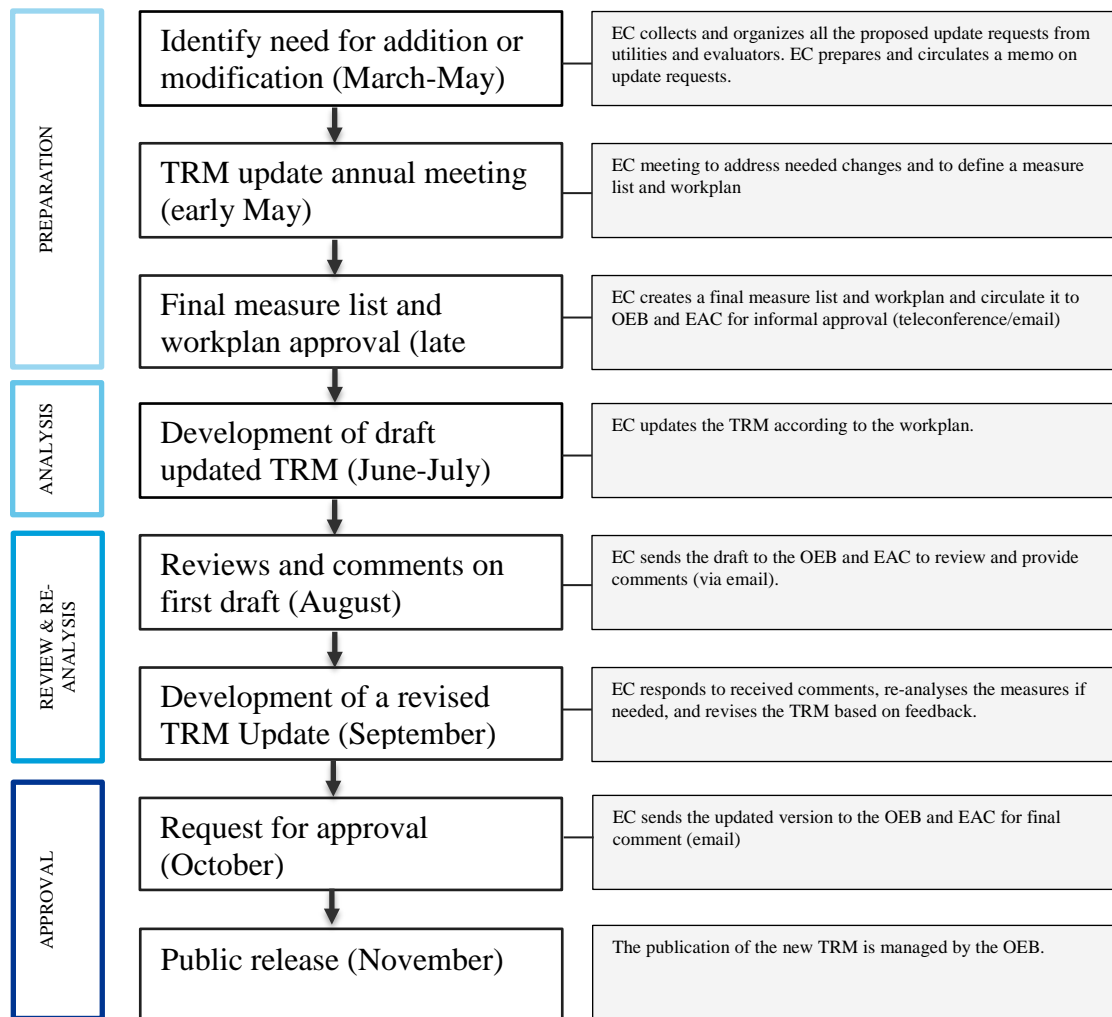
- Identifying new measures: The EC will keep an up-to-date log of all specified needs for new measure assumptions identified during the year by all stakeholders. New measure assumptions will come from new technologies, programs and implementation models, and can be proposed by any party. It is expected that the party proposing the measure will develop and submit a business case to the EC, who will then develop a complete sub-document to the TRM to support savings and other assumptions.
- Applying updates: When a need to update existing measures in the TRM is specified, EC will include it in the log.
- Review of "old" measures: The EC will flag any measure older than 3 years. These measures will be automatically reviewed by EC during the annual TRM review and updated with newest evaluation results and savings assumptions or replaced.

The EC team will assemble the information related to any new measures as well as those that require updates or come up for review due to age.

The EC team will develop a draft workplan for addressing the list of measures to be added, removed or updated, prioritizing some measures over others if required. After discussing the EC’s proposed measure list and workplan with the OEB and EAC, the EC team will proceed to develop a draft updated TRM. The draft updated TRM will be provided to the EAC for comment before being finalized and approved by the OEB.

The figure below outlines the steps that will be followed to ensure effective reviews and quality control of the updated TRM.

FIGURE 1 – TRM Update Process Description



2.2 Key Stakeholders and Responsibilities

The TRM update process requires the collaboration of different parties that all play a specific role in the process. These roles ensure effectiveness, sufficient review, and independence throughout the procedure. The following stakeholders have ongoing responsibilities that are specified below.

- **PROGRAM ADMINISTRATORS (PA): Enbridge Gas Distribution and Union Gas Limited**

The utilities administering gas DSM programs have primary responsibility to cost-effectively meet the energy savings targets defined by the OEB. They are also responsible for keeping record of the program participation and estimating energy savings using TRM values when available. Their role also includes identifying the need for new or revised measure characterizations due to program changes or program/market feedback, and proposing TRM updates to be analysed. Gas utilities, as members of the Evaluation Advisory Committee (EAC), also provide feedback on the draft TRM.

- **EVALUATION CONTRACTOR (EC)**

The EC is responsible for the Evaluation, Measurement and Verification oversight and the TRM update. Its primary responsibilities are to manage updates of the TRM document, present TRM updates to the OEB, and coordinate with the EAC during the review process. The EC plays the role of central coordinator for all technical aspects of the process. During the TRM update process, the EC identifies, if relevant, additional needs for TRM updates, and coordinates with the OEB and the EAC to produce the final measure list and workplan. The EC develops and presents the proposed TRM update versions to the OEB and the EAC.

- **EVALUATION ADVISORY COMMITTEE (EAC): Mix of gas utilities, interveners, third-party advisors**

The EAC is a committee that provides input and advice to the OEB on the evaluation of DSM results, including the development and maintenance of the TRM. The EAC will have the opportunity to review and comment on the draft TRM.

- **REGULATOR: Ontario Energy Board (OEB)**

The OEB plays the central role in the evaluation process of DSM program results, including hiring the EC and monitoring the development and maintenance of the TRM. As the owner of the TRM, OEB is responsible for reviewing, commenting on, and publishing the TRM. The OEB also coordinates the administrative process of TRM update activities, facilitates the collaborative process with program administrators and stakeholders, and maintains a compilation of all updates.

- **PROGRAM EVALUATORS: Independent Evaluators**

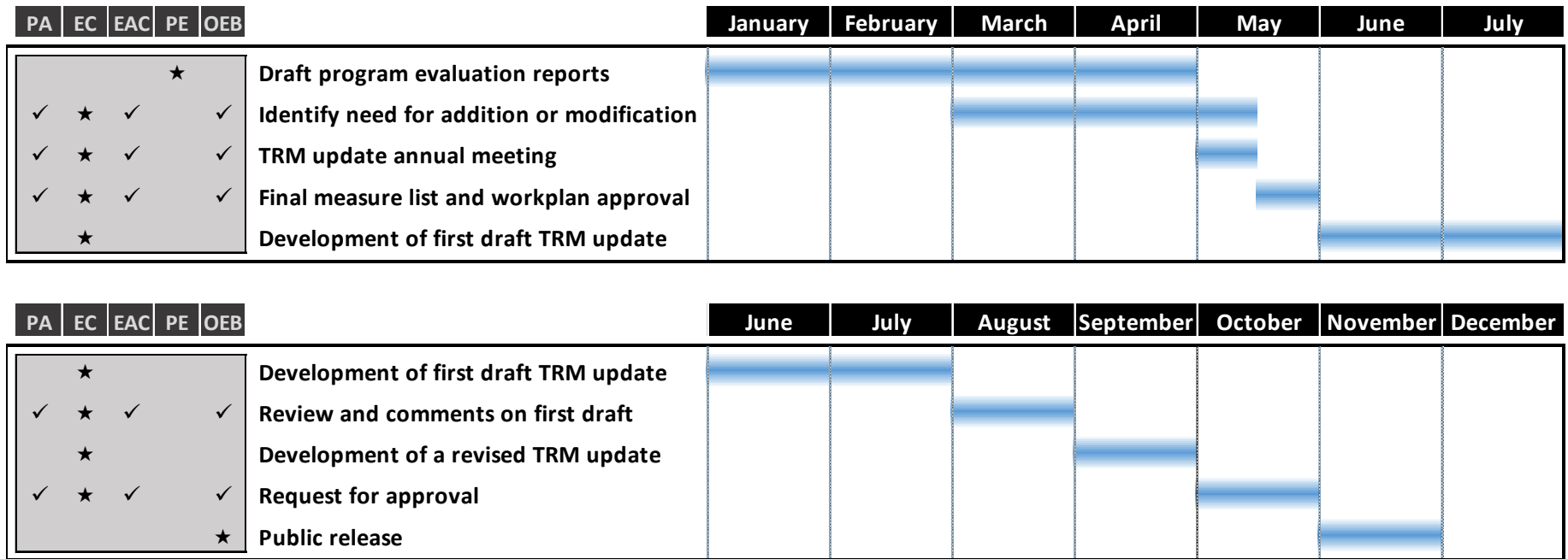
The Program Evaluators have the responsibility of providing independent evaluations, as needed, of the performance of energy efficiency programs and to deliver a final evaluation report. The evaluators should use the current TRM version for the energy savings verification and collaborate with the EC to conduct appropriate analyses that support TRM updates.

2.3 Update Cycle (Schedule)

Although the need for TRM updates can be reported at any time, it is likely that the requests come from evaluation results and program administrators. The evaluation process ensures the viability of the assumption values; therefore, it is critical that the TRM update cycle takes in consideration this component.

The schedule below considers the relationship between the relevant activities that play a role in the TRM process.

FIGURE 2 - Gantt Chart



- ✓ Active contribution
- ★ Lead

3. APPLYING THE TRM

This section describes the role of the TRM in the implementation, evaluation and planning of the Program Administrators' (PA - Enbridge and Union) DSM programs.

PAs are required to use the current version of the TRM. For each prescriptive measure, the TRM intends to bring a high-level standardization including specific deemed values or algorithms for deemed calculation. For this reason, it is important that the PA does not deviate from the algorithms and values provided in the TRM when calculating savings. However, some exceptions may apply:

- **New Measure that does not exist in the TRM:** Although new measures should typically only be added to the TRM during the annual review process, there may be instances where a measure must be included immediately. The proposal for a new measure to be implemented immediately must be provided by a PA to the EC, along with the components of the new measure characterization. The proposal will be reviewed by the EC, with input from the EAC, and included in the TRM on an exceptional basis if circumstances permit. In this case, during the EC review period, PAs may use values or algorithms not included in the TRM on an interim basis. The EC will include the new measure during the annual TRM update process.
- **Measure incorrectly characterized in an existing program:** If the TRM measure is no longer appropriate due to changes such as new codes and standards, new market baselines, or evolving program eligibility criteria, PAs can modify savings inputs if they have notified EC before. A detailed justification would need to be provided and used during the TRM update process.

The TRM will be applied prospectively. It will be updated annually and will be used for all future program activity. All changes (proposal to add new measures, modify or remove current measures) have to be submitted to the EC, and will be reviewed through the TRM update process.

Updates will not alter any energy savings or demand reductions already in service and within the measure life. If any errors are discovered in the TRM, correction of those errors might be applied to the current program year or prospectively, at OEB's discretion.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe (PP)

Interrogatory

Reference:

Ex. A, T3, Sch. 1

<https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>

Question:

- a) To Enbridge's knowledge, has there been any public consultation related to the 2019 Natural Gas DSM Annual Verification Report.
- b) Please confirm if Enbridge intends to use the results of the 2019 Natural Gas DSM Annual Verification Report for public reporting purposes of its final 2019 DSM savings and related attributes (e.g. GHG reductions). If not correct, please indicate what source Enbridge would use instead.
- c) On page 4 of the above referenced report, DNV GL indicates that "total dollars spent was not reviewed". Please summarize the evidence provided in this proceeding to support review of the total dollars spent and the related DSMVA clearances sought.
- d) Has the EC (DNV GL) and/or the EAC reviewed and recommended approval of the DSMVA amounts for 2019? If yes, please provide the reference or document.
- e) Has the EAC endorsed the findings outlined in the 2019 Natural Gas DSM Annual Verification Report? If yes, please provide a copy of their endorsement.
- f) Table 9-2 on page 29 indicates that Enbridge "Process and Program Evaluation" was underspent by 12%. Please indicate what activities are typically included in that category and what led to the reduction in spending in 2019.
- g) Table 9-7 on page 31 indicates that Union "Research" and "Evaluation" was underspent by 23% and 29%, respectively. Please indicate what activities are typically included in those categories and what led to the reduction in spending in 2019.

Response

- a) To Enbridge's knowledge, there has been no public consultation related to the EC's 2019 Natural Gas DSM Annual Verification Report prior to this proceeding. There is an established consultation process related to the EC's 2019 Natural Gas DSM Annual Verification report, which includes the involvement of non-utility stakeholder members of the EAC. For more information on evaluation governance for the 2019 program year refer to Section 2.3 Evaluation Governance of Enbridge Gas' 2019 DSM Annual Report (Exhibit A, Tab 4, Schedule 1, pages 12 to13).
- b) For reporting final natural gas savings results of its 2019 DSM programs, Enbridge Gas intends to use the results of the EC's 2019 Natural Gas DSM Annual Verification report.

For converting natural gas savings to GHG emission savings, the EC used an emissions factor of 0.001955 tonnes CO₂e/m³ natural gas in its 2019 Natural Gas DSM Annual Verification report, however Enbridge Gas currently uses 0.001874 tonnes CO₂e/m³ natural gas, based on the Ontario Ministry of Environment, Conservation and Parks "Guideline for Quantification, Reporting and Verification of Greenhouse Gas Emissions" (April 2019).

- c) As indicated in the Audit Opinion in Exhibit A, Tab 4, Schedule 1, page 5, the EC has provided its opinion on the utility-achieved natural gas savings, lost revenue, shareholder incentive, and cost effectiveness of the DSM programs offered by Enbridge and Union. Although the EC did not review the total dollars spent there is evidence throughout the Application to support the review of 2019 DSM spending and DSMVA clearances being sought. Some specific references include:
- Exhibit A, Tab 4, Schedule 1, pages 68 to 72 – Section 8.4, EGD rate zone DSM budget and spending information
 - Exhibit A, Tab 4, Schedule 1, pages 77 to 80 – Section 9.4, Union rate zones DSM budget and spending information
 - Exhibit A, Tab 4, Schedule 1, pages 28 to 45 – Section 5, EGD rate zone DSM program and offering activities
 - Exhibit A, Tab 4, Schedule 1, pages 46 to 61 – Section 6, Union rate zones DSM program and offering activities
 - Exhibit A, Tab 4, Schedule 1, pages 87 to 96 – Appendix C, EGD rate zone DSM offering details including incentive levels
 - Exhibit A, Tab 4, Schedule 1, pages 97 to 107 – Appendix D, Union rate zones DSM offering details including incentive levels
 - Exhibit B, Tab 2, Schedule 1, pages 1 to 5, EGD rate zone DSM Variance Account evidence
 - Exhibit C, Tab 2, Schedule 1, pages 1 to 6, Union rate zones DSM Variance Account evidence

It is also worth noting that EGI has a financial statement audit conducted each year. As part of this financial statement audit, the audit plan would give consideration to all balances, including the DSMVA. This is no different than any other deferral or variance account that EGI seeks clearance for in other proceedings.

- d) Through the OEB-led annual evaluation and verification process, the EC is provided the spending information found in the 2019 Natural Gas DSM Annual Verification Report. However, the review of dollars spent and the DSMVA balance is not a focus of the process. To Enbridge Gas' knowledge, the EC and EAC have not provided an opinion on the 2019 DSMVA amounts.
- e) The EAC is directly engaged throughout the OEB-led annual evaluation and verification process, which includes the development of the EC's 2019 Natural Gas DSM Annual Verification report. It is EGI's understanding that no EAC member objected to the EC's 2019 Natural Gas DSM Annual Verification report. However, EGI is not aware of a formal endorsement of the report by the EAC, as that is not a requirement of the OEB-led annual evaluation and verification process.
- f) The majority of the costs in the "Process and Program Evaluation" budget/spend category referenced includes the evaluation and verification activities from the OEB-led annual evaluation and verification process. Examples of additional costs include cost awards for the non-utility stakeholder members and independent expert members of the EAC. All costs in this category are attributed to the EGD rate zone only. Since the majority of these activities are led by the OEB, Enbridge Gas cannot provide insight into reasons for the underspend.
- g) The majority of the costs in the "Evaluation" budget/spend category referenced includes the evaluation and verification activities from the OEB-led annual evaluation and verification process. Examples of additional costs include cost awards for the non-utility stakeholder members and independent expert members of the EAC. All costs in this category are attributed to the Union rate zones only. Since the majority of these activities are led by the OEB, Enbridge Gas cannot provide insight into reasons for the underspend.

The "Research" budget/spend category referenced is used to investigate emerging energy efficiency technologies to provide an increased understanding of new opportunities. Section 9.4.1 of Enbridge Gas' 2019 DSM Annual Report (Exhibit A, Tab 4, Schedule 1, pages 79 to 80) provides a further description of this budget/spend category, along with the specific activities from 2019.

The variance in spending on research is due to the challenge in accurately forecasting spend given the dynamic nature of research projects. Many research projects span multiple years and experience scope changes and delays due to their uncertain outcomes, evolving nature and the need to apply learnings throughout the process.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe (PP)

Interrogatory

Reference:

Ex. A, T4, Sch. 1

Questions:

- a) Please provide the net TRC-Plus resulting from 2019 DSM portfolio and the new cumulative lifetime net TRC-Plus for the Enbridge and Union DSM portfolios since inception.
- b) Please indicate what carbon price assumptions were included in the calculations for the response to question a above.
- c) Please confirm that the Lost Distribution Revenue in Table ES1 is the partially effective 2019 DSM volumetric results minus the partially effective DSM estimate (i.e. 2019 volumetric budget) that was applied for 2019 rates. If that is not correct, please indicate why.
- d) Please provide the cost and benefits related to the Gas Technology Institute (“GTI”) Utilization Technology Development (“UTD”) Membership.

Response

- a) For net TRC-Plus benefits (i.e. benefits less costs) from Enbridge Gas’ 2019 DSM activities, refer to Table 8.5 (Exhibit A, Tab 4, Schedule 1, pg. 67) for the EGD rate zone and Table 9.7 (Exhibit A, Tab 4, Schedule 1, pg. 76) for the Union rate zones.

The net TRC benefits (i.e. benefits less costs) from Enbridge Gas’ DSM programs since 1997 is \$6.6 billion.¹

- b) Prior to the 2017 program year, carbon pricing systems did not exist in Ontario, therefore TRC and TRC-Plus results do not include any carbon price assumptions.

¹ TRC-Plus reporting (i.e. TRC including non-energy benefits) began in 2015 for the EGD rate zone and in 2016 for the Union rate zones. Prior to those years, the figure includes TRC without non-energy benefits.

For the carbon price assumptions used for the 2017 and 2018 program years, refer to Table 1 below.²

For the carbon price assumptions used for the 2019 program year, refer to Exhibit I.PP.6 part a).

Table 1

Year	\$/m3 natural gas
2017	0.03
2018	0.02
2019	0.04
2020	0.06
2021	0.08
2022	0.10
2023	0.10
2024	0.10
2025	0.10
2026	0.11
2027	0.11
2028	0.11
2029	0.11
2030	0.11
2031	0.12
2032	0.12
2033	0.12
2034	0.12
2035	0.13
2036	0.13
2037	0.13
2038	0.13
2039	0.14
2040	0.14
2041	0.14
2042	0.15
2043	0.15
2044	0.15
2045	0.15
2046	0.16
2047	0.16

² For the 2018 program year, the 2017 carbon costs in Table 1 are not relevant and were not used

Table 1 Notes:

- 2017 carbon costs are based on the average auction price from the Ontario Cap and Trade pricing system
 - 2018 carbon costs are based on the average auction price from the Ontario Cap and Trade pricing system, but halved to reflect the termination of the carbon pricing system midway through the year
 - 2019 to 2022 carbon costs are based on the Federal Fuel Charge Rate for marketable natural gas for those years, as determined by the federal government in 2019
 - For 2023 and beyond, carbon costs are based on the Federal Fuel Charge Rate for marketable natural gas for 2022, as determined by the federal government in 2019, increased annually by an inflation rate of 1.27%³
- c) Not confirmed. The Lost Distribution Revenue in Table ES1 is based on the partially effective 2019 DSM volumetric results only, consistent with the values in the 2019 Natural Gas Demand-Side Management Annual Verification Report⁴.
- d) Please see response to Exhibit I.EP.3 parts a to c.

³ Four quarter moving average rate based on the Gross Domestic Product Implicit Price Index for Final Domestic Demand for Q2 2018

⁴ <https://www.oeb.ca/sites/default/files/2019-Natural-Gas-Demand-Side-Management-Annual-Verification-Report.pdf>, page 4.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe (PP)

Interrogatory

Reference:

Ex. A, T4, Sch. 1

“Enbridge Gas completed the work on implementation of the EGD rate zone IT system in Q1 of 2019 and rolled out the solution to users. The Company had completed the bulk of the design and execution activities in 2018 with the completion of these occurring during Q1 of 2019.”

Questions:

- a) Please provide a summary by year of costs related to the IT system that have been capitalized.
- b) Please provide a copy of the approved Business Case for the IT system.
- c) Please confirm that 2019 is the commissioning year for the new IT system. If not, please provide the commissioning date.
- d) Please describe what project elements or costs for the IT system were evaluated by the third-party Evaluation Contractor or included in the 2019 Natural Gas DSM Annual Verification Report.

Response

- a) A summary of costs by year related to the IT system can be found in Exhibit A, Tab 4, Schedule 1, page 72. All of these costs have been recorded as O&M as indicated in Exhibit A, Tab 4, Schedule 1, page 72 and also as discussed in Exhibit B, Tab 3, Schedule 1, page 4 of the 2017/2018 DSM Deferral and Variance Account Application.

- b) The Business Case for the IT System can be found in Exhibit I.SEC 4 Attachment 1 as part of the 2017/2018 DSM Deferral and Variance Application (EB-2020-0067). A copy is attached as Attachment 1.
- c) Confirmed. As indicated in Exhibit A, Tab 4, Schedule 1, page 71, Enbridge completed the work on the system and rolled it out (including commissioning) in 2019.
- d) To Enbridge's knowledge, the Evaluation Contractor did not review any project elements for the IT system. The costs, including budget and spend are included in the Program Spending tables of the 2019 Natural Gas DSM Annual Verification Report on page 207.

Project Plan**DSM IT Solution for the Multi-Year Plan****Created By: Business Intelligence****June 23, 2015****Summary**

The Information technology and tools utilized by Enbridge DSM serve several purposes that further conservation and benefit customers. The tool performs a relationship management function, a program development and delivery function and a tracking, reporting and verification function. The two main current applications (SRM and DARTS), were designed and built to meet the Company's business requirements over five years ago when the DSM business was largely built on a Resource Acquisition platform. Since their implementation, the main applications have been heavily customized and supplemented with shadow systems and manual workarounds to fit innovative and changing business needs. These challenges call increasingly on nimble systems in support of flexible approaches to conservation in a business that has undergone three framework changes since major DSM IT system decisions were last made. The Company has undertaken a review of its DSM IT infrastructure to determine if it is practical and cost effective to update and enhance them as well as a Request for Information ("RFI") process to investigate potential replacement solutions and high level costs.

The OEB's Demand Side Management Framework for Natural Gas Distributors (2015-2020) issued in December 2014 (the "new DSM Framework") requires fundamental changes in the types and variety of DSM programs that Enbridge will pursue in the future. This will result in material changes in both the nature and scope of the Company's conservation programs. The Company's IT systems are essential to the efficient and effective delivery of these programs. Internal reviews of the existing DSM IT applications have identified issues with their stability and practicality.

Current State

Challenges and limitations of current applications are as follows;

1. A large number of DSM business processes are performed outside the core DSM systems, within a large number of informal systems. Due to the limitation of existing systems to handle complex processes, the business relies upon many ad-hoc (mostly Excel based) tools to meet its needs and this has resulted in:
 - a. Stranded information
 - b. Large number of physical project files and documentation
 - c. Duplicate systems of record
 - d. A high reliance on manual processes
2. Inability of the applications to enable business to utilize multiple sales channels and explore new ways to extend the reach and increase DSM impact. Current technology utilized by DSM doesn't allow for advanced lead creations, third party information sharing and campaign management.

Filed: 2020-10-07, EB-2020-0067, Exhibit I.SEC.4, Attachment 1, Page 2 of 7

This leads to missed opportunities and limits the utility’s ability to reach a wider customer base (e.g. small commercial, small industrial and residential sectors).

3. Inflexibility of core systems to change and scale up to meet evolving needs, particularly in sectors like residential, small commercial and small industrial.
4. The existing systems are outdated and need to be upgraded with significant effort and resources in order to meet Canadian Anti-SPAM Legislation (“CASL”), Privacy and other IT security standards and policies.
5. The current SRM System is currently not compatible with existing Company non-DSM IT systems. Upgrading SRM to operate with its limitations beyond 2016 is cost prohibitive.

Activity	Total \$ (Approx.)
Overdue Point Upgrade	\$1.0M
Upgrade to Current Internet Explorer	\$800k
Integration with MS Outlook	\$600k
TOTAL	\$2.4M*

*High level estimates based on preliminary analysis.

The current IT systems that support the Company’s DSM business functions are not capable of meeting the requirements of the OEB’s new DSM Framework without a considerable investment in the upgrading and enhancement of these systems. The extent to which manual workarounds and ad hoc data gathering and reporting tools will be required to meet the new Framework’s objectives will be extensive, costly and limit the Company’s ability to meet these objectives.

Future State

In order to prepare for the new DSM Framework, the company has undertaken a process to identify and document current and future DSM IT System requirements resulting from the implementation of this framework. This work has highlighted the critical and urgent need to upgrade or replace the Company's current DSM IT Systems. It was recognized that minor enhancements and further customization of the existing DSM applications would prove inadequate to support Enbridge's DSM requirements moving forward.

Requirements of the new DSM Framework and the limitations and challenges of current systems are the driving forces behind the need to replace the current DSM Systems as explained below;

1. The Company anticipates a significant increase in the number of DSM programs, projects and program participants. The Company's current technology has been determined to be insufficient to meet the needs of the business. During the RFI process it became evident that current and future needs of the Company's DSM programs will require a significant step change that takes advantage of IT technologies now available that are built specifically for energy conservation program management.
2. In order to meet the requirements of the new DSM Framework, the Company will need the capability to identify and reach segments of the market that have not participated in conservation programs in the past. To do this will require technology that will enable advance lead creation and campaign management functionalities. Technologies currently in use are aging with limited support as they reach the end of their lifecycle and their ability to meet business requirements are severely limited.
3. New requirements, rules and calculations around conservation measures such as TRC Plus, Enhanced PAC, multi-year budget and savings calculations cannot be readily achieved through the use of the DSM IT systems now used by the Company.
4. As IESO/LDC system upgrade decisions are made with respect to DSM/CDM collaboration and the Company's new DSM IT System starts to take shape, it is a desired outcome that we have the capability to exchange data with the IESO and LDC's and other third parties to build complete energy consumption profiles for customer segments. Current systems utilized by Enbridge don't have the capacity to meet these needs.

Currently there is limited integration between the Company's various DSM related systems. This results in significant manual effort to reconcile data across multiple sources. Not only this is very inefficient but this also leaves opportunity for inconsistencies in reporting. As the Board proposes to be more involved in the Evaluation, Monitoring and Verification ("EM&V") process and with an expected increase in stakeholder involvement in the review/ audit process, the new DSM IT System will provide for a significant increase in the detail and frequency of the reports produced. Current systems are not equipped to handle these requirements. In addition to resolving the aforementioned limitations and

Filed: 2020-10-07, EB-2020-0067, Exhibit I.SEC.4, Attachment 1, Page 4 of 7
issues of the current applications, a future state solution(s) is/are expected to have the following capabilities;

1. A solution that is built on DSM/ Energy conservation platform will provide the necessary fit in terms of the functionalities offered. A solution of this type will also be more easily configurable, flexible, adaptable and scalable to meet changing DSM related business requirements as new programs are rolled out or changes are made to existing programs.
2. An integrated solution that connects various sources of information and provides business the ability to automate data quality/ integrity tests. This not only enables the utility to better identify customer segmentation and market potential but also ensures EM&V process is simplified, efficient and more accurate. As the Board proposes to play a larger role in EM&V process, the utility will be required to provide more and more timely data/ information. The efficiency and the accuracy of meeting these demands will require the capabilities of the new DSM IT System.
3. Ability to support advanced level of analytics and reporting. As the company moves further towards data driven decision making and targeted marketing in order to increase customer participation, it is crucial to have systems that are advanced and integrated and have the ability to handle increased needs in this area. The Company's new DSM IT System will provide for the consolidation of data from multiple sources, advanced and automated reporting, ad hoc querying and a more complete and enhanced view of the customer and the Company's interactions with them.
4. The new DSM IT System will have sufficient flexibility and synergies that will help promote and support DSM/CDM collaboration. Both the Independent Electricity System Operator ("IESO") and Union Gas Ltd. ("Union") are currently undertaking similar IT evaluation exercises and are finalizing plans to implement similar solutions.
5. Enable business to be "technology-ready" to respond to changes in DSM requirements and offer the reliability and performance required to handle large volumes of data and multiple user access. The Company's new DSM IT System will be user-friendly and accessible to increase efficiency and productivity. The system will be able to accommodate the implementation of new or modified DSM programs without major redesign or reprogramming.
6. The Company's new DSM IT System will support compliance with security, privacy, corporate & external governance & control requirements.

The new IT solution will not only enable Enbridge to meet the guidelines of the new DSM Framework but it will also provide several benefits to various stakeholders as summarized below.

1. Utilizing targeted microsites and portals the company can further enhance its ability to educate customers on DSM programs. Customer data can be accessed and used through these portals to determine eligibility and potential of participating in different programs. The proposed future state will potentially enable customers to view the status of their DSM applications, incentives, and participation history.

Filed: 2020-10-07, EB-2020-0067, Exhibit I.SEC.4, Attachment 1, Page 5 of 7

2. The audit process will be enhanced and made more efficient by integrating the systems that track and report DSM program related data.
3. Automated interfaces, centralized data depository and enhanced analytics will result in significant improvement in data quality and integrity.
4. The Company will be able to enhance the support it provides to business partners and DSM delivery agents. Business partners like builders and energy auditors will be able to streamline the exchange of their DSM-related data with Enbridge through a convenient, secure portal where they can learn more about DSM programs and leverage pre-built calculators and other tools to create leads and follow-up on them.

Conclusion

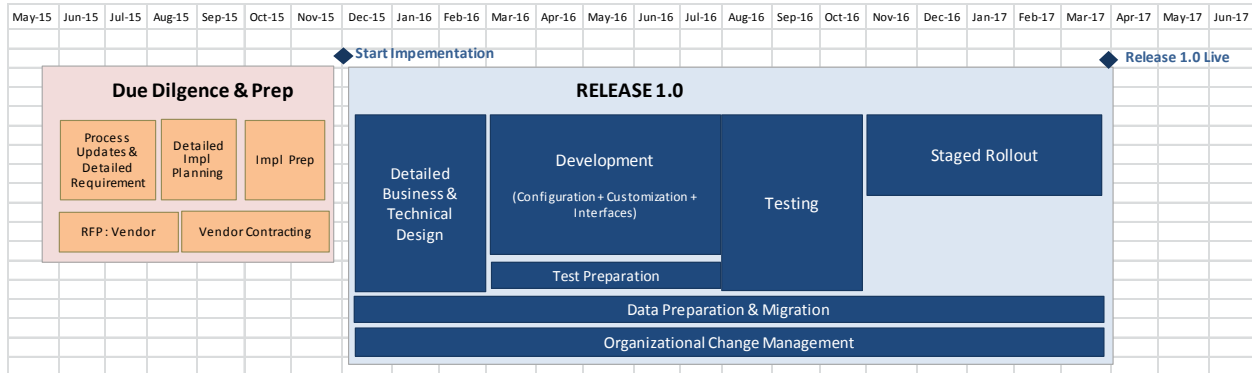
The overall conclusion of the exercise the Company has undertaken to assess the capabilities of its current IT systems used to support its DSM programs is that it would not be practical or cost effective to attempt to update and enhance these systems to the point where they provide required functionalities.

The DSM systems review undertaken by the Company highlights not only the need but also the criticality and urgency of updated technology. As part of the system review, the Company investigated the following solution vendors and their products.

- Nexant Inc.
- Microsoft Dynamics
- Oracle Salescloud
- SalesForce
- Sugar CRM
- Energy Orbit
- ANB Systems
- CGI Technologies
- Energy Platforms
- SAP

Based on the timeline outlined in Chart 1, the Company should begin preparatory activities such as detailed system requirements gathering, design and the vendor selection (RFP) process in 2015 in order to be in a position to utilize this new technology in early 2017. The proposed plan outlined below balances the multiple facets of a new system implementation, the need to maintain current technology in the interim, resource requirements and the preferred point in the calendar for the implementation of this system.

Chart 1 – Release 1.0 Timeline



Currently, requirements and processes in Table 1 are in scope for the first release with the expected roll-out date of Q1 2017.

Table 1 – In-Scope – Release 1.0

DSM Program Research, Evaluation and Design
DSM Program Marketing
Account, Contact and Interaction Management
DSM Sales - Lead/Opportunity Management & Forecasting
Project Initiation & Program/Project Submission
Participant Validation
DSM Incentive Processing
DSM Tracking & Reporting (cost effectiveness screening and tests)
DSM Evaluation and Verification (support Audit process)
Market Segment Analysis and Prospecting

Detailed system requirements will be identified as the Company progresses through the “due-diligence” phase of Release 1.0. Also, as details of the new DSM Framework are finalized there will be additional functionalities required of the IT systems.

The implementation of Release 1.0 will provide the core platform to enable the Company to move forward with subsequent system releases that capture future business requirements as they become defined.

Table 2 - Out of Scope - Release 1.0

Collaboration Electric LDCs and CDM Programs
Green Button Initiative
Integrated Resource Planning Activities
Financing options such as On-Bill Financing
Fee for Service Model
Pay for Performance Model
Implementation of Behavioral Programs
External Audit Tool

Table 3 shows the high level budget estimate resulting from Enbridge’s DSM System investigation for the implementation of Release 1.0. The Company expects to revisit the proposed budget of \$5.2 million and the timeline as it embarks on the process of replacing its DSM IT Systems. At present Enbridge does not anticipate a significant increase in DSM O&M expenditures beyond those incurred today as a result of implementing a new system.

Table 3

Activity	Total \$ (Approx.)
Due Diligence & Preparation	\$600K
Release 1.0	\$4.6M
TOTAL	\$5.2M*

* High level estimate. To be confirmed during the “Due-Diligence” phase and pending OEB decision.

Acronyms

CASL	Canadian Anti-Spam Legislation
CDM	Conservation and Demand Management
DARTS	Data Analysis Reporting and Tracking System
EM&V	Evaluation, Monitoring and Verification
LDC	Local Distribution Company
PAC	Participant Administration Cost
SRM	Stakeholder Relationship Management
TRC	Total Resource Cost

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe (PP)

Interrogatory

Reference:

Ex. A, T4, Sch. 1, Page 68

Questions:

- a) Please explain how costs related to the OEB EAC and DSM Annual Verification Report are budgeted or captured in Table 8.7.
- b) Please indicate what budget category Enbridge and Union use to budget and record OEB EAC and DSM Annual Verification Report costs.

Response

- a) Budgeted costs related to 2019 OEB EAC and DSM Annual Verification Report activities for the EGD rate zone are reflected in the "Evaluation" category under "Portfolio Costs" in Table 8.7 of Exhibit A, Tab 4, Schedule 1.
- b) For the EGD rate zone, 2019 OEB EAC and DSM Annual Verification Report activities are budgeted in the "Evaluation" category under "Portfolio Costs" as shown in Table 8.7 of Exhibit A, Tab 4, Schedule 1.

For the Union rate zones, 2019 OEB EAC and DSM Annual Verification Report activities are budgeted in the "Evaluation" category under "Portfolio Costs" as shown in Table 9.9 of Exhibit A, Tab 4, Schedule 1.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe (PP)

Interrogatory

Reference:

Ex. A, T4, Sch. 1, Appendix A

Questions:

- a) Please provide the carbon price assumptions used in the Union and Enbridge Rate Zones Avoided Gas Costs.
- b) The discount rate listed in A1 (page 82) and A2 (page 84) is 5.32%. Please provide the calculation and source of information for this discount rate

Response

- a) The carbon price assumptions used for the EGD rate zone for 2019 can be found in Exhibit A, Tab 4, Schedule 1, page 83.

The carbon price assumptions used for the Union rate zones for 2019 can be found in Exhibit A, Tab 4, Schedule 1, page 85.

The basis for the carbon price assumptions used are as follows:

- 2019 to 2022 – based on the Federal Fuel Charge Rate for marketable natural gas for those years, as determined by the federal government in 2019.
- 2023 and beyond – based on the Federal Fuel Charge Rate for marketable natural gas for 2022, as determined by the federal government in 2019, increased annually by an inflation rate of 1.27%¹.

¹ Four quarter moving average rate based on the Gross Domestic Product Implicit Price Index for Final Domestic Demand for Q2 2018.

- b) The nominal discount rate of 5.32% was determined using a real discount rate of 4%² and converted into a nominal discount rate using an inflation rate of 1.27%³:

$$\begin{aligned}\text{Nominal Discount Rate} &= (1 + \text{Real Discount Rate}) * (1 + \text{Inflation Rate}) - 1 \\ &= (1 + 0.04) * (1 + 0.0127) - 1 \\ &= 5.32\%\end{aligned}$$

² OEB Filing Guidelines to the Demand Side Management Framework for Natural Gas Distributors (2015-2020), EB-2014-0134, Page 35.

³ Four quarter moving average rate based on the Gross Domestic Product Implicit Price Index for Final Domestic Demand for Q2 2018.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

Ex. B/2/1, p. 4

Question:

Please confirm that the \$1 million annual DSM IT amount is included in 2021 rates, but will be credited back to customers in full through the DSMVA.

Response:

Please see the response filed at Exhibit I.EP.4.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

B/3/1, Appendix A1 and C/2/1, Appendix A5

Questions:

Please confirm that, for a typical school with 40,000 annual volume,

- a) That school in the EGD rate zone will pay a single adjustment of \$7.60, but an identical school in the Union south rate zone will pay an aggregate adjustment of about \$175.00;
- b) The programs available to those two identical schools in different rate zones are not materially different;
- c) The amounts built into rates for DSM programs for the school in the Union south rate zone are significantly higher than the amounts built into rates for DSM programs for that identical school in the EGD rate zone; and
- d) Shifting additional funds to residential programs increases the costs borne by schools in the Union rate zone but does not increase the costs borne by schools in the EGD rate zone.

Response:

- a) The one-time adjustment for a Rate 6 customer in the EGD rate zone consuming 40,000 m³ of natural gas per year is a charge of \$7.00.¹ The one-time adjustment

¹The Rate 6 \$7.00 bill impact is calculated based on the unit rate for disposition of 0.0175 cents/m³ multiplied by 40,000 m³.

for a Rate M1 customer in the Union South rate zone consuming 40,000 m³ of natural gas per year is a charge of \$145.24.²

The difference in DSM disposition unit rates and impacts between EGD's Rate 6 and Union South Rates M1 and M2 is a function of differences in DSM cost allocation methodologies and rate design approved by the OEB that have existed for many years by the legacy Enbridge Gas Distribution and Union Gas Limited. Enbridge Gas will file its rate harmonization proposal, which will include, for example, harmonization of its customer classes, recovery of DSM program costs, and other cost allocation and rate design considerations, as part of its rebasing application in 2024.

- b) Not confirmed. Enbridge Gas has different program offerings available to the two identical schools in the different rate zones as part of the Market Transformation and Performance Based scorecards.
- c) Confirmed. The amount of DSM program costs included in the charges of a school with annual consumption 40,000 m³ a year in Union South Rate M1 is approximately \$322 which is approximately double that of a school with the same annual consumption in EGD Rate 6 at approximately \$168.

The Company notes that the total annual bill of a school consuming 40,000 m³ annually is approximately \$11,000 as a Rate M1 customer in the Union South rate zone and \$13,400 as a Rate 6 customer in the EGD rate zone. The total DSM costs including disposition of deferral balances is approximately 1-3% of the customer's total annual bill.³

Please also see the response to part a.

- d) Confirmed.

² The Rate M1 \$145.24 bill impact is calculated based on the unit rate for disposition of 0.3631 cents/m³ multiplied by 40,000 m³.

³ 1-3% calculated as DSM annual costs of \$168 and \$322 divided by total annual bill of \$13,400 and \$11,000 for a Rate 6 EGD rate zone customer and a Rate M1 Union South customer respectively.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

A/4/1, p. 9

Questions:

Please advise whether the figures 30 billion lifetime cubic meters and 56.2 million tonnes of GHG emissions are based on gross or net savings. Please confirm that these LCMs and GHGs, whether gross or net, have not yet been saved, but are projected to be saved over the lifetime of the measures installed, both in the past and in the future.

Response:

The figures are net. The figures only include savings up to 2019, and do not include savings projected to persist beyond 2019.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

A/4/1, p. 20

Question:

Please provide a breakdown of distribution revenue for 2019 between EGD and Union rate zones.

Response:

Attachment 1 to this response reproduces Exhibit B, Tab 2, Schedule 2, page 1 that was filed in EGI's 2019 Earnings Sharing and Deferral Disposition proceeding (EB-2020-0134). Column 9 of the schedule provides a summary of EGI's 2019 utility gas sales and distribution revenue. The summary includes a breakdown of 2019 gas sales and distribution revenue between the legacy EGD and Union rate zones (by rate class), as well as a summary of accounting adjustments reflected within utility gas sales and distribution revenue, which pertain to either the EGD rate zone, Union rate zones, or Enbridge Gas as a whole.

FOR THE YEAR ENDED DECEMBER 31, 2019

Line No.	Customer Meters			Throughput Volumes (10 ³ M ³)			Revenues (\$ Millions)			
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	
	Sales	T-Service	Total	Sales	T-Service	Total	Sales	T-Service	Total	
1	<u>General Service</u>									
2	Rate 1	1,985,346	56,781	2,042,127	5,213,290	145,299	5,358,589	1,785.6	39.1	1,824.8
3	Rate 6	144,944	23,246	168,190	3,233,688	2,066,334	5,300,022	818.3	190.9	1,009.2
4	Rate 9	2		2						
5	Total EGD Rate Zone	2,130,292	80,027	2,210,319	8,446,978	2,211,633	10,658,611	2,603.9	230.1	2,834.0
6	Rate M1	1,095,866	45,414	1,141,279	3,079,559	221,840	3,301,400	861.8	23.0	884.9
7	Rate M2	4,479	3,304	7,783	663,864	685,068	1,348,932	127.7	38.8	166.5
8	Rate 01	337,741	15,902	353,643	991,238	80,169	1,071,407	384.1	17.5	401.6
9	Rate 10	1,242	902	2,144	187,742	192,950	380,691	48.8	23.7	72.5
10	Total Union Rate Zones	1,439,327	65,523	1,504,850	4,922,402	1,180,027	6,102,429	1,422.4	103.0	1,525.5
11	Total General Service Sales & T-Service	3,569,619	145,550	3,715,168	13,369,380	3,391,660	16,761,041	4,026.3	333.1	4,359.5
12	<u>Wholesale - Utility</u>									
13	Rate M9	1	3	4	28,114	75,875	103,989	4.4	1.0	5.4
14	Rate M10	2	0	2	391	0	391	0.1	0.0	0.1
15	Total Wholesale - Utility	3	3	6	28,505	75,875	104,380	4.5	1.0	5.4
16	<u>Contract Sales</u>									
17	Rate 100	2	2	4	12,577	2,800	15,377	2.7	0.4	3.1
18	Rate 110	48	234	282	68,785	806,611	875,396	5.1	37.0	42.2
19	Rate 115	1	21	22	741	440,875	441,615	0.1	9.0	9.1
20	Rate 125	4	0	4	0	0	0	0.0	11.3	11.3
21	Rate 135	3	40	43	1,631	61,389	63,020	0.3	1.9	2.2
22	Rate 145	3	23	26	1,597	28,843	30,441	0.1	1.7	1.8
23	Rate 170	3	20	23	18,233	268,125	286,358	2.2	5.5	7.8
24	Rate 200	0	0	0	152,503	44,376	196,879	28.1	2.1	30.3
25	Rate 300	1	0	1	0	0	0	0.0	0.1	0.1
26	Rate 315					0	0		0.0	0.0
27	Total EGD Rate Zone	65	340	405	256,067	1,653,019	1,909,086	38.7	69.1	107.8
28	Rate M4	28	205	232	53,246	620,765	674,011	9.9	27.9	37.8
29	Rate M7	3	34	36	25,510	515,833	541,343	4.5	14.1	18.6
30	Rate 20 Storage	0	0	0	0	0	0	0.0	2.6	2.6
31	Rate 20 Transportation	5	49	54	10,603	512,297	522,900	3.4	24.9	28.3
32	Rate 100 Storage	0	0	0	0	0	0	0.0	0.0	0.0
33	Rate 100 Transportation	0	12	12	0	1,020,510	1,020,510	0.0	10.7	10.7
34	Rate T-1 Storage	0	0	0	0	0	0	0.0	1.4	1.4
35	Rate T-1 Transportation	0	37	37	0	437,372	437,372	0.0	11.3	11.3
36	Rate T-2 Storage	0	0	0	0	0	0	0.0	7.4	7.4
37	Rate T-2 Transportation	0	25	25	0	4,136,389	4,136,389	0.0	64.2	64.2
38	Rate T-3 Storage	0	0	0	0	0	0	0.0	1.4	1.4
39	Rate T-3 Transportation	0	1	1	0	283,374	283,374	0.0	5.5	5.5
40	Rate M5	5	36	42	5,923	68,042	73,965	1.1	2.4	3.4
41	Rate 25	31	24	55	42,433	76,767	119,200	8.3	2.7	11.0
42	Rate 30	0	0	0	0	0	0	0.0	0.0	0.0
43	Total Union Rate Zones	72	422	494	137,715	7,671,348	7,809,063	27.2	176.3	203.6
44	Total Contract Sales	137	762	899	393,781	9,324,367	9,718,149	65.9	245.4	311.3
45	Subtotal	3,569,759	146,315	3,716,074	13,791,667	12,791,903	26,583,570	4,096.7	579.5	4,676.2
46	<u>Accounting Adjustments:</u>									
47	EGI Tax Variance									(24.1)
48	EGI Elimination of 2018 Tax Variance									4.5
49	EGI Accounting Policy Change									1.1
50	EGD Average Use/ Normalized Average Consumption									(8.6)
51	EGD Dawn Access Cost									2.2
52	EGD 2018 Earnings Sharing Adjustment									(1.7)
53	EGD Elimination of 2018 Earnings Sharing Adjustment									1.7
54	EGD Transactional Services Revenue									12.0
55	EGD LRAM									0.0
56	EGD Federal Carbon Program									0.1
57	EGD Greenhouse Gas Emissions Administration									0.2
58	EGD Reverse 2019 Gas Supply Plan Cost Consequences									(3.9)
59	Union Average Use/ Normalized Average Consumption									(4.7)
60	Union Parkway Obligation Rate Variance									0.3
61	Union Incremental Capital Module									(7.0)
62	Union Capital Pass-through									(1.0)
63	Union LRAM									0.4
64	Union Federal Carbon Program									0.4
65	Elimination of the UGL rate zone unregulated storage cost from EGD rate zone revenues									(17.4)
66	Miscellaneous									0.5
67	Total Utility Revenue									4,631.5

* There is no distribution volume for Rate 125 customers.

** Less than 50,000 m³

*** Less than \$50,000

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

A/4/1, p. 33

Question:

Please describe in more detail the plans to terminate all prescriptive boiler programs

Response:

Prior to the integration of the two legacy utilities, Legacy Union offered boilers as a prescriptive measure that relied on prescriptive substantiation documents. Legacy Enbridge supported boilers as both custom and prescriptive measures and relied primarily on the custom approach as a result of the development of its e-Tools calculator.

Following utility integration and as part of legacy program integration efforts, Enbridge Gas evaluated ways to harmonize its support of commercial boiler projects. Due to the flexibility afforded by the e-Tools calculator, Enbridge Gas initiated the transition in 2019 to harmonize boilers as a custom measure. As a result, beginning in 2020, boiler projects were claimed through the Custom offer using the e-Tools calculator.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

A/4/1, p. 63

Question:

The evidence states “The intention of the audit is for the EC [to] provide an opinion on whether the claimed...Demand Side Management Variance Account ha[s] been correctly calculated using reasonable assumptions”. Please confirm that no part of the EC’s scope of work is to do any audit of the DSMVA, no opinion has provided by the EC on the calculations or reasonableness of the DSMVA, and no independent support for the DSMVA amounts claimed has been provided by the Applicant in the Application.

Response:

Confirmed. For more details refer to Exhibit I.PP.2 part c and d.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

A/4/1, p. 91

Question:

Please advise why there are two levels of incentive listed for elementary schools.

Response:

There is a misprint in Table C5 (Exhibit A, Tab 4, Schedule 1, page 91). For the EGD rate zone's 2019 Commercial & Industrial Prescriptive (Fixed) Incentive offering, the customer incentive level for high efficiency boilers was \$2,100 for elementary schools and \$8,500 for secondary schools.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (VECC)

Interrogatory

Reference:

Exhibit A, Tab 4, Schedule 1, Page 27, Table 4.14

Question:

Please add a row to the table to provide the number of Low-Income Customers.

Response

Enbridge Gas does not track customer accounts by income level. However, a proxy can be used.

There are two different measures of poverty and housing need, the Low Income Measure, after tax (LIM-AT) and Core Housing Need (CHN), that each suggest about 15% of people in Ontario fall below the threshold for each measure.¹ Using this assumption would result in the following adjustment to the referenced table:

CUSTOMER TYPE	2015	2016	2017	2018	2019
Residential (85%)	1,110,521	1,126,848	1,142,836	1,159,674	1,174,650
Estimated Low-Income (15%)	195,974	198,855	201,677	204,648	207,291
Total Residential	1,306,495	1,325,703	1,344,513	1,364,322	1,381,941
Commercial	119,899	120,613	121,234	121,971	122,909
Industrial	463	460	470	470	493
Wholesale	5	5	6	7	7
Total	1,426,862	1,446,781	1,466,223	1,486,770	1,505,350

¹ Community housing renewal: Ontario's action plan under the National Strategy, Ministry of Municipal Affairs and Housing. <https://www.ontario.ca/document/community-housing-renewal-ontarios-action-plan-under-national-housing-strategy/housing-needs-ontario>