

COMPENDIUM FOR CROSS-EXAMINATION

ENBRIDGE GAS INC. – PANEL 2

CONSUMERS COUNCIL OF CANADA

EB-2021-0002

ENBRIDGE GAS INC. 2023-2027 DEMAND SIDE MANAGEMENT

offering will continue but will also now provide moderate income customers⁵ with an increased incentive to overcome a potential cost barrier in coordination with IESO CDM programming delivered to moderate income households in Ontario.

19. Enbridge Gas is also exploring the development of virtual audit alternatives in the event that a customer experiences challenges arranging an in-person energy audit. For example, this will address accessibility hurdles as has been the case serving customers during the COVID-19 pandemic.

Residential Program Proposal

20. Enbridge believes that a Residential program that provides choice and flexibility can best support the residential market by delivering an array of options for participation. This will provide the best opportunity to help customers understand the benefits of focusing their time on the specific energy efficiency improvements in their homes.
21. To reduce natural gas consumption, increase home comfort, and help customers manage their energy bills, Enbridge Gas will continue to focus efforts on helping consumers in reducing the most significant loads in the home, which are largely space heating followed by water heating. The measures that help reduce the space heating load include mechanical solutions, such as high efficiency furnaces, boilers, or water heaters, thermal envelope improvements that focus on reducing heat loss, such as insulation and air sealing, and advanced controls that optimize comfort with fuel savings, such as smart thermostats.
22. Enbridge Gas is proposing three residential offerings to target the needs and challenges of the residential housing sector. By providing multiple participation options a customer can choose the offering that best addresses their individual

⁵ Eligibility details described in the Offering Details in paragraph 52 below.

needs. The offerings work together to overcome the unique challenges and barriers faced by customers across the sector.

Offering Name	High Level Description	Key Offering Elements
Whole Home	The Whole Home offering provides a holistic approach to residential home energy upgrades by providing customers incentives towards their home energy audits and thermal envelope and mechanical system upgrades. The intent is to motivate homeowners to pursue deeper energy savings across additional measures than they may have otherwise undertaken by taking a whole home view.	<ul style="list-style-type: none"> • Education • Marketing/Communication • Financial Incentives • Home Energy Audit with report detailing upgrade recommendations •
Single Measure	The Residential Single Measure offering provides a simplified and flexible approach for customers seeking to improve their home's energy performance. Customers using a contractor can receive single measure incentives in support of insulation or professional air sealing upgrades with no home energy audit requirement.	<ul style="list-style-type: none"> • Education • Marketing/Communication • Financial Incentives • Contractor training and outreach
Smart Home	The Smart Home offering provides residential customers with incentives towards smart home	<ul style="list-style-type: none"> • Education • Marketing/Communication • Financial Incentives

	technologies, which provide automated controls to reduce energy consumption.	Enhanced incentives available for moderate income customers in coordination with the IESO ⁶
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OEB Objectives and Guiding Principles

23. The Residential program has been designed to support the OEB's primary objective: "Assisting customers in making their homes and business more efficient in order to help better manage their energy bills."⁷

24. The flexible design with multiple points of entry should allow for a more cost-effective program over time as well as more widespread opportunity for customer participation based on their individual needs and situation. In addition, Enbridge Gas has coordinated efforts with the IESO in the evolution of the Smart Home offering in support of moderate income consumers.

25. The Residential program also addresses the guiding principles⁸ outlined in the Proposed Framework including:

- DSM plans should be designed to provide opportunities for a broad spectrum of consumer groups and customer needs to encourage widespread customer participation over time and "ensure all segments of the market are reached."
- DSM plans should include strategies to increase the natural gas savings by targeting key segments of the market and/or customers with significant room for efficiency improvements.
- DSM plans should minimize lost opportunities for energy efficiency and should be designed to pursue long term energy savings.

⁶ Eligibility details described in the Offering Details in paragraph 52 below.

⁷ EB-2019-0003, OEB Letter Post-2020 Natural Gas Demand Side Management Framework (December 1, 2020), p. 2.

⁸ EB-2021-0002, Application, Proposed Framework, Exhibit C, Tab 1, Schedule 1, pp. 6-8.

- Enbridge Gas should endeavour to coordinate the delivery of DSM with electricity CDM efforts where possible.

Whole Home Offering

Background

26. This offering was introduced to the gas utilities' DSM portfolios in 2012. Though the legacy utilities delivered slightly different programming over the years, following the amalgamation forming Enbridge Gas in 2019, all customer facing elements were aligned so that any Enbridge Gas customer participating in the offering from across the province would have the same customer experience. In 2020, the offering was adjusted to reflect the impacts of updates to gas furnaces regulations specified in Federal Energy Efficiency Regulation Amendment 15,⁹ specifically the increase in residential furnace baseline, and the focus of HER shifted toward encouraging and supporting thermal envelope improvements.

27. Through the course of the 2015-2020 DSM Plan, HER was well received by customers and demonstrated strong success, however, Enbridge Gas customer feedback has indicated that customers who may not be in a position to participate in the HER offering, could benefit from a simplified offering. Enbridge Gas is working to increase participation through the introduction of the Single Measure offering in order to provide customers with this flexibility. For those customers who have the time, means and interest in participating in a holistic approach inclusive of home energy audits and multiple upgrade projects, Enbridge Gas believes the Whole Home offering will continue to drive strong participation and deep savings for residential homeowners.

⁹ <https://www.nrcan.gc.ca/energy-efficiency/energy-efficiency-regulations/guide-canadas-energy-efficiency/gas-furnaces/6879>

Objective

28. The goal of the Whole Home offering is to help homeowners manage their energy consumption and in turn their energy bills by encouraging a whole building, or holistic approach to identifying opportunities for energy efficiency upgrades, in an effort to achieve deeper savings across a number of improvements undertaken as part of one project.

Target Market

29. The Whole Home offering is targeted to Residential customers, subject to eligibility details outlined below.

Offering Details

30. Participation in the Whole Home offering will consist of three separate activities:

- i. An initial home energy audit, called the pre-assessment, conducted by a Registered Energy Advisor through a Service Organization licensed by NRCan.
- ii. Installation of at least two eligible measures. Participants installing a furnace must install three eligible measures.
- iii. A final home energy audit, called the post-assessment, conducted by a Registered Energy Advisor through a Service Organization licensed by NRCan.

Eligibility Criteria

31. To be eligible for the offering, a participant must be a residential Enbridge Gas customer whose residence (which may include detached house, semi-detached house, row house, townhouse, or a mobile home with a permanent foundation) is heated with natural gas.

Incentives/Enablers¹⁰

32. There are three types of incentives available for participants: measure incentives, assessment incentives, and bonus incentives.

33. Measure incentives are provided to participants according to the measure installed.

Table 1 details the measure incentives contemplated at the time of submission.

Table 1: Whole Home Measure Incentives

<u>Measure</u>	<u>Criteria</u>	<u>Incentive</u>
Attic Insulation	Increase insulation from R35 or less to at least R60	\$650
	Increase cathedral/flat roof insulation by at least R14	\$650
Air Sealing	Achieve 10% or more above base target	\$150
	Achieving base target	\$100
Basement Insulation Must upgrade a minimum of 20 per cent of the total wall area	Add at least R23 insulation to 100% of basement	\$1,250
	Add at least R12 insulation to 100% of basement	\$750
	Add at least R23 insulation to 100% of crawl space wall	\$1,000
	Add at least R12 insulation to 100% of crawl space wall	\$500
	Add at least R23 insulation to 100% of floor above crawl space	\$1,000
Exterior Wall Insulation Must upgrade a minimum of 20 per cent of the total wall area	Add at least R20 to 100% of building	\$3,000
	Add at least R9 insulation to 100% of building to achieve a minimum of R12	\$1,750
	Add at least R3.8 to 100% of building to achieve a minimum of R12	\$1,000
Furnace/Boiler	For replacing a less than 96% AFUE natural gas furnace with a 96% AFUE or higher condensing natural gas furnace; OR,	\$250 for furnace or \$1,000 for boiler

¹⁰ Incentive details are provided as currently contemplated, Enbridge Gas routinely examines and adjusts incentive amounts in response to opportunities and market conditions, and in an effort to maximize program performance and results over the course of the Multi-Year term.

<u>Measure</u>	<u>Criteria</u>	<u>Incentive</u>
	For replacing a less than 90% AFUE natural gas boiler with a 90% AFUE or higher condensing natural gas boiler.	
Water Heater	Replace existing natural gas water heater with 0.80 EF or higher tanked ENERGY STAR® qualified natural gas water heater. Or Replace existing natural gas water heater with 0.87 UEF or higher tankless ENERGY STAR qualified natural gas water heater.	\$400
Window/Door/Skylight	For each window, door or skylight replaced with an ENERGY STAR qualified model.	\$40

34. Assessment incentives are provided to cover a significant portion of a participant's audit related costs. Specifically, participants receive \$550 for completing the pre and post energy audits.

35. Bonus incentives are designed to encourage participants to install additional measures in order to achieve deeper savings. The bonus incentives schedule is contemplated as follows:

- \$150 for three measures
- \$500 for four measures
- \$750 for five or more measures
- An additional \$500 bonus incentive for participants who insulate 100% of their basement.

Considerations for Continuous Improvement

36. Enbridge Gas is currently conducting a pilot on virtual audits to determine its viability as a future offering enhancement. Virtual audits aim to provide the same benefits and outcomes as a traditional audit. Using artificial intelligence and software, they can analyze a set of data to determine current building performance and provide recommendations to improve the building's energy efficiency. Data inputs include

ENBRIDGE GAS INC.

Answer to Interrogatory from
Consumers Council of Canada (CCC)

Interrogatory

Issue 10a

Reference:

Exhibit E, Tab 1, Schedule 2

Question(s):

The Council is interested in historical costs and participation rates for the residential home audit and retrofit programs undertaken by EGD and Union Gas Limited over the last 10 years. With respect to the previous residential home audit and retrofit programs undertaken by EGD and Union Gas for the period 2011-2021 please provide the following for each year:

- a. Total program costs, allocated administration/portfolio costs, shareholder incentive payments, DSMVA (in effect, all costs related to the programs);
- b. Projected participation rates and actual participation rates;
- c. Average incentive payments per customer;
- d. Total incentives paid out by measure;
- e. Projected annual natural gas savings and actual natural gas savings achieved.

Response:

Please note that 2011 information is not provided as the home retrofit offerings began in 2012.

For parts a, b, c, and e, see Tables 1 and 2 below.

For part d, refer to Exhibit I.10a.EGI.Staff.34, Attachment 1, page 2. Please note that for 2012 to 2015, EGD incentive payments were tiered based on the participant's whole home performance and Union only tracked the whole home incentive amount to be paid to customers, not measure by measure, therefore the request could not be provided for those years.

Table 1 – EGD Rate Zone (Home Retrofit Offering)

	2012	2013	2014	2015	2016
a) Total HER DSM Costs (all costs except DSMI)	\$999,502	\$3,829,573	\$11,012,115	\$12,050,103	\$25,409,748
b) HER Participant Target at 100%	160	732	747	762	8,259
b) HER Participant Metric Achieved	209	1,649	5,213	5,646	12,986
c) Average Incentive Payment Per Customer	\$1,920	\$1,333	\$1,454	\$1,477	\$1,484
e) Actual Net Cumulative Natural Gas Savings (m3)	5,296,300	38,980,521	89,690,562	102,415,214	229,695,730
e) Actual Net Annual Natural Gas Savings (m3)	264,815	1,949,026	5,914,881	6,762,791	14,988,260

	2017	2018	2019	2020 (Draft Audit)	2021 (Forecast) ¹
a) Total HER DSM Costs (all costs except DSMI)	\$26,029,067	\$26,498,569	\$32,788,648	\$30,038,838	\$32,469,027
b) HER Participant Target at 100%	9,116	9,235	11,606	10,700	10,054
b) HER Participant Metric Achieved	11,390	14,413	16,480	14,013	14,747
c) Average Incentive Payment Per Customer	\$1,487	\$1,510	\$1,684	\$1,823	\$1,866
e) Actual Net Cumulative Natural Gas Savings (m3)	153,917,853	157,959,135	220,374,038	173,919,345	201,828,961
e) Actual Net Annual Natural Gas Savings (m3)	6,156,714	6,318,365	8,814,962	6,956,774	8,073,158

1. 2021 forecast of results and spend are as detailed in interrogatory response to I.6.EGI.STAFF.13 a, Attachment 1. However, the numbers may vary due to rounding adjustments

Table 2 – Union Rate Zones (Home Retrofit Offering)

	2012	2013	2014	2015	2016
a) Total HER DSM Costs (all costs except DSMI)	N/A	N/A	\$2,517,060	\$4,816,523	\$11,189,498
b) HER Participant Target at 100%	160	160	254	1,245	3,300
b) HER Participant Metric Achieved	73	203	996	2,529	6,595
c) Average Incentive Payment Per Customer	N/A	N/A	\$1,746	\$1,543	\$1,273
e) Actual Net Cumulative Natural Gas Savings (m3)	1,799,370	6,073,437	26,518,351	57,744,701	110,310,927
e) Actual Net Annual Natural Gas Savings (m3)	89,969	303,672	1,342,361	3,189,046	4,412,437

	2017	2018	2019	2020 (Draft Audit)	2021 (Forecast) ²
a) Total HER DSM Costs (all costs except DSMI)	\$24,034,261	\$27,216,207	\$21,999,996	\$17,353,092	\$ 17,926,332
b) HER Participant Target at 100%	6,859	8,010	8,308	6,896	6,070
b) HER Participant Metric Achieved	13,729	16,118	10,958	7,619	7,009
c) Average Incentive Payment Per Customer	\$1,419	\$1,471	\$1,798	\$2,058	\$2,275
e) Actual Net Cumulative Natural Gas Savings (m3)	194,625,102	205,146,928	154,742,128	125,206,865	136,891,442
e) Actual Net Annual Natural Gas Savings (m3)	7,785,004	8,205,877	6,189,685	5,008,275	5,475,658

2. 2021 forecast of results and spend are as detailed in interrogatory response to I.6.EGI.STAFF.13 a, Attachment 1. However, the numbers may vary due to rounding adjustments

Notes:

- For part a
 - Shareholder incentive (DSMI) is not included, as DSMI is determined and reported on a scorecard level rather than a specific offering level.
 - For 2012 and 2013, Union tracked all residential costs together (including the ESK offering), therefore costs specific to the home retrofit offering is not available for those years
 - Administration costs are not tracked at the offering level for all years, as such Enbridge has made best efforts to allocate residential administration costs for the home retrofit offering specifically. Portfolio-level costs have not been allocated to the home retrofit offering.
- For part b
 - Participation rates are based on DSM scorecard metric achievement, and would not include participation that did not meet metric eligibility.
- For part c
 - For 2012 and 2013, Union tracked all residential costs together. Total incentive costs specific to the home retrofit offering is not available for this calculation.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Consumers Council of Canada (CCC)

Interrogatory

Issue 10a

Reference:

Exhibit E, Tab 1, Schedule 2, page 13

Question(s):

For each year 2022-2027 for each of the residential programs please provide the projected number of participants and the average incentive payments forecast per customer.

Response:

Please see below. Note that DSM Plan term is now 2023-2027 as was updated in the evidence filed with the OEB on September 29, 2021.

Residential Offering Name	2023 Participant Forecast	2023 Avg. Incentive	2024 Participant Forecast	2024 Avg. Incentive	2025 Participant Forecast	2025 Avg. Incentive	2026 Participant Forecast	2026 Avg. Incentive	2027 Participant Forecast	2027 Avg. Incentive
Whole Home	14,850	\$1,910	15,201	\$1,907	15,505	\$1,907	15,815	\$1,907	16,131	\$1,907
Single Measure	6,260	\$568	6,408	\$566	6,536	\$566	6,667	\$566	6,800	\$566
Smart Home	34,750	\$80	35,571	\$80	36,282	\$80	37,008	\$80	37,748	\$80

ENBRIDGE GAS INC.

Answer to Interrogatory from
Consumers Council of Canada (CCC)

Interrogatory

Issue 10a

Reference:

Exhibit E, Tab 1, Schedule 2, page 13

Question(s):

Will participants in the Whole Home offering also be eligible for the Smart Home offering? Will participants in the Single Measure program also be eligible for the Smart Home Offering?

Response:

Confirmed.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Consumers Council of Canada (CCC)

Interrogatory

Issue 10a

Reference:

Question(s):

As part of the Single Measure offering no energy audit is required. How will EGI ensure that the measure was actually installed? What type of arrangements will EGI have with participating contractors?

Response:

As a program requirement, Enbridge Gas will require contractors and customers to submit supporting documentation (which could include invoices, pictures etc.) to confirm eligible measures have been installed. This documentation will be submitted to Enbridge Gas via self-service tools and will be required before incentives are paid out. Enbridge Gas will look to engage contractors to participate in the offering via a contractor network. Please see Exhibit E, Tab 1, Schedule 2, page 18 of 22.

Table 4: 2023 DSM Plan Budget

2023 DSM Budget Item	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2023 Total
Residential Program	\$32,484,644	\$3,148,484	\$3,591,449	\$1,580,225	\$40,804,802
Residential Whole Home	\$26,140,935	\$1,527,894	\$2,961,089		\$30,629,918
Residential Single Measure	\$3,557,834	\$804,590	\$255,000		\$4,617,424
Residential Smart Home	\$2,785,875	\$816,000	\$375,360		\$3,977,235
Low Income Program	\$15,615,383	\$3,345,600	\$2,553,060	\$1,473,642	\$22,987,685
Home Winterproofing	\$9,511,755	\$2,499,000	\$2,364,360		\$14,375,115
Affordable Housing Multi-Residential	\$6,103,628	\$846,600	\$188,700		\$7,138,928
Commercial Program	\$17,931,274	\$1,233,078	\$2,354,815	\$3,743,608	\$25,262,775
Commercial Custom	\$10,944,600	\$619,650	\$331,580		\$11,895,830
Prescriptive Downstream	\$2,140,029	\$133,008	\$163,200		\$2,436,237
Direct Install	\$4,326,363	\$276,420	\$163,200		\$4,765,983
Prescriptive Midstream	\$520,282	\$204,000	\$1,696,835		\$2,421,117
Industrial Program	\$13,464,000	\$408,000	\$0	\$3,956,114	\$17,828,114
Industrial Custom	\$13,464,000	\$408,000	\$0		\$13,872,000
Large Volume Program	\$2,499,000	\$51,000	\$0	\$216,624	\$2,766,624
Direct Access	\$2,499,000	\$51,000	\$0		\$2,550,000
Energy Performance Program	\$637,500	\$30,000	\$450,000	\$104,156	\$1,221,656
Whole Building Pay For Performance (P4P)	\$637,500	\$30,000	\$450,000		\$1,117,500
Building Beyond Code Program	\$2,818,600	\$1,393,432	\$3,702,900	\$522,571	\$8,437,503
Residential Savings By Design	\$1,600,000	\$900,000	\$1,557,500		\$4,057,500
Commercial Savings By Design	\$0	\$200,000	\$1,036,000		\$1,236,000
Affordable Housing Savings By Design	\$993,600	\$160,000	\$984,400		\$2,138,000
Commercial Air Tightness Testing	\$225,000	\$133,432	\$125,000		\$483,432
Low Carbon Transition Program ¹	\$3,965,550	\$421,611	\$0	\$203,680	\$4,590,841
Residential Low Carbon	\$2,436,750	\$264,444	\$0		\$2,701,194
Commercial Low Carbon	\$1,528,800	\$157,167	\$0		\$1,685,967
Program Subtotal	\$89,415,951	\$10,031,205	\$12,652,224	\$11,800,620	\$123,900,000
Administration Costs				\$11,252,522	\$11,252,522
Portfolio Administration				\$8,569,922	\$8,569,922
System Maintenance & Improvements				\$1,020,000	\$1,020,000
Municipal Engagement				\$1,662,600	\$1,662,600
Evaluation and Regulatory Costs				\$3,876,000	\$3,876,000
EM&V				\$2,652,000	\$2,652,000
Regulatory & Stakeholding				\$714,000	\$714,000
Process and Market Evaluation				\$510,000	\$510,000
Research and Development Costs				\$3,231,478	\$3,231,478
Research Innovation Fund				\$2,601,000	\$2,601,000
Market Data				\$630,478	\$630,478
Portfolio Subtotal				\$18,360,000	\$18,360,000
Total	\$89,415,951	\$10,031,205	\$12,652,224	\$30,160,620	\$142,260,000

1. The Low Carbon Transition program has a three year budget (the amounts detailed in the 2023 DSM Plan Budget serve to indicate the portion of the 2023 budget allocated to that three year program budget which is illustrated in Table 10).

ENBRIDGE GAS INC.
2023 - 2027 DSM Plan
DSM Budget - Proposed Allocation to Rates

Line No.		2023 Budget				2024 Budget				2025 Budget				2026 Budget				2027 Budget			
		Budget less Low Income (1)	Low Income Budget	Total Budget		Budget		Budget		Budget		Budget		Budget		Budget		Budget			
EGD Rate Zone																					
1	Rate 1	33,316	11,795	45,112		47,192		49,374		51,661		54,059									
2	Rate 6	19,079	4,744	23,823		24,922		26,074		27,281		28,547									
3	Rate 9	-	-	-		-		-		-		-									
4	Rate 100	-	-	-		-		-		-		-									
5	Rate 110	2,291	240	2,531		2,647		2,770		2,898		3,033									
6	Rate 115	1,379	71	1,450		1,517		1,587		1,661		1,738									
7	Rate 125	-	166	166		174		182		191		199									
8	Rate 135	273	14	287		300		314		328		344									
9	Rate 145	1,178	-	1,178		1,232		1,289		1,349		1,411									
10	Rate 170	2,362	0	2,362		2,471		2,585		2,705		2,830									
11	Rate 200	-	40	40		42		44		46		48									
12	Rate 300	-	1	1		1		1		1		1									
13	Total EGD	59,878	17,072	76,949		80,499		84,220		88,121		92,211									
Union South																					
14	Rate M1	21,248	6,098	27,346		28,607		29,929		31,316		32,769									
15	Rate M2	10,427	830	11,257		11,776		12,320		12,891		13,489									
16	Rate M4 (2)	4,929	216	5,145		5,382		5,631		5,892		6,165									
17	Rate M5 (2)	254	150	405		423		443		464		485									
18	Rate M7	2,140	74	2,214		2,316		2,423		2,535		2,653									
19	Rate M9	-	17	17		18		18		19		20									
20	Rate M10	-	0	0		0		0		0		0									
21	Rate T1	1,464	170	1,634		1,709		1,788		1,871		1,958									
22	Rate T2	3,936	847	4,783		5,003		5,235		5,477		5,731									
23	Rate T3	0	106	106		111		116		122		127									
24	Total Union South	44,397	8,508	52,906		55,346		57,904		60,586		63,398									
Union North																					
25	Rate 01	3,379	2,651	6,030		6,308		6,600		6,906		7,226									
26	Rate 10	2,893	371	3,264		3,414		3,572		3,737		3,911									
27	Rate 20	1,612	240	1,852		1,937		2,027		2,121		2,219									
28	Rate 25	-	75	75		79		82		86		90									
29	Rate 100	935	249	1,184		1,239		1,296		1,356		1,419									
30	Total Union North	8,819	3,587	12,405		12,978		13,577		14,206		14,866									
31	Total Company	113,093	29,167	142,260		148,822		155,701		162,914		170,475									

- Notes:
- (1) EGD Rates 9, 125, 200, & 300 and Union Rates M9, M10, T3, & R25 are not eligible for DSM programs. These rate classes will however be subject to rate allocations related to the Low Income Program and Affordable Housing Savings By Design offering as well as the Low Income portion of Portfolio overheads.
- (2) Rate M4 and Rate M5 DSM costs are pooled and reallocated in proportion to forecast volumes. Forecast volumes are updated through the annual rate setting proceedings.