

ONTARIO ENERGY BOARD

EB-2021-0002

IN THE MATTER OF the *Ontario Energy Board Act*, 1998, S. O. 1998, c. 15, Schedule B;

AND IN THE MATTER OF an application for a Multi-Year Natural Gas Demand Side Management Plan (2022 to 2027).

Compendium of Environmental Defence

For Enbridge Hearing Panels

March 27, 2022

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Table 1: 2023 TRC-Plus and Net Benefits

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2023 TRC-Plus Forecast	TRC-Plus Benefits ¹	TRC Costs	Net Benefits ²	TRC-Plus Ratio
Residential Program	\$125,706,884	\$66,254,346	\$59,452,537	1.90
<i>Residential Whole Home</i>	\$73,977,785	\$46,006,919	\$27,970,866	1.61
<i>Residential Single Measure</i>	\$8,961,854	\$7,529,043	\$1,432,811	1.19
<i>Residential Smart Home</i>	\$42,767,245	\$11,229,960	\$31,537,285	3.81
<i>Program Level Admin</i>		\$1,488,425	-\$1,488,425	
Commercial Program	\$133,540,929	\$30,573,084	\$102,967,845	4.37
<i>Commercial Custom</i>	\$103,530,272	\$12,205,023	\$91,325,250	8.48
<i>Prescriptive Downstream</i>	\$8,696,432	\$3,602,595	\$5,093,837	2.41
<i>Direct Install</i>	\$14,451,859	\$5,764,458	\$8,687,401	2.51
<i>Prescriptive Midstream</i>	\$6,862,366	\$5,691,921	\$1,170,445	1.21
<i>Program Level Admin</i>		\$3,309,088	-\$3,309,088	
Industrial Program	\$210,099,973	\$15,949,294	\$194,150,679	13.17
<i>Industrial Custom</i>	\$210,099,973	\$12,171,680	\$197,928,293	17.26
<i>Program Level Admin</i>		\$3,777,614	-\$3,777,614	
Low Income Program	\$52,688,511	\$20,090,692	\$32,597,819	2.62
<i>Home Winterproofing</i>	\$22,736,285	\$14,088,455	\$8,647,829	1.61
<i>Affordable Housing Multi-Residential</i>	\$29,952,226	\$4,554,095	\$25,398,132	6.58
<i>Program Level Admin</i>		\$1,448,142	-\$1,448,142	
Large Volume Program	\$12,904,860	\$4,625,266	\$8,279,594	2.79
<i>Direct Access</i>	\$12,904,860	\$4,408,642	\$8,496,218	2.93
<i>Program Level Admin</i>		\$216,624	-\$216,624	
Energy Performance Program	\$0	\$584,156	-\$584,156	0.00
<i>Whole Building Pay 4 Performance (P4P)³</i>	\$0	\$530,000	-\$530,000	0.00
<i>Program Level Admin</i>		\$54,156	-\$54,156	
Building Beyond Code Program		\$5,618,903		
Low Carbon Transition Program		\$625,291		
Program Subtotal	\$534,941,157	\$144,321,033	\$390,620,124	3.71
Portfolio Costs		\$18,360,000		
Portfolio Total	\$534,941,157	\$162,681,033	\$372,260,124	3.29

1. Forecast 2023 TRC-Plus Benefits are calculated using 2021 Avoided Costs (best available information at the time of plan submission).

2. Net Benefits are the difference between the TRC-Plus Benefits and the TRC Costs.

3. Based on the program design, energy savings are not forecasted until Year 2 (2024).

Response

a) Please see the following table.

DSM Savings Historic and Targeted										
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Net Annual Gas Savings (per plan / 100% target), m3 ¹	113,028,464	104,131,044	108,561,473	101,411,656	102,220,650	106,677,914	108,884,161	111,184,344	113,153,031	115,416,091
Net Annual Gas Savings (audited results), m3 ²	108,402,303	115,690,827	96,238,682	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Net Cumulative Gas Savings (per plan / 100% target), m3 ³	2,014,441,008	1,868,442,370	1,841,221,139	1,719,959,014	1,733,679,692	1,749,703,196	1,785,254,075	1,822,184,157	1,856,077,840	1,893,199,397
Net Cumulative Gas Savings (audited results), m3 ²	1,931,991,621	2,075,861,664	1,632,224,492	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. The 2015-2020 DSM Plan (extended to 2022) does not have net annual 100% savings targets. For illustrative purposes, net annual saving targets are derived from the net cumulative 100% saving targets using the respective year's audited results as a proxy. 2021-2022 use 2020's audited results as a proxy.

2. 2020 are draft audit results.

3. 2022 net cumulative gas saving targets based on 100% target calculation using the 2021 results and spend as detailed in interrogatory response to I.6.EGI.STAFF.13a, Attachment 1.



Final Report

Marginal Abatement Cost Curve for Assessment of Natural Gas Utilities' Cap and Trade Activities (EB- 2016-0359)

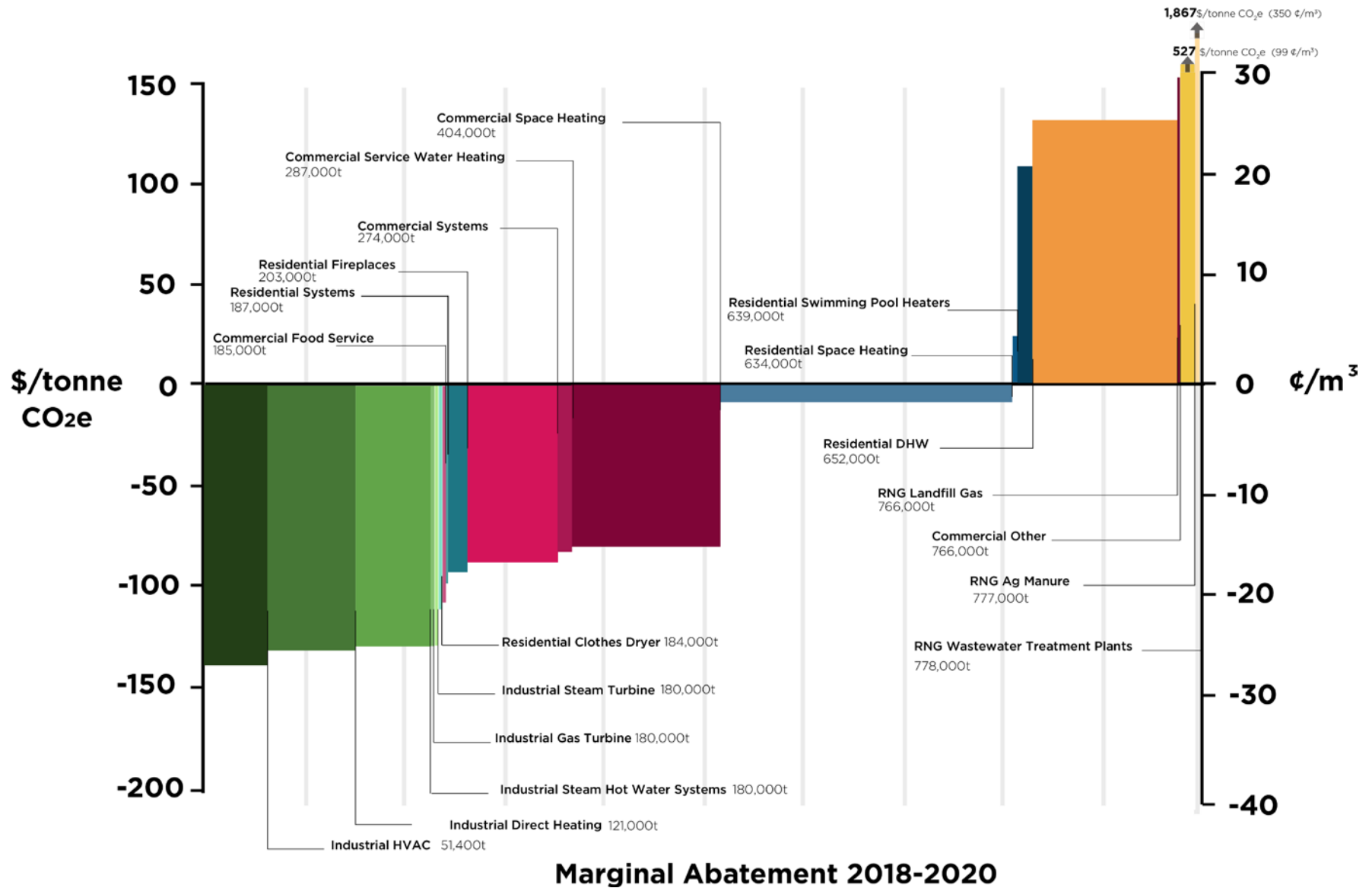
July 20, 2017

Submitted to:
Ontario Energy Board

Submitted by:

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Exhibit 3 Summary MACC Including Customer Conservation Measures and RNG Potential for Mid-Range LTCPF



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MC-994-2021-723

November 15, 2021

Mr. Richard Dicerni
 Chair
 Ontario Energy Board
 2300 Yonge Street, 27th floor
 PO Box 2319
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Dear Mr. Dicerni:

Thank you for your letter dated July 27, 2021 presenting the Ministry of Energy (ENERGY) with the Ontario Energy Board's (OEB) 2021 Annual Report for the fiscal year ending March 31, 2021. I have accepted the Annual Report and tabled it with the Legislative Assembly of Ontario on September 28, 2021. The report should now be made available on the OEB's website (as required by our Memorandum of Understanding).

The 2020/2021 Annual Report captures the progress the OEB made toward modernization in the year that it transitioned to its new governance structure. The OEB's commitment to modernization is further reflected in the report card on the Mandate Letter that you submitted to me on September 20, 2021.

The Mandate Letter provided to the OEB on October 1, 2020 showed an ambitious multi-year agenda for a modernized OEB. I am pleased that the OEB has taken such significant steps to promote regulatory excellence within the organization. This work was accomplished while facing the challenges associated with the COVID-19 pandemic. This period saw the OEB adapt to a remote work environment while also moving quickly to support consumers experiencing difficulties with their energy bills and industry as it responded to the crisis. I want to thank you along with the OEB's leadership team, Commissioners and dedicated staff for the incredible work done in support of Ontarians over the past year.

As you begin planning for your next Business Plan, it is my responsibility as Minister to provide you with a renewed Mandate Letter to update you on the government's priorities for the energy sector and my expectations for the OEB for the upcoming three-year planning period. It is essential that the OEB continues to make progress in implementing the priorities of the 2020 Mandate Letter, including robust performance measurement, transparent engagement with stakeholders and red tape reduction.

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- I expect to see the establishment of multi-year natural gas Demand Side Management (DSM) programming and the implementation of the OEB's Integrated Resource Planning framework for assessing demand-side and supply-side alternatives to pipeline infrastructure in meeting natural gas system needs. I would like to express my strong interest in a framework that delivers increased natural gas conservation savings and reduces greenhouse gas emissions. Conservation is a strong driver for cost savings for ratepayers, and with the introduction of carbon pricing, conservation can also transform homes and help protect ratepayers from the impact of the carbon tax. Natural gas conservation programs have delivered continued value for money for ratepayers – based on OEB-verified results for 2019, every dollar spent on natural gas DSM has resulted in up to \$3 in participant and social benefits.
- With regard to the next multi-year DSM programming period, it is important that the regulatory processes are optimized to increase efficiency so that they do not hinder Ontarians' access to the real savings that result from these programs. It is also important that the DSM Framework be implemented in a way that enables customers to lower energy bills in the most cost-effective way possible, and help customers make the right choices regardless of whether that is through more efficient gas or electric equipment. I also wish to stress the continued need to foster integration and alignment between natural gas and electricity conservation programs to find efficiencies and to facilitate a streamlined customer experience, where feasible. That said, I am pleased to see the continued collaboration between the IESO Conservation and Demand Management (CDM) and DSM programs in the low-income space and encourage further collaboration, as appropriate. Likewise, as communicated in a recent letter from the Ministry to the federal government encouraging collaboration between DSM and the new Canada Greener Homes Program, it is important that the OEB considers how to use Ontario's DSM programs to leverage these federal funds to benefit Ontario ratepayers.
- The *Supporting Broadband and Infrastructure Expansion Act, 2021* (Bill 257) received Royal Assent on April 12, 2021. This Act contains amendments to the *Ontario Energy Board Act, 1998* that, when proclaimed into force, would establish new authorities in support of the use of and access to electricity infrastructure for non-electricity purposes. As ENERGY considers how these authorities can support the government's objectives for rural broadband expansion, continued consultation and collaboration with the OEB will be essential.
- Modernizing and streamlining processes to reduce regulatory burden is vitally important to the work of an efficient and effective regulator. I am pleased that the OEB has taken steps in this direction in response to the 2020 Mandate Letter, including reviewing how filing requirements can be tailored to LDC size, releasing the Chief Commissioner's Plan with initiatives to enhance adjudicative processes and launching a review of the Reporting & Record-keeping Requirements.

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Ontario
Energy
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BY EMAIL AND WEB POSTING

December 1, 2020

To: All Rate-regulated Natural Gas Distributors
All Participants in EB-2019-0003

Re: **Post-2020 Natural Gas Demand Side Management Framework**
Board File Number: EB-2019-0003

The Ontario Energy Board (OEB) has determined that the best approach for approving a post-2021 Demand Side Management (DSM) plan is for the OEB to consider it through an application process. For that reason, the policy consultation is being concluded. Through this letter, the OEB is inviting Enbridge Gas Inc. to develop and file a comprehensive DSM plan application for DSM programs starting in 2022. The application should include proposed targets, budgets, and programs for the next multi-year DSM plan term. This letter also provides Enbridge Gas with initial guidance to assist it in developing its application, although the proposals made by Enbridge Gas will ultimately be at the discretion of the company.

Background

The OEB began a policy consultation, to be completed in stages, through a [letter](#) dated May 21, 2019. Following a Phase 1 Stakeholder Meeting on June 13, 2019 to receive input on the scope of the consultation and the goals and objectives, the OEB [indicated](#) that it would undertake a comprehensive review of the current framework for the purpose of establishing a new framework.

In a [letter](#) issued on December 19, 2019, the OEB initiated Phase 2 of the consultation and provided a draft consultation plan identifying topics for discussion. The OEB held a Phase 2 Stakeholder Meeting on January 28, 2020 to seek input on the consultation plan and general framework ideas.

On July 16, 2020, the OEB issued a [Decision and Order](#) approving a one-year extension for Enbridge Gas Inc. to continue delivering DSM programs under the existing framework throughout 2021.

OEB Direction

Given the passage of time, and in an effort to achieve efficiencies and increase the timeliness of OEB approval of a new multi-year natural gas DSM plan, the OEB is concluding the consultation process in favour of an adjudicative process. The OEB invites Enbridge Gas to file a comprehensive multi-year DSM plan application for the OEB to review new conservation programs, budgets, and targets for the post-2021 period. With the existing 2015-2020 DSM framework set to expire on December 31, 2020, forgoing additional pre-hearing consultation will allow the process to be streamlined through the OEB's adjudicative process. The OEB and interested parties will have the opportunity to undertake a detailed review and comprehensive analysis of the application in order to assess the value and merit of all proposals related to ratepayer-funded DSM programs. This will ensure that the initial goal of the policy consultation, which was to undertake a comprehensive review of the central elements of a DSM plan, can still be achieved.

Enbridge Gas's DSM plan application should be informed by the results of the 2015-2020 DSM plans, the OEB's [Mid-Term Review Report](#), the 2019 [Achievable Potential Study](#), information received through the post-2020 DSM consultation to date, and the government's policies and commitments in the Environment Plan as they continue to evolve, including as expressed in the November 27, 2020 [letter](#) from the Associate Minister of Energy and the Minister of the Environment, Conservation and Parks to the OEB regarding the Ontario government's current policy objectives related to DSM.

The OEB's overall objectives for ratepayer funded DSM and key guidance on the main elements of natural gas DSM plans are provided below to allow Enbridge Gas to develop an application for a new multi-year DSM plan that will be subject to a hearing by the OEB. The panel of commissioners hearing the application, however, will ultimately make its decision based on the evidence and arguments before it.

Objectives and Costs of Ratepayer-Funded Natural Gas DSM

As part of Phase 1 of the OEB's consultation, the OEB received written comments from 25 stakeholders regarding the goals and objectives of ratepayer-funded DSM. Following its review and consideration of the submissions, the OEB is of the view that the primary objective of ratepayer-funded natural gas DSM is assisting customers in making their homes and businesses more efficient in order to help better manage their energy bills.

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

- Help lower overall average annual natural gas usage
- Play a role in meeting Ontario's greenhouse gas reductions goals
- Create opportunities to defer and/or avoid future natural gas infrastructure projects¹

These secondary objectives balance input received from stakeholders and refine the objectives included in the former 2015-2020 DSM framework. The OEB is of the view that these secondary objectives are important considerations that a well-planned and effectively implemented DSM plan can help achieve.

Over the course of the 2015-2020 term, annual OEB-approved natural gas conservation budgets have doubled from the previous levels approved for the 2012-2014 term, up to approximately \$140 million per year by the end of the current term. With COVID-19 creating many financial hardships, energy conservation has a role in helping to reduce energy costs and assist customers in managing their energy bills. The OEB anticipates modest budget increases to be proposed by Enbridge Gas in the near-term in order to increase natural gas savings, and expects Enbridge Gas to seek to improve the cost-effectiveness of programs. However, the appropriate level of ratepayer funding expended for DSM programs must weigh the cost-effective natural gas savings to be achieved against both short-term and long-term customer bill impacts.

The OEB expects that all requests for ratepayer-funding to support DSM programs be accompanied by detailed evidence that shows how the programs will benefit Ontario's natural gas customers, help reduce overall natural gas usage and costs, and contribute towards meeting the Government's goals to reduce greenhouse gas emissions.

DSM Programs

Based on the OEB's evaluated results of the 2015 to 2018 DSM programs, while still cost-effective, the level of natural gas savings achieved through DSM programs for each dollar spent has been decreasing. This may be related to Enbridge Gas striving to

¹ DSM can avoid or defer infrastructure passively (by reducing overall natural gas use and infrastructure needs) or actively (by targeting specific infrastructure projects). The OEB has an ongoing hearing that is considering Enbridge Gas's proposed Integrated Resource Planning framework (EB-2020-0091). As part of that proceeding, the OEB will decide on the relationship between the IRP framework and future utility DSM plans and the extent to which Enbridge Gas will be expected to meet this secondary objective as part of its future DSM plan.

meet a number of different priorities, programs being extended to harder-to-reach customers, and recent updates to outdated assumptions.

The OEB expects Enbridge Gas to seek out elements of current programs that can be modified and consider new programs in order to optimize overall program results to make the best use of ratepayer funding. When reviewing its current suite of programs and potential future programs, Enbridge Gas is expected to consider input received through the post-2020 DSM framework consultation, lessons learned from the past six years of activity, the OEB's evaluation reports and recommendations from the Evaluation Contractor, stakeholder feedback from the Mid-Term Review consultation and the recent 2021 DSM plan proceeding, the 2019 Achievable Potential Study, as well as the Government's Environment Plan as it continues to evolve.

For example, Enbridge Gas is encouraged to find ways to **increase the natural gas savings** from its programs by reducing free ridership, targeting key segments of the market, including low-income and on-reserve First Nations communities, and customers with significant room for efficiency improvements, and strategically incenting customers to achieve more savings. Consistent with the OEB's direction provided in the OEB's [Mid-Term Review Report](#), Enbridge Gas is expected to be actively screening potential program participants thoroughly, and actively seeking out customers who can most greatly benefit from the programs, thereby ensuring program funds are used as efficiently as possible. Further, the OEB expects that all programs continue to be cost-effective as defined in the Mid-Term Review Report.

Additionally, consistent with the [Ministerial Directive](#) issued to the Independent Electricity System Operator (IESO) on September 30, 2020, the OEB expects that Enbridge Gas will endeavor to coordinate the delivery of DSM programs with electricity CDM programs where possible, including modifying the participant eligibility requirements of its current low-income program in order to be consistent with the electricity income-tested CDM program eligibility requirements. The centralization of electricity CDM programs under the IESO may lead to new opportunities for DSM-CDM collaboration and a greater level of overall energy savings. The OEB expects Enbridge Gas to file evidence addressing linkages to the new electricity CDM framework and to identify opportunities for efficiencies, program cost reductions, and **increased natural gas savings.**

Targets, Metrics and Shareholder Incentives

The OEB completed an updated Achievable Potential Study in October 2019. The study was integrated with the IESO with the objective of identifying and quantifying energy

DSM Investments - 2019-2023 Budgets					
	2019	2020	2021	2022	2023
Total programs (real \$2019)¹	\$104,256,598	\$105,885,459	\$101,439,603	\$99,450,591	\$102,694,633
Total programs (nominal)	\$104,256,598	\$106,429,657	\$106,429,657	\$106,429,657	\$112,099,380
Resource acquisition (all but market transformation)	\$96,241,519	\$98,283,322	\$98,283,322	\$98,283,322	\$99,797,287
Market transformation	\$8,015,079	\$8,146,335	\$8,146,335	\$8,146,335	\$12,302,093
Total overhead	\$19,947,784	\$20,113,541	\$20,113,541	\$20,113,541	\$23,053,142
Program overhead	\$16,105,784	\$16,271,541	\$16,271,541	\$16,271,541	\$11,800,620
Portfolio overhead	\$3,842,000	\$3,842,000	\$3,842,000	\$3,842,000	\$11,252,522
Portfolio costs (non-admin)	\$6,986,164	\$7,063,719	\$7,063,719	\$7,063,719	\$7,107,478
Total budget	\$131,190,546	\$133,606,917	\$133,606,917	\$133,606,917	\$142,260,000
Overhead as % of Total	15.2%	15.1%	15.1%	15.1%	16.2%

¹2019-2021 applies CPI Factor from Bank of Canada as of September. 2022-2023 assumes annual 2% inflation factor.

(c) Please see table below.

Proposed Program Budget Increases From 2023 to 2027		
	Nominal	Inflation Adjusted (@ 2% Annual)
Resource Acquisition (incl. all but market transformation)	8%	0%
Market Transformation	135%	117%

(d) Please see table below.

Proposed Budgets - 2023-2027							
	2023	2024	2025	2026	2027	% Change (2023 versus 2027)	% Change (2023 versus 2027)
						Nominal	Inflation Adjusted ¹
Resource Acquisition (incl. all but market transformation)	\$110.9M	\$113.1M	\$115.3M	\$117.6M	\$120.0M	8.2%	0.0%
Percent Increase	N/A	2.0%	2.0%	2.0%	2.0%		
Market Transformation	\$13.0M	\$17.0M	\$21.3M	\$25.8M	\$30.6M	135.0%	117.1%
Percent Increase	N/A	30.7%	24.9%	21.3%	18.7%		
Total Program	\$123.9M	\$130.1M	\$136.6M	\$143.4M	\$150.6M	21.6%	12.3%
Portfolio Overhead²	\$18.4M	\$18.7M	\$19.1M	\$19.5M	\$19.9M	8.2%	0.0%
Total	\$142.3M	\$148.8M	\$155.7M	\$162.9M	\$170.5M	19.8%	10.7%

¹Assumed 2% annual inflation.

²Includes all Portfolio level costs (admin & non-admin)

Enbridge Gas Inc. - Annual Gas Cost

	2015	2016	2017	2018	2019	2020
Total Ontario gas consumption (10^6m^3) ¹	25,702	24,564	24,533	26,088	26,704	25,065
Total Ontario gas customers ²	3,540,089	3,598,700	3,653,986	3,701,403	3,717,399	3,740,847
Total Ontario gas consumption for which Enbridge has commodity price data (10^6m^3)	12,102	11,249	12,066	13,460	13,753	12,441
Average annual commodity price (for gas that Enbridge has data for) (\$/m ³)	\$ 0.138	\$ 0.106	\$ 0.125	\$ 0.111	\$ 0.119	\$ 0.100
Annual commodity costs (for gas that Enbridge has data for) (\$000)	\$ 1,673,729	\$ 1,196,865	\$ 1,514,111	\$ 1,490,445	\$ 1,640,834	\$ 1,245,103
Annual commodity costs (estimate other customers) ³	\$ 1,873,562	\$ 1,319,030	\$ 1,740,315	\$ 1,556,562	\$ 1,633,807	\$ 1,243,629
Annual distribution costs (\$000) ⁴	\$ 1,972,233	\$ 1,982,456	\$ 2,074,811	\$ 2,274,557	\$ 2,350,719	\$ 2,314,764
Annual carbon costs (\$000) ⁵	\$ -	\$ -	N/A	N/A	\$ 347,142	\$ 809,072
Annual other gas related costs (\$000) ⁶	\$ 949,082	\$ 870,798	\$ 783,655	\$ 823,991	\$ 703,701	\$ 604,447
Total annual gas costs (for gas that Enbridge has data for) – (\$000)	\$ 4,595,044	\$ 4,050,119	\$ 4,372,577	\$ 4,588,992	\$ 5,042,397	\$ 4,973,387
Total gas consumption not applicable to the Federal Carbon Charge (10^6m^3) ⁷	N/A	N/A	N/A	N/A	5,858	8,781

¹Annual gas volumes include quantities of gas sold to system gas customers and quantities of gas delivered to direct purchase customers. Source: OEB Natural gas distributor yearbooks

²Total customers include system gas customers and direct purchase customers of gas marketers licensed by the OEB. Source: OEB Natural gas distributor yearbooks

³Estimate is calculated using direct purchase customer volumes and apply to the commodity prices equal to Enbridge system gas customers

⁴Fixed and Variable, please refer to Exhibit I.GEC.4 for the breakdown by rate class

⁵2017 & 2018: These costs were filed as strictly confidential in EB-2018-0331; 2019: Refer to EB-2019-0247, EGI Updated Federal Carbon Pricing Program Application (May 14, 2020), Exhibit C, p.11-12

⁶Other costs include transportation cost, load balancing & storage costs. Please refer to Exhibit I.GEC.4 for the breakdown by rate class

⁷Totals include exempt volumes delivered to downstream distributors, mandatory and voluntary participants in the Output-Based Pricing System, volumes qualifying for exemption for non-covered activities and partial relief (80%) for greenhouse operators. For 2019, the volumes only represent April-December 2019 as the Federal Carbon Charge was not implemented until April 1, 2019.

Enbridge Gas Inc. - Annual Gas Cost

	2023	2024	2025	2026	2027
Total Ontario gas consumption (10^6m^3) ¹	N/A				
Total Ontario gas customers ²	N/A				
Total Ontario gas consumption for which Enbridge has commodity price data (10^6m^3)	14,457	14,504	14,554	14,610	14,665
Average annual commodity price (for gas that Enbridge has data for) (\$/m ³) ³	\$ 0.122	\$ 0.122	\$ 0.122	\$ 0.122	\$ 0.123
Annual commodity costs (for gas that Enbridge has data for) (\$000)	\$ 1,762,818	\$ 1,774,854	\$ 1,779,680	\$ 1,788,883	\$ 1,797,650
Annual commodity costs (estimate other customers) ⁴	\$ 1,462,000	\$ 1,472,479	\$ 1,469,958	\$ 1,473,729	\$ 1,477,049
Annual distribution costs (\$000) ⁵	\$ 2,193,449	\$ 2,208,275	\$ 2,271,351	\$ 2,422,542	\$ 2,451,582
Annual carbon costs (\$000) ⁶	\$ 2,202,930	\$ 2,724,157	\$ 3,242,034	\$ 3,777,393	\$ 4,308,557
Annual other gas related costs (\$000) ⁷	\$ 804,052	\$ 711,318	\$ 754,775	\$ 807,502	\$ 697,397
Total annual gas costs (for gas that Enbridge has data for) (\$000)	\$ 6,963,249	\$ 7,418,604	\$ 8,047,840	\$ 8,796,321	\$ 9,255,187
Total gas consumption not applicable to the Federal Carbon Charge (10^6m^3) ⁸	9,346	9,447	9,491	9,510	9,569

¹Annual gas volumes forecast for the province of Ontario is not available. Please refer to Exhibit I.GEC.3 for the total volume forecast for Enbridge Gas

²Total customers forecast for the province of Ontario is not available. Please refer to Exhibit I.GEC.3 for the total customer forecast for Enbridge Gas

³Estimate commodity prices are based on the Board-Approved April 2021 QRAM

⁴Estimate is calculated using direct purchase customer volumes and apply to the commodity prices equal to Enbridge system gas customers

⁵Fixed and Variable, please refer to Exhibit I.GEC.4 for the breakdown by rate class. The estimated gas cost are calculated based on the current rates and rate class structures which may change as a result of the rate harmonization effort that is currently ongoing in anticipation of filing the Rebasing application at the end of 2022.

⁶This forecast only represents customer related carbon costs as Enbridge Gas does not complete long-range volume forecasts related to our facility operations beyond 2022. Please refer to Exhibit I.Anwaatin.2 for more information on these forecasts.

⁷Other costs include transportation cost, load balancing & storage costs. Please refer to Exhibit I.GEC.4 for the breakdown by rate class

⁸Forecast includes exempt volumes delivered to downstream distributors, mandatory and voluntary participants in the Emissions Performance Standards, volumes qualifying for exemption for non-covered activities and partial relief (80%) for greenhouse operators.

	2022 DSM Budget In Rates (\$000s) (1)	2023 Budget Escalated for Residential Rate Class Maximum Impact at \$2.00/month (\$000s)
EGD Rate Zone		
Rate 1	39,406	49,225
Rate 6	21,074	26,326
Rate 9	3	4
Rate 100	0	0
Rate 110	2,208	2,758
Rate 115	1,319	1,648
Rate 125	110	138
Rate 135	255	319
Rate 145	1,147	1,433
Rate 170	2,195	2,742
Rate 200	38	48
Rate 300	2	2
Total EGD	67,757	84,642
Union South Rate Zone		
Rate M1	27,446	34,286
Rate M2	10,658	13,314
Rate M4	4,765	5,953
Rate M5	499	623
Rate M7	2,034	2,541
Rate M9	0	0
Rate M10	0	0
Rate T1	1,569	1,960
Rate T2	4,725	5,903
Rate T3	0	0
Total Union South	51,698	64,580
Union North Rate Zone		
Rate 01	6,625	8,276
Rate 10	3,127	3,906
Rate 20	1,753	2,190
Rate 25		0
Rate 100	1,147	1,433
Total Union North	12,652	15,805
Total EGI	132,107	165,027

Notes:

(1) 2022 Rates application (EB-2021-0147, Exhibit D, Tab 2, Rate Order, Working Papers, Schedule 10, p. 1).

	2022 DSM Budget In Rates (\$000s) (1)	2023 Budget Escalated for Residential Rate Class Maximum Impact at \$2.27/month (\$000s)
EGD Rate Zone		
Rate 1	39,406	55,871
Rate 6	21,074	29,879
Rate 9	3	4
Rate 100	0	0
Rate 110	2,208	3,130
Rate 115	1,319	1,870
Rate 125 (5)	110	156
Rate 135	255	362
Rate 145	1,147	1,627
Rate 170	2,195	3,112
Rate 200 (5)	38	54
Rate 300 (5)	2	3
Total EGD	67,757	96,069
Union South Rate Zone		
Rate M1	27,446	38,914
Rate M2	10,658	15,111
Rate M4 (6)	4,765	6,757
Rate M5 (6)	499	707
Rate M7	2,034	2,884
Rate M9	0	0
Rate M10	0	0
Rate T1	1,569	2,225
Rate T2	4,725	6,700
Rate T3	0	0
Total Union South	51,698	73,299
Union North Rate Zone		
Rate 01	6,625	9,393
Rate 10	3,127	4,433
Rate 20	1,753	2,486
Rate 25		0
Rate 100	1,147	1,627
Total Union North	12,652	17,938
Total EGI	132,107	187,305

Notes:

(1) 2022 Rates application (EB-2021-0147, Exhibit D, Tab 2, Rate Order, Working Papers, Schedule 10, p. 1).

ENBRIDGE GAS INC.

Undertaking Response to Environmental Defence (ED)

Undertaking

Tr: 29

ED.12 – Provide mix between residential, commercial and industrial from 2014 vs 2023 ratio of spending for each sector.

Response:

Program Budgets by Sector as a Percentage of Total Program Budgets ¹	2014 Budget	2016 Budget	2023 Proposed Budget
Residential	9%	25%	35%
Commercial	27%	42%	19%
Industrial ²	24%		15%
Low Income ³	27%	24%	21%
Other Programs ⁴	13%	9%	10%
Total Program (%)	100%	100%	100%
Total Program (\$)	\$48,354,309	\$81,959,096	\$112,099,380

¹. Program administration and evaluation costs are not included

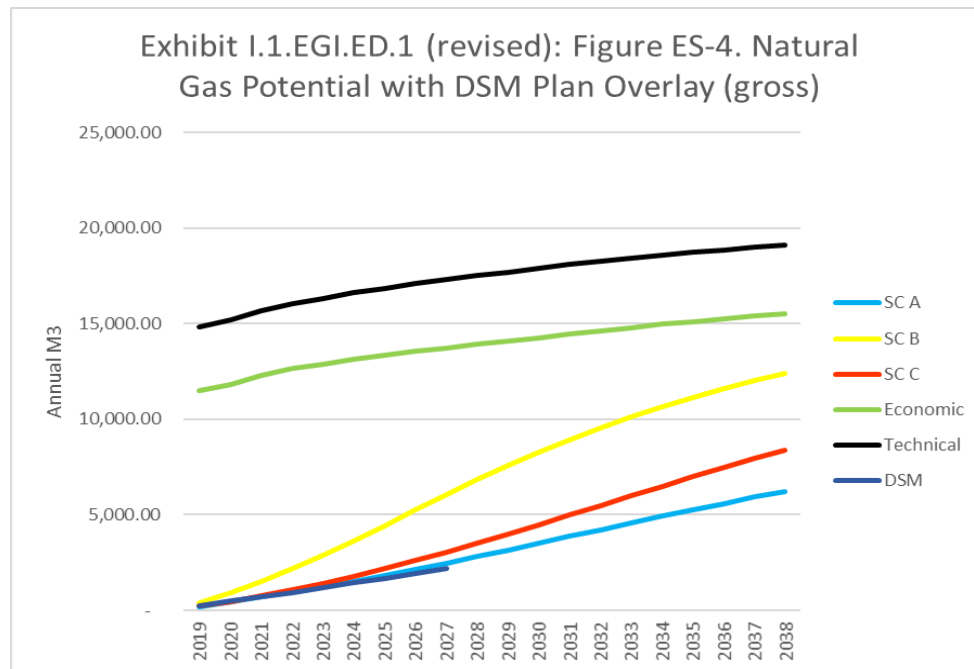
². Industrial includes Large Volume

³. Low Income includes the Affordable Housing Savings By Design offering

⁴. Other programs consists of Market Transformation, Building Beyond Code (2023), Low Carbon (2023), Energy Performance (2023) programs

Understanding the level of complexity, time and effort that it took Enbridge Gas and Posterity to arrive at the Mirror model, it should be understandable that Enbridge Gas cannot develop a chart that aligns the APS to its plan.

However, Enbridge Gas has reproduced the table from Exhibit I.1.EGI.ED.1 part a applying a 0.44 NTG value at the portfolio level which can be derived through looking at Total Gross Annual and Total Net Annual m3 in Attachment 1 of Exhibit I.5.EGI.GEC.7.



Caveats:

- 2019 values actual post audit net annual m3
- 2020 values actual pre audit net annual m3
- 2021 values represent a forecasted CCM value provided to the OEB in a July 2021 updated, divided by the 2020 average measure life to get to net annual m3
- 2022 values represent application of the TAM at 100% achievement of forecast 2021 results divided by 2020 average measure life to get to net annual m3
- Enbridge Gas will not show beyond 2027 because this is beyond the proposed DSM Plan term.
- Enbridge Gas notes that the APS uses a fixed assumption for net to gross values that is substantially different from the DSM Plan values utilized which would have a material effect on the comparison of the DSM Plan values to any APS scenario

[Home \(/\)](#) / [Residential \(/residential\)](#) / [My Account \(/residential/my-account\)](#) / [Natural Gas Rates \(/residential/my-account/rates\)](#)

Federal Carbon Charge

Natural gas is dependable and affordable energy that enhances people's quality of life and helps local business and industry prosper and grow. It continues to be the lowest-cost energy source and remains the most economical choice for home and water heating in Ontario.

What is the federal carbon charge?

As part of the federal government's carbon pricing program, a carbon charge applies to fossil fuels sold in Ontario, including natural gas. On April 1, 2021, the federal carbon charge for natural gas increased to **7.83 cents per cubic metre (m³)**. This charge increases annually each April. You can see how the price changes each year in the chart below.

2019 – 2022 Federal Carbon Charge Rates for Marketable Natural Gas

Year	\$/tCO ₂ e*	cents/m ³
2019	\$20	3.91
2020	\$30	5.87
2021	\$40	7.83
2022	\$50	9.79

*tonnes of carbon dioxide equivalent

There is also a facility carbon charge included in the delivery or transportation charge on your bill, which for the average residential customer will add about 16-28 cents annually, depending on your location. This charge is associated with the costs to operate Enbridge Gas' facilities.

All of the money that we collect for the federal carbon charge goes to the government.

What does this mean for you?



Ontario Energy Board Commission de l'énergie de l'Ontario

DECISION AND ORDER

EB-2015-0029 / EB-2015-0049

UNION GAS LIMITED AND ENBRIDGE GAS DISTRIBUTION INC.

Applications for approval of 2015-2020 demand side management plans.

BEFORE: Christine Long
Presiding Member

Allison Duff
Member

Susan Frank
Member

Wednesday January 20, 2016

14 NEXT FIVE YEARS

The current DSM term concludes at the end of 2020, consistent with the Minister's DSM Directive. The mid-term review of the 2015 to 2020 DSM term should establish more specific direction for future DSM filing requirements. In advance of the mid-term review, the OEB is providing some general observations from its review of the current DSM Plan Applications.

The opportunity for collaborative work among the gas and electric utilities, along with the IESO, is expected to result in a number of new joint programs. The OEB expects enhanced joint energy conservation programs will reduce customer confusion and improve the efficiency of program delivery. The OEB expects this to be an area that the gas utilities explore and pursue aggressively over the course of this DSM term, with design details of the joint programs initially provided as part of the mid-term review.

Avoided distribution costs were examined extensively during this proceeding. Several parties provided recommendations on areas of improvements in calculating the avoided costs that result from DSM programs. Considerable time was spent reviewing and updating a summary table proposed by one of the expert witnesses. The OEB expects the utilities to provide a transparent calculation of the avoided costs and a list of the input assumptions that go into this calculation. Given the different geography, system and customers between Union and Enbridge, it is expected that the avoided cost calculation will be specific to each utility; however, the methodology, approach and presentation should be the same for both gas utilities.

The cost impact of DSM programs for a customer was discussed during the proceeding. Some parties suggested that this cost impact be shown as a net rate impact, and both the benefits and the costs of the DSM programs be included in the same calculation.

The OEB suggests the gas utilities consider a net rate impact approach further. Some areas to consider include: the sample (e.g., years, participants, customers, etc.) required to reasonably consider the benefits and costs to customers, price forecasts used, demand reduction impact on price, among others. This analysis should be presented to the OEB as part of the gas utilities' next multi-year DSM plans.

The OEB did not find the sensitivity information submitted by the gas utilities to be helpful in determining the impacts of increased budgets on target metrics such as gas savings and participation levels. The sensitivity analysis was too vague to provide the OEB with any assistance in its review of proposed DSM budget levels and options to redirect components of the DSM plans. The OEB expects the gas utilities to provide

more details of any future sensitivity analysis related to DSM budgets levels at the program level.



2019 Integrated Ontario Electricity and Natural Gas Achievable Potential Study

Prepared for



Submitted: 2019-09-13

Updated: 2019-12-10

Prepared by:

Navigant
100 King Street West | Suite 4950
Toronto, ON M5X 1B1

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navigant.com

10.2.2.1 Inputs

- **Collect commercial and industrial end use data.** Potential estimation would benefit significantly from the availability of up-to-date provincial baseline and end use studies, particularly for the commercial and industrial sectors. The IESO and OEB should consider conducting a combined dual fuel end use and baseline study to act as an input to a future potential study. Ideally, this study should be an on-going effort to quantify the energy-consumption characteristics of consumers and tracking how these change over time, with periodic sectoral updates (e.g., year 1, update residential, year 2, update commercial, year 3 update industrial, year 4, update residential, etc.). Such a study (or group of studies) should also capture a snapshot of technologies in place (baseline and efficient) and identify (where feasible) the characteristics of baseline replacement technologies (i.e., the equipment that would replace the currently installed technology, absent any energy efficiency programs). The benefits of such an exercise would include:
 - *Alignment with the measure list or TRM.* Should the IESO and OEB proceed with the development of an integrated and comprehensive TRM, the baseline study could be used to periodically update that document's assumed baseline, effective full load hours, etc. This would ensure consistency in measure characterisation.
 - *Greatly improved visibility into large commercial and industrial baseline conditions and energy efficiency opportunities.* At present baseline information for large buildings and equipment installations is extremely sparse in Ontario. The idiosyncratic and geographically specific nature of these installations mean that relying on estimates or assumptions developed for other jurisdictions can be problematic. One of the key findings of this study was that there appears to be a material energy efficiency opportunity in whole building solutions (captured by the "All (Multiple End Uses)" end use), and that the industrial sector savings data available through the IAC may understate potential in that sector. A baseline study would provide data to remedy this.
 - *A better understanding of the uncertainty of estimated potential.* The recommendation that future studies continue to improve the quantification (and presentation) of the uncertainty associated with estimated outputs will be made significantly easier should there be a better (quantifiable) understanding of the uncertainty associated with some of the key inputs – in particular surrounding baseline conditions.
- **Develop an integrated Technical Reference Manual (TRM).** The IESO and OEB should consider making a collaborative effort to develop and maintain a comprehensive TRM of energy saving measures. This should be revisited periodically and expanded (to accommodate emerging measures brought forward by IESO or OEB staff, or stakeholders) and updated (as baselines change) on a regular (annual or semi-annual) basis. Going forward, potential studies should consider only measures included in the TRM.

This will ensure greater planning certainty (no ambiguity as to what should be considered), continuity of inputs from study to study and considerably reduce the time required to establish the study measure list. In addition to the standard TRM inputs (e.g., base and efficient consumption, expected useful life, etc.) this should include metrics derived from a baseline study (see below) to approximately quantify the applicability of the measure (i.e., analogous to measures of density and saturation used as part of this study).

- **Ensure the costs of natural gas expansion are properly accounted for within the natural gas avoided costs.** It is unclear to what degree the natural gas avoided costs account for the costs associated with natural gas infrastructure expansion. For example, when considering fuel switching for new construction, it seems likely that the existing avoided costs would understate the benefit of not having to install pipelines and access points to a new housing development. If it can be demonstrated that the existing avoided costs do not account for these costs, or do not account for them specifically in the case of new construction, the OEB should consider

developing (or engaging others to develop) another set of avoided costs that does. These could then be used for future fuel switching studies where there is an expectation of meaningful growth residential and commercial building stock.

10.2.2.2 Methodology

- **The granularity of the analysis should be determined by the available granularity of input data. Where highly granular data are not meaningfully different across categories, the analysis should take place at an aggregated level.** Specifically, for any future studies, the IESO and OEB should consider requiring that the analysis be conducted at the weather zone/provincial level. Where more granular results are required (e.g., as inputs in downstream analyses conducted by the IESO, OEB or other agencies using the outputs of the potential study) these should be developed through a simple allocation approach.

For this study, Navigant conducted the analysis at the IESO transmission zone level of granularity. This may have been of limited value. The benefits of doing so were relatively small: very few input data were available at the zonal level of granularity, and where zone-specific data were available (e.g., through the REUS, or from the IESO planning group) the uncertainty associated with these values made them problematic to use. In contrast, the cost of conducting the analysis at this level (rather than using more aggregated set of data and allocating results in a post-processing step) was significant.

- **Additional research on the measure stacking could help identify how much value exists in controlling for it and may be helpful in program design.** The net effect of measure stacking for achievable potential in this study was trivial. One reason for this is that Navigant – lacking better information – assumed that individual measure adoption choices were independent of one another.⁷⁹ Additional consumer research (via surveys and/or focus groups) could help determine whether in fact there exists any meaningful relationship between measure adoption and measure stacking. Such a finding would be helpful for program design and future studies. If it is determined that no additional research in this area is necessary, or if it is found that consumers tend to avoid stacking measures (e.g., consumers recognize the declining marginal benefit of adopting measures that stack), then the IESO and OEB should consider removing consideration of this interactive effect for the next study.

10.2.3 Process

- **Review frequency of APS updates.** Efficiencies in estimation could likely be realised by moving from a triennial to annual potential study cycle, with a different sector's potential being quantified each year. The IESO and OEB should consider for example a system that updates each sector's potential every three years, but on an ongoing annual sector-by-sector basis. So, for example (similar to the baseline study recommendation above), in year 1 residential potential is updated, in year 2, commercial potential is updated, in year 3 industrial potential is updated, and in year 4 residential potential is updated again, etc. This would likely allow for a leaner, more focused effort, and (as an on-going process) ensure greater consistency of inputs, methods and outputs over time.
- **Measure characterization should follow development of the reference forecast.** One challenge for this study was the need conduct tasks in parallel which are more efficiently completed in series. Measure characterization, for example, should follow the completion of the reference forecast. This can be used to ensure that measure density and saturation assumptions are calibrated to the reference forecast and reduce the need of time-consuming re-work and

⁷⁹ That is, Navigant assumed that if 50% of the population acquired an engine measure, and 50% acquired an envelope measure, 25% would have both, stacked (the stacking frequency variable).

ENBRIDGE GAS INC.

Undertaking Response to Environmental Defence (ED)

Undertaking

Tr: 67

ED.26 – To confirm capital costs for new residential connections, including gas line from the property to the meters, the cost of the meters, and any internal piping.

Response:

The IR response did not include the cost of the meters. The tables below are updated to include the cost of the meter based on the current average cost for new residential connections:

Capital Costs to Connect New Residential Developments										
Union Gas Rate Zone	2015	2016	2017	2018	2019	2020	2021B	2022B	2023B	2024B
Number of Projects	-	-	-	-	-	-	-	-	-	-
Number of Residential Customers	10,307	11,635	12,328	12,561	9,396	9,753	10,298	10,115	9,897	9,842
Total Capital Cost (Net - includes Meter Purchase)	31,922,845	34,043,797	31,448,673	33,591,485	34,266,431	35,073,230	35,737,917	40,543,046	36,009,578	36,937,283
Portion Funded via rates (\$)	34,737,249	36,342,220	33,564,233	38,828,941	36,779,740	37,584,802	39,209,368	44,237,413	39,751,727	40,789,271
Portion funded by New Customers (\$) (CIAC)	(2,814,404)	(2,298,423)	(2,115,560)	(5,237,456)	(2,513,309)	(2,511,572)	(3,471,451)	(3,694,367)	(3,742,149)	(3,851,988)
Capital Costs by Work Type										
Mains (Net)	7,948,368	10,592,440	6,720,788	7,909,791	10,841,818	9,536,317	9,724,818	11,075,262	9,811,856	10,073,119
Portion Funded via rates (\$)	9,857,497	12,094,296	8,015,277	12,201,075	12,640,883	11,342,460	12,258,977	13,772,150	12,543,625	12,885,070
Portion funded by New Customers (\$) (CIAC)	(1,909,129)	(1,501,856)	(1,294,489)	(4,291,284)	(1,799,065)	(1,806,143)	(2,534,159)	(2,696,888)	(2,731,769)	(2,811,951)
Service (Net)	18,128,537	17,185,244	17,572,991	18,461,387	16,470,715	18,770,124	18,755,006	21,359,434	18,922,866	19,426,729
Portion Funded via rates (\$)	19,033,812	17,981,811	18,394,062	19,407,559	17,184,959	19,475,553	19,692,298	22,356,913	19,933,246	20,466,766
Portion funded by New Customers (\$) (CIAC)	(905,275)	(796,567)	(821,071)	(946,172)	(714,244)	(705,429)	(937,292)	(997,479)	(1,010,380)	(1,040,037)
Other (Net - Stations)	942,914	902,486	1,115,470	997,734	1,080,914	1,941,861	1,389,260	1,582,180	1,401,694	1,439,017
Portion Funded via rates (\$)	942,914	902,486	1,115,470	997,734	1,080,914	1,941,861	1,389,260	1,582,180	1,401,694	1,439,017
Portion funded by New Customers (\$) (CIAC)	-	-	-	-	-	-	-	-	-	-
Meters & Regs (Net)	3,895,723	4,226,538	4,834,609	4,994,986	4,954,713	3,871,767	4,862,409	5,537,631	4,905,928	5,036,559
Portion Funded via rates (\$)	3,895,723	4,226,538	4,834,609	4,994,986	4,954,713	3,871,767	4,862,409	5,537,631	4,905,928	5,036,559
Portion funded by New Customers (\$) (CIAC)	-	-	-	-	-	-	-	-	-	-
Meter Purchase (Net)	1,007,303	1,137,089	1,204,815	1,227,587	918,271	953,161	1,006,424	988,539	967,234	961,859
Portion Funded via rates (\$)	1,007,303	1,137,089	1,204,815	1,227,587	918,271	953,161	1,006,424	988,539	967,234	961,859
Portion funded by New Customers (\$) (CIAC)	-	-	-	-	-	-	-	-	-	-

Capital Costs to Connect New Residential Developments										
EGD Rate Zone	2015A	2016A	2017A	2018A	2019A	2020A	2021B	2022B	2023B	2024B
Number of Projects	-	-	-	-	-	-	-	-	-	-
Number of Residential Customers	22,597	23,289	26,174	23,011	19,295	20,320	20,325	19,704	19,393	18,972
Total Capital Cost (Net - includes Meter Purchase)	39,455,592	48,758,959	42,823,217	65,265,335	46,319,593	66,799,405	57,631,430	57,148,112	57,004,215	56,348,323
Portion Funded via rates (\$)	49,024,107	68,110,991	45,456,523	69,784,387	49,205,457	68,933,323	60,874,634	60,456,180	60,378,444	59,790,036
Portion funded by New Customers (\$) (CIAC)	(9,568,515)	(19,352,032)	(2,633,306)	(4,519,052)	(2,885,864)	(2,133,918)	(3,243,204)	(3,308,068)	(3,374,229)	(3,441,714)
Capital Costs by Work Type										
Mains (Net)	18,826,741	24,951,576	20,997,672	20,188,398	21,507,744	18,663,521	19,497,513	19,349,428	19,309,658	19,094,256
Portion Funded via rates (\$)	24,872,984	30,594,025	23,547,218	22,668,461	24,237,213	19,958,592	21,702,892	21,598,914	21,604,134	21,434,621
Portion funded by New Customers (\$) (CIAC)	(6,046,243)	(5,642,449)	(2,549,546)	(2,480,063)	(2,729,469)	(1,295,071)	(2,205,378)	(2,249,486)	(2,294,476)	(2,340,365)
Service (Net)	17,554,831	20,123,602	17,765,193	40,724,873	21,729,426	44,769,403	34,635,640	34,372,580	34,301,931	33,919,288
Portion Funded via rates (\$)	21,077,103	33,833,185	17,848,953	42,763,862	21,885,821	45,608,250	35,673,465	35,431,161	35,381,684	35,020,637
Portion funded by New Customers (\$) (CIAC)	(3,522,272)	(13,709,583)	(83,760)	(2,038,989)	(156,395)	(838,847)	(1,037,825)	(1,058,582)	(1,079,753)	(1,101,348)
Other (Net - Stations)	555,996	1,244,870	1,132,394	1,157,272	871,374	906,895	948,245	941,043	939,109	928,633
Portion Funded via rates (\$)	555,996	1,244,870	1,132,394	1,157,272	871,374	906,895	948,245	941,043	939,109	928,633
Portion funded by New Customers (\$) (CIAC)	-	-	-	-	-	-	-	-	-	-
Meters & Regs (Net)	309,619	162,877	369,973	945,927	325,349	473,712	563,670	559,389	558,239	552,012
Portion Funded via rates (\$)	309,619	162,877	369,973	945,927	325,349	473,712	563,670	559,389	558,239	552,012
Portion funded by New Customers (\$) (CIAC)	-	-	-	-	-	-	-	-	-	-
Meter Purchase (Net)	2,208,405	2,276,034	2,557,985	2,248,865	1,885,700	1,985,874	1,986,362	1,925,672	1,895,278	1,854,134
Portion Funded via rates (\$)	2,208,405	2,276,034	2,557,985	2,248,865	1,885,700	1,985,874	1,986,362	1,925,672	1,895,278	1,854,134
Portion funded by New Customers (\$) (CIAC)	-	-	-	-	-	-	-	-	-	-

Note the 2021-2024 CIAC amounts for the Union Gas rate zone have been updated to reflect a 3yr average cost (previously shown as a 5yr average) to align with the EGD rate zone presentation.

ENBRIDGE GAS INC.

Undertaking Response to Environmental Defence (ED)

Undertaking

Tr: 60

ED.22(D) – To provide the 2021 figures with draft results for item (d), DSM participants that receive the furnace rebate.

Response:

The following DSM participants received the furnace rebate applicable for the program year:

	2018	2019	2020	2021
L-EGD	13,037	14,257	8,777	5,711
L-UG	14,152	8,993	4,451	1,435
Total	27,189	23,250	13,228	7,146

ENBRIDGE GAS INC.

Undertaking Response to Environmental Defence (ED)

Undertaking

Tr: 65

Table with Enbridge's best estimates for incremental costs and installed costs for furnace, boiler, water heaters – both below and above incentive cut-offs.

Response:

For the Whole Home offering TRC is calculated at the Whole Home level not at the measure level. However, in an effort to be responsive Enbridge Gas is providing the proxy cost values below as they have been substantiated historically:

Measure	Baseline Technology	Efficient Technology	Incremental Cost
Furnace ¹	95% AFUE	97% AFUE	\$188
Tankless Gas Water Heaters ¹	Storage Water Heater, EF = 0.67	Condensing Tankless Water Heater, EF = 0.91	\$2,066
High Efficiency Gas Storage Water Heaters ¹	Storage Water Heater, EF = 0.67	High Efficiency Storage Water Heater, EF = 0.80	\$545
Condensing Boiler (<100 Mbtu/h) ²	82% AFUE	90% AFUE	\$2,045
Condensing Boiler (100 to 199 Mbtu/h) ²	82% AFUE	90% AFUE	\$2,984

The substantiation documents provide the incremental cost only, not the baseline technology and efficient technology costs.

¹ TRM Version 6.0, December 16, 2021.

[OEB-Natural-Gas-DSM-Technical-Resource-Manual-V6.0-20211216.pdf](#)

² EB-2016-0246, filed 2016-12-21, Exhibit B, Tab 1, Schedule 2, Page 4 of 15.

<https://www.oeb.ca/consultations-and-projects/policy-initiatives-and-consultations/natural-gas-demand-side-0>

Table 4: 2023 DSM Plan Budget

/u

Reference: Exhibit, Tab, Schedule	2023 DSM Budget Item	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2023 Total
E-1-2	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
E-1-3	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
E-1-4	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
E-1-5	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
E-1-6	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
E-1-7	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
E-2-2	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
E-3-1	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
E-4-1	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
E-4-2	Evaluation and Regulatory Costs				\$3,876,000	\$3,876,000
	EM&V				\$2,652,000	\$2,652,000
	Regulatory & Stakeholdering				\$714,000	\$714,000
	Process and Market Evaluation				\$510,000	\$510,000
E-4-3	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 two year budget (the amounts detailed in the 2023 DSM Plan Budget serve to indicate the portion of the 2023 budget allocated to that two year program budget which is illustrated in Table 10).

Table 5: 2024 DSM Plan Budget

2024 DSM Budget Item	Incentive Costs	Promotion Costs	Delivery Costs	Admin Costs	2024 Total
Residential Program	\$33,172,339	\$3,401,790	\$3,576,728	\$1,611,830	\$41,762,686
<i>Residential Whole Home</i>	\$26,701,756	\$1,748,788	\$2,933,761		\$31,384,304
<i>Residential Single Measure</i>	\$3,628,990	\$820,682	\$260,100		\$4,709,772
<i>Residential Smart Home</i>	\$2,841,593	\$832,320	\$382,867		\$4,056,780
Low Income Program	\$15,927,691	\$3,412,512	\$2,604,121	\$1,503,115	\$23,447,439
<i>Home Winterproofing</i>	\$9,701,990	\$2,548,980	\$2,411,647		\$14,662,617
<i>Affordable Housing Multi-Residential</i>	\$6,225,701	\$863,532	\$192,474		\$7,281,707
Commercial Program	\$18,289,899	\$1,257,740	\$2,315,362	\$3,763,241	\$25,626,242
<i>Commercial Custom</i>	\$11,163,492	\$632,043	\$251,662		\$12,047,197
<i>Prescriptive Downstream</i>	\$2,182,830	\$135,668	\$166,464		\$2,484,962
<i>Direct Install</i>	\$4,412,890	\$281,948	\$166,464		\$4,861,302
<i>Prescriptive Midstream</i>	\$530,688	\$208,080	\$1,730,772		\$2,469,540
Industrial Program	\$13,733,280	\$416,160	\$0	\$4,035,236	\$18,184,676
<i>Industrial Custom</i>	\$13,733,280	\$416,160	\$0		\$14,149,440
Large Volume Program	\$2,548,980	\$52,020	\$0	\$220,957	\$2,821,957
<i>Direct Access</i>	\$2,548,980	\$52,020	\$0		\$2,601,000
Energy Performance Program	\$637,500	\$30,000	\$450,000	\$105,239	\$1,222,739
<i>Whole Building Pay For Performance (P4P)</i>	\$637,500	\$30,000	\$450,000		\$1,117,500
Building Beyond Code Program	\$3,579,200	\$1,107,231	\$4,327,800	\$532,123	\$9,546,354
<i>Residential Savings By Design</i>	\$2,150,000	\$650,000	\$1,915,000		\$4,715,000
<i>Commercial Savings By Design</i>	\$0	\$200,000	\$1,147,000		\$1,347,000
<i>Affordable Housing Savings By Design</i>	\$1,159,200	\$160,000	\$1,140,800		\$2,460,000
<i>Commercial Air Tightness Testing</i>	\$270,000	\$97,231	\$125,000		\$492,231
Low Carbon Transition Program ¹	\$6,605,120	\$670,033	\$0	\$207,754	\$7,482,907
<i>Residential Low Carbon</i>	\$4,762,720	\$512,866	\$0		\$5,275,586
<i>Commercial Low Carbon</i>	\$1,842,400	\$157,167	\$0		\$1,999,567
Program Subtotal	\$94,494,009	\$10,347,485	\$13,274,011	\$11,979,495	\$130,095,000
Administration Costs				\$11,477,572	\$11,477,572
<i>Portfolio Administration</i>				\$8,741,320	\$8,741,320
<i>System Maintenance & Improvements</i>				\$1,040,400	\$1,040,400
<i>Municipal Engagement</i>				\$1,695,852	\$1,695,852
Evaluation and Regulatory Costs				\$3,953,520	\$3,953,520
<i>EM&V</i>				\$2,705,040	\$2,705,040
<i>Regulatory & Stakeholdering</i>				\$728,280	\$728,280
<i>Process and Market Evaluation</i>				\$520,200	\$520,200
Research and Development Costs				\$3,296,108	\$3,296,108
<i>Research Innovation Fund</i>				\$2,653,020	\$2,653,020
<i>Market Data</i>				\$643,088	\$643,088
Portfolio Subtotal				\$18,727,200	\$18,727,200
Total	\$94,494,009	\$10,347,485	\$13,274,011	\$30,706,695	\$148,822,200

1. The Low Carbon Transition program has a two year budget (the amounts detailed in the 2024 DSM Plan Budget serve to indicate the portion of the 2024 budget allocated to that two year program budget which is illustrated in Table 10).

/u

OGA INTERROGATORY #9

INTERROGATORY

*Issue 1.2 - Should the new business activity – Geothermal Energy Service Program – be considered as part of the utility's regulated business?*¹

Reference: Ex. B, Tab 1, Schedule 1, p. 27-30 & Appendix 11

Please discuss the potential benefits to natural gas customers from Enbridge diversifying its regulated business offerings to include geothermal energy. Please discuss how this could help reduce customer rates in a future scenario where natural gas volumes must be reduced significantly to meet carbon reduction targets.

RESPONSE

As described in response to Board Staff Interrogatory #2 (referencing Energy Probe Interrogatory #2), filed at Exhibit I.1.EGDI.STAFF.2, the Board's Regulatory Framework for the Assessment of Costs of Natural Gas Utilities' Cap and Trade Activities provides several ways in which the Utilities can meet their Cap and Trade obligations, which includes assisting their customers in the abatement of GHG emissions. Decarbonizing gas utility service is now an inherent component of utility business. This is aligned with the Federal and Provincial policy for a lower carbon economy and the Provincial 2030 and 2050 GHG targets. Moreover the Cap and Trade program is based on a declining supply of carbon allowances, which may pose a risk to natural gas customers in future through exposure to elevated rates.

One of the ways for the Company to mitigate the business risk is to diversify its regulated offerings to include low carbon technology options such as geothermal. As discussed in response to OGA Interrogatory #6 filed at Exhibit I.1.EGDI.OGA.6, the adoption of geothermal technology will reduce or avoid natural gas volumes in the future and thus benefit natural gas customers regardless of potential changes in government carbon pricing policy.

¹ Note that these interrogatories also relate to issue 2.3 - Are the services fees for the Geothermal Energy Service Program reasonable and appropriate?



Ontario Energy Board Commission de l'énergie de l'Ontario

DECISION AND ORDER EB-2017-0319

ENBRIDGE GAS DISTRIBUTION INC.

Application for the Renewable Natural Gas Enabling Program

BEFORE: Susan Frank
Presiding Member

Lynne Anderson
Member

Emad Elsayed
Member

October 18, 2018

1. Purpose

This document sets out a regulatory framework for the regulatory and accounting requirements for natural gas utilities, namely Enbridge Gas Distribution Inc. (“Enbridge”) and Union Gas Limited (“Union”), in relation to the ownership and operation of renewable energy generation facilities, combined power and thermal (heat) energy generation facilities, energy storage facilities and assets in relation to energy conservation (collectively referred to below as “qualifying facilities or assets”).

This document contains the Board’s guidance to natural gas utilities in relation to the Minister’s Directive issued to the Board and approved by Order in Council No. 1540/2009 dated September 8, 2009, which effectively authorized Enbridge and Union to own and operate qualifying facilities or assets. In terms of generation and energy storage facilities, this authorization mirrors the amendment to the *Ontario Energy Board Act, 1998* (“*OEB Act*”) that allows electricity distributors to own and operate the same qualifying facilities. The amendment to the *OEB Act* came into effect when the relevant provisions of the *Green Energy and Green Economy Act, 2009* came into force on September 9, 2009.

The purpose of this document is to describe the ownership scenarios that are potentially applicable in relation to assets and activities associated with qualifying facilities or assets that are not rate-regulated (i.e., whose costs are not included in rate base),¹ and to set out the regulatory and accounting requirements applicable to each scenario.

2. Legal Framework

2.1. The Undertakings

The activities of Enbridge and Union are governed in part by certain undertakings given to the Lieutenant Governor in Council.² Under section 2.1 of these undertakings, Enbridge and Union cannot, except through an affiliate, carry on

¹ In its December 22, 2009 Decision on a Preliminary Motion (EB-2009-0172), the Board declined to allow the costs of Enbridge’s “Green Energy Initiatives” to be included in rate base.

² The undertakings that are currently in effect were approved by Order in Council 2865/98 dated December 9, 1998.

any business activity other than the transmission, distribution or storage of gas without the prior approval of the Board.

2.2. Minister's September 2009 Directive

Order in Council No. 1540/2009 dated September 8, 2009 approved a Minister's Directive to the Board that effectively permits Enbridge and Union to own and operate qualifying facilities or assets.

The Minister's Directive, a copy of which is reproduced in Appendix A together with Order in Council No. 1540/2009, specified among other things, the following:

Pursuant to section 27.1 of the Ontario Energy Board Act, 1998, and in addition to a previous directive issued thereunder on August 10, 2006 by Order in Council No. 1537/2006, in respect of the Enbridge Undertakings and the Union Undertakings, I hereby direct the Ontario Energy Board to dispense,

- *under section 6.1 of the Enbridge Undertakings, with future compliance by Enbridge Gas Distribution Inc. with section 2.1 ("Restriction on Business Activities") of the Enbridge Undertakings, and*
- *under section 6.1 of the Union Undertakings, with compliance by Union Gas Limited with section 2.1 ("Restriction on Business Activities") of the Union Undertakings,*

in respect of the ownership and operation by Enbridge Gas Distribution, Inc. and Union Gas Limited, of:

- (a) renewable energy electricity generation facilities each of which does not exceed 10 megawatts or such other capacity as may be prescribed, from time to time, by regulation made under clause 71(3)(a) of the Ontario Energy Board Act, 1998 and which meet the criteria prescribed by such regulation;*
- (b) generation facilities that use technology that produces power and thermal energy from a single source which meet the criteria prescribed, from time to time, by regulation made under clause 71(3)(b) of the Ontario Energy Board Act, 1998;*
- (c) energy storage facilities which meet the criteria prescribed, from time to time, by regulation made under clause 71(3)(c) of the Ontario Energy Board Act, 1998; or*

- (d) *assets required in respect to the provision of services by Enbridge Gas Distribution Inc. and Union Gas Limited that would assist the Government of Ontario in achieving its goals in energy conservation and includes assets related to solar-thermal water and ground-source heat pumps;*
- (e) *for greater certainty, the use of the word “facilities” in paragraphs (b) and (c) above shall be interpreted to include stationary fuel-cell facilities each of which does not exceed 10 Megawatts in capacity.*

This directive is not in any way intended to direct the manner in which the Ontario Energy Board determines, under the Ontario Energy Board Act, 1998, rates for the sale, transmission, distribution and storage of natural gas by Enbridge Gas Distribution Inc. and Union Gas Limited.

3. Ownership Scenarios for Qualifying Facilities or Assets

This section provides an overview of two potential business scenarios for the ownership of qualifying facilities or assets.

The approach selected will determine the extent of regulatory oversight. These business scenarios are discussed in sections 3.1 and 3.2.

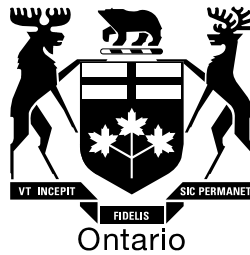
3.1. Qualifying Facilities or Assets Owned by an Affiliate

There are no legal or regulatory prohibitions imposed or enforced by the Board that preclude affiliates of natural gas utilities from owning and operating qualifying facilities or assets. However, if the affiliate intends to generate electricity for sale through the IESO-administered markets or directly to another person, the affiliate would require a licence from the Board pursuant to section 57 of the *OEB Act* unless exempt by regulation.

In addition, where a utility's affiliate owns and operates a qualifying facility or asset, the utility must comply with all applicable requirements of the Affiliate Relationships Code for Gas Utilities (“ARC”).

3.2. Qualifying Facilities or Assets Owned by Natural Gas Utility and Non Rate-Regulated

A natural gas utility may also choose to directly own and operate a qualifying facility or asset. Under this scenario, costs would not be recovered through rates and a regulatory return would not be earned on the investment. The investment



DEMAND SIDE MANAGEMENT GUIDELINES FOR NATURAL GAS UTILITIES

EB-2008-0346

Date: June 30, 2011

2. TERM OF THE PLAN

The initial term of the multi-year plans should be three years (2012, 2013 and 2014). The Board may consider a review of the natural gas DSM framework during the three-year plan term to determine whether to extend its term.

3. PROGRAM AND PORTFOLIO DESIGN

The design of natural gas DSM programs and the overall portfolio should be guided by the following three objectives:

- Maximization of cost effective natural gas savings;
- Prevention of lost opportunities⁴; and
- Pursuit of deep energy savings.⁵

The natural gas utilities may pursue DSM activities that support fuel-switching away from natural gas where these activities align with the above three DSM objectives and contribute to a net reduction in greenhouse gases.

In addition to the above three objectives, guidance on the design of the natural gas DSM programs and the overall portfolio is provided through the overarching DSM framework (e.g., screening, metrics, incentives, consultation process, etc.). This level of guidance is meant to ensure that adequate flexibility in DSM program and portfolio design is maintained, while recognizing that the natural gas utilities are ultimately responsible and accountable for their actions. This flexibility should ensure that the natural gas utilities can continuously react to and adapt to current and anticipated market developments.

To help ensure that an appropriate balance among the three overarching guiding objectives is maintained and that changes to the DSM plan are consistent with the other elements of the DSM framework, the natural gas utilities should apply to the Board for approval if they decide to re-allocate funds to new programs that are not part of their Board-approved DSM plan. However, the natural gas utilities should inform the Board, as well as their stakeholders, in the event that cumulative fund transfers among Board-approved DSM programs exceed 30% of the approved annual DSM budget for an individual natural gas DSM program.

⁴ Lost opportunity markets refer to DSM opportunities that, if not undertaken during the current planning period, will no longer be available or will be substantially more expensive to implement in a subsequent planning period.

⁵ Deep energy savings refer to measures that result in long-term savings, such as thermal envelope improvements (e.g., wall and attic insulation).

Ontario Energy Board Commission de l'énergie
de l'Ontario



EB-2006-0034

IN THE MATTER OF AN APPLICATION BY:

ENBRIDGE GAS DISTRIBUTION INC.

2007 RATES

DECISION WITH REASONS – PHASE 1

July 5, 2007

Summary of the Decision with Reasons¹
(EB-2006-0034)

Application	Board Decision
<ul style="list-style-type: none"> Degree Day Forecast Methodology 	<ul style="list-style-type: none"> Approved for each service region, as per amended proposal
<ul style="list-style-type: none"> Average Use per Customer 	<ul style="list-style-type: none"> Approved, to be amended for approved degree day forecast
<ul style="list-style-type: none"> General Service and Contract Sales 	<ul style="list-style-type: none"> Approved, to be amended for approved degree day forecast
<ul style="list-style-type: none"> Fuel Switching program expenditures 	<ul style="list-style-type: none"> Expenditure levels to be managed by Enbridge but must meet Total Resource Cost test
<ul style="list-style-type: none"> Energy Link program 	<ul style="list-style-type: none"> Not approved. Cease program Recovery of costs incurred
<ul style="list-style-type: none"> Gas Supply Risk Management program 	<ul style="list-style-type: none"> Not approved. Cease program Recovery of \$0.691 million
<ul style="list-style-type: none"> 2007 Open Bill Access Deferral account 2006 Electric Program Earnings Sharing Deferral Account 2006 Unbundled Rate Implementation Cost Deferral Account 2006 Alliance Vector Appeal Costs Deferral Account 2005 and 2006 Gas Distribution Access Rule Deferral Accounts 	<ul style="list-style-type: none"> Approved as proposed Approved as proposed Approved as proposed Approved as proposed Approved as proposed
<ul style="list-style-type: none"> 38% Equity Component of Capital Structure 	<ul style="list-style-type: none"> Increase equity component from 35% to 36%
<ul style="list-style-type: none"> Revenue to Cost Ratios 	<ul style="list-style-type: none"> Approved as proposed
<ul style="list-style-type: none"> Access to Bill envelope to include inserts by third parties 	<ul style="list-style-type: none"> Approved with changes
<ul style="list-style-type: none"> Rate Implementation 	<ul style="list-style-type: none"> Recovery of approved revenue deficiency/new rates effective January 1, 2007

¹ This summary (i) excludes the particulars in the 2007 Settlement Proposal and (ii) does not form part of the Decision nor does it itemize all findings and is not to be relied on for the purpose of applying or interpreting the Decision.