

ONTARIO ENERGY BOARD

EB-2023-0190

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

AND IN THE MATTER OF a motion to review OEB decisions on intervenor evidence and the merits in EB-2022-0156/EB-2022-0248/EB-2022-0249

Amended Notice of Motion

**Review of April 17, 2023 Decision on Intervenor Evidence
and September 21, 2023 Merits Decisions**

**Original April 25, 2023
Amended September 27, 2023**

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NOTICE OF MOTION

Environmental Defence will make a motion to the OEB on a date and through a method of hearing to be determined by the OEB.

THE MOTION IS FOR:

1. An order varying or cancelling the decision on intervenor evidence dated April 17, 2023 (the “Intervenor Evidence Decision”);
2. An order that the proposed evidence of Dr. Heather McDiarmid outlined in the Environmental Defence letters of March 9, 2023 and March 28, 2023 is admissible;
3. An order that the proposed evidence is eligible for cost recovery subject to the normal criteria and review of intervenor cost claims;
4. An order that the decisions of September 21, 2023 (the “Merits Decisions”) are cancelled and remitted for reconsideration in light of the reasons issued in this review motion; and
5. Any such further relief as requested by the moving party and that the OEB deems just.

THE GROUNDS FOR THE MOTION ARE:

6. The requirements for a notice of motion to review are set out in Rule 42.01 of the *OEB Rules of Practice and Procedure* (the “Rules”) and are addressed below.

Rule 42.01(a): Grounds re Intervenor Evidence Decision

7. The Intervenor Evidence Decision constituted a breach of procedural fairness by preventing Environmental Defence from filing its own evidence and requiring it to rely

solely on the evidence of its opponent. Fundamental fairness and the *audi alteram partem* rule require that both sides be given an opportunity to adduce evidence.¹

8. The Intervenor Evidence Decision stated that “the impact of cold climate heat pumps on, and relevance to, the economics of the proposed natural gas expansion projects may be explored without the necessity of the Environmental Defence evidence, but rather through interrogatories or by further discovery or follow-up as the OEB may require.” However, further discovery is not a substitute for allowing Environmental Defence to file its own evidence. Indeed, the analysis provided by Enbridge in response to interrogatories was incomplete and highly biased.²
9. In the alternative, if the Intervenor Evidence Decision is understood to have determined that the proposed evidence was not relevant, that was an error. The Intervenor Evidence Decision seems to suggest that the proposed evidence was irrelevant and inadmissible in the following passage:

Environmental Defence’s proposed evidence is expected to address the potential for cold climate heat pumps to provide superior performance to natural gas service in terms of costs and risks. In accordance with the pre-existing OEB approach, this application does not involve the OEB making a choice between the approval, or recommending the use, of such heat pumps instead of an expansion of natural gas facilities in serving the relevant communities. It is also questionable whether there would be a sufficient record even with the proposed Environmental Defence evidence to enable such a choice. Such matters as potential customer take up of potential alternatives to natural gas, the impact on, and support of the community must be canvassed to make such a determination. Consequently, the OEB will not approve the filing of Environmental Defence’s proposed evidence.

¹ *Bailey v. Saskatchewan Registered Nurses' Association*, [1996 CanLII 5059 \(SK CA\)](#) (“fundamental fairness and the *audi alteram partem* rule requires that both sides be given an opportunity to adduce evidence, provided such evidence is in conformity with the Rules of Evidence and is relevant”); see also *Baker v. Canada (Minister of Citizenship and Immigration)*, [\[1999\] 2 SCR 817 at para. 22](#); *Université du Québec à Trois-Rivières v. Larocque*, [1993 CanLII 162 \(SCC\)](#), [\[1993\] 1 SCR 471 at 490](#).

² Submissions of Environmental Defence, August 9, 2023, p. 6-9 (attached).

10. The Intervenor Evidence Decision misapprehended the relevance of the evidence in the passage ending with the above paragraph. The proposed evidence does not relate to a request that the OEB make a choice between heat pumps or natural gas expansion. Such a choice is clearly not within the scope of this proceeding and Environmental Defence did not state that the evidence was being proffered for that purpose. Environmental Defence outlined the relevance of its evidence in letters of March 9, 2023 and March 28, 2023, namely: (a) testing the customer attachment forecast and the revenue forecast that is derived therefrom and (b) testing the accuracy of the Applicant’s communications to potential new customers. This is clearly relevant to the OEB’s customer protection mandate, as it focuses on the financial risks to existing customers and potential need for conditions to protect new customers from inaccurate promotional materials.
11. Each of the above are valid grounds under Rule 42.01(a). The permissible grounds for a motion to review are as follows:
- i. the OEB made a material and clearly identifiable error of fact, law or jurisdiction. For this purpose, (1) disagreement as to the weight that the OEB placed on any particular facts does not amount to an error of fact; and (2) disagreement as to how the OEB exercised its discretion does not amount to an error of law or jurisdiction unless the exercise of discretion involves an extricable error of law;
 - ii. new facts that have arisen since the decision or order was issued that, had they been available at the time of the proceeding to which the motion relates, could if proven reasonably be expected to have resulted in a material change to the decision or order; or
 - iii. facts which existed prior to the issuance of the decision or order but were unknown during the proceeding and could not have been discovered at the time by exercising reasonable diligence, and could if proven reasonably be expected to result in a material change to the decision or order;
12. An error in determining the relevance of evidence is an error of law, as is a breach of procedural fairness.³

³ *Ontario (Liquor Control Board) v. Lifford Wine Agencies Ltd.*, [2005 CanLII 25179 \(ON CA\)](#), at para 35 (“The error of an administrative tribunal in determining the relevance of evidence is an error of law.”); *Bailey v.*

Rule 42.01(c): Material harm re Intervenor Evidence Decision

13. Environmental Defence's interests were materially harmed by preventing it from submitting evidence to support the relief it seeks in this case. In the Selwyn and Hidden Valley cases, Environmental Defence proposes adjustments to the financial parameters to better protect existing customers, including a precondition that Enbridge only proceed with the project if it agrees to assume the financial risk. In all three proceedings, Environmental Defence seeks a condition that would require Enbridge to provide only fair and unbiased information in its promotional materials. Environmental Defence's ability to justify these requests were harmed by being unable to submit evidence on the extent of risk to new customers and on the accuracy of the Applicant's communication with customers thus far.
14. Similarly, Environmental Defence's interests are also materially harmed by requiring it to rely on the Applicant's own discovery responses to test and critique the Applicant's own economic assessment and own communication materials.

Rule 42.01(e): Threshold questions re Intervenor Evidence Decision

15. A moving party is required to explain why the motion should pass the threshold described in Rule 43.01, which allows the OEB to determine whether a motion should be summarily dismissed without a review. The considerations under Rule 43.01 are listed in the table below along with the application of each to this particular motion:

Saskatchewan Registered Nurses' Association, [1996 CanLII 5059 \(SK CA\)](#) (“fundamental fairness and the *audi alteram partem* rule requires that both sides be given an opportunity to adduce evidence, provided such evidence is in conformity with the Rules of Evidence and is relevant”); see also *Baker v. Canada (Minister of Citizenship and Immigration)*, [\[1999\] 2 SCR 817 at para. 22](#); *Université du Québec à Trois-Rivières v. Larocque*, [1993 CanLII 162 \(SCC\)](#), [\[1993\] 1 SCR 471 at 490](#).

Rule 43.01 Consideration	Application to this Motion
(a) whether any alleged errors are in fact errors (as opposed to a disagreement regarding the weight the OEB applied to particular facts or how it exercised its discretion);	The errors are in fact errors, as outlined in paragraph 13 above.
(b) whether any new facts, if proven, could reasonably have been placed on the record in the proceeding to which the motion relates;	There are no new facts that could have been put on the record beforehand.
(c) whether any new facts relating to a change in circumstances were within the control of the moving party;	No new facts were in the control of the moving party.
(d) whether any alleged errors, or new facts, if proven, could reasonably be expected to result in a material change to the decision or order;	<p>The alleged errors could reasonably result in a change in the Intervenor Evidence Decision. For instance, a correct interpretation and application of procedural fairness would have resulted in leave to file the evidence.</p> <p>Admitting the evidence could reasonably have resulted in a change in the Merits Decisions. For instance, the Panel relied on Enbridge’s evidence on heat pump cost-effectiveness in the decision, which it may not have done with the benefit of evidence from Environmental Defence’s expert.⁴ This, in turn, could have been relevant to the OEB in determining whether to add conditions of approval regarding the provision of unbiased information to customers and the assumption of revenue forecast risk by Enbridge.</p>
(e) whether the moving party’s interests are materially harmed by the decision and order sufficient to warrant a full review on the merits;	The material harm is outlined in paragraphs 14 to 15 above.
(f) where the grounds of the motion relate to a question of law or jurisdiction that is subject to appeal to the Divisional Court under section 33 of the OEB Act, whether the	These questions were appropriately raised during the proceeding.

⁴ Merits Decisions, September 21, 2023, p. 20.

question of law or jurisdiction that is raised as a ground for the motion was raised in the proceeding to which the motion relates and was considered in that proceeding.	
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Grounds and Rule 43 Considerations re Merits Decisions

16. In addition to the above, the Merits Decisions also contained two additional errors.

17. The Merits Decisions appear to be predicated on the assumption that the Panel did not have the jurisdiction to allocate 100% of the revenue forecasting risk to Enbridge, either in relation to the disposition of any shortfalls arising over the first ten years or in relation to any further shortfalls that might arise in years 11 to 40.⁵ This misapprehension of the Panel's jurisdiction is an error of law. The Panel could have required Enbridge to assume the revenue forecast risk for all or part of the revenue horizon, including as a precondition to proceeding with the project.

18. The Merits Decisions also completely disregarded Environmental Defence's submissions regarding Enbridge's customer attachment survey (i.e. that it was highly biased and unreliable) and the lack of any analysis regarding subsequent customer exits over the 40-year revenue horizon.⁶ This constituted declining to consider relevant factors, which is an error of law. In the alternative, it constituted declining to provide reasons, which is also an error of law.

19. These errors could have impacted the outcome of the Merits Decisions and therefore materially harmed Environmental Defence's position. In the very least, correcting the errors could have resulted in decisions that would allocate the revenue shortfall risk to

⁵ Merits Decisions, September 21, 2023, pp. 20-21.

⁶ Submissions of Environmental Defence, August 9, 2023, pp. 9-12.

Enbridge upon disposition at the end of the ten-year rate stability period, rather than leave the question of who would bear that shortfall to another day. Even short of that outcome, correcting the errors could have resulted in a stronger decision that increased the likelihood of Enbridge bearing the cost of potential future revenue shortfalls, such as decisions that did not accept Enbridge's revenue forecast in such a complete and unqualified manner.⁷

Other grounds

20. Environmental Defence also relies on other grounds as its counsel may submit and the OEB may permit.

⁷ Merits Decisions, September 21, 2023, pp. 13.

ONTARIO ENERGY BOARD

EB-2022-0156
EB-2022-0248
EB-2022-0249

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

AND IN THE MATTER OF applications for leave to construct natural gas pipelines in Selwyn, Mohawks of the Bay of Quite First Nation, and Huntsville.

Submissions of Environmental Defence

August 9, 2023

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Background and overview

Enbridge is proposing to build pipelines to connect three areas to its gas distribution system in Selwyn Township, Hidden Valley (Huntsville), and the Mohawks of the Bay of Quinte First Nation. The projects are forecast to cost over \$18 million in capital costs, which amounts to \$50,427 for each customer that Enbridge plans to connect to its gas system.¹ The three projects are supported by a subsidy of over \$11 million from existing gas ratepayers,² which amounts to \$31,673 for each customer that Enbridge plans to connect to its gas system. The capital costs and subsidies from existing ratepayers are summarized in Table 1 and Table 2 below.

The proposed projects are inconsistent with Ontario's Natural Gas Expansion Program, put too much financial risk on existing ratepayers, and should not be approved in their current form without addressing these concerns as outlined below. Ontario's program dictates the specific levels of subsidy from existing ratepayers as set out in Table 2 below, *not more*. However, Enbridge has failed to design these projects in a way that will avoid further subsidies and has not discharged its burden to show that revenues from new customers will cover costs. Most importantly, Enbridge has not shown that its revenue forecast will materialize despite the financial incentive for prospective customers to adopt electric heat pumps instead of switching to gas and for new customers to switch away from gas to electric heat pumps before the end of the 40-year revenue horizon.

These concerns can be addressed by requiring Enbridge to:

- Bear all of the financial risks of the projects (instead of existing ratepayers); or
- Revisit its project design and file revised materials to establish that existing ratepayers will not be at a significant risk of bearing more of the project cost as intended by Ontario's gas expansion program as set out in Table 2.

In addition, if these applications are approved in whole or in part, Environmental Defence asks the OEB to direct Enbridge to include accurate information on the annual operating costs of heat pumps versus gas in any marketing materials that discuss operating cost savings from gas. This is necessary to protect the interests of new customers and to ensure that they are provided the information they need to make fully formed decisions before spending considerable sums to connect to the gas system and convert their heating equipment to gas.

As you might expect, Environmental Defence does not support subsidies to fund the expansion of fossil fuel infrastructure in the midst of a climate crisis. However, we understand that this broader question is outside of the scope of this proceeding. Environmental Defence's submissions are therefore focused exclusively on the financial interests of existing ratepayers and the forecast new customers and are restricted to issue 3.3 (project economics and the EBO 188 tests) and issue 7 (conditions of approval).

¹ See Table 1 below.

² O. Reg. 24/19 ([link](#)).

Table 1: Forecast Capital Costs			
	Capital Cost ³	Forecast New Customers ⁴	Capital Cost per New Customer
Selwyn	\$4,502,425	87	\$51,752.01
Mohawks of the Bay of Quinte First Nation	\$10,715,494	151	\$70,963.54
Hidden Valley (Huntsville)	\$3,339,388	130	\$25,687.60
Total	\$18,557,307	368	
Average Capital Cost Per Customer			\$50,427.46

Table 2: Subsidies from Existing Ratepayers			
	Subsidy from Existing Customers ⁵	Forecast New Customers ⁶	Subsidy per New Customer
Selwyn	\$1,674,964	87	\$19,252.46
Mohawks of the Bay of Quinte First Nation	\$8,080,907	151	\$53,515.94
Hidden Valley (Huntsville)	\$1,899,859	130	\$14,614.30
Totals	\$11,655,730	368	
Average Subsidy Per New Customer			\$31,673.18

Section 96(1) public interest test

Under s. 96(1) of the *Ontario Energy Board Act*, the test for granting leave to construct a hydrocarbon pipeline is whether the project is in the public interest.⁷ Procedural Order #3 asked the parties to address the following question: “In light of section 36.2 of the OEB Act and O. Reg 24/19, what factors must the OEB consider in determining the public interest pursuant to section 96(1)?” Environmental Defence’s response is as follows.

³ EB-2022-0156, Exhibit I.ED.11 EB-2022-0248, Exhibit I.ED.11; EB-2022-0249, Exhibit I.ED.11

⁴ Enbridge Argument-in-Chief, pp. 3-4.

⁵ O. Reg. 24/19 ([link](#)).

⁶ Enbridge Argument-in-Chief, pp. 3-4.

⁷ *Ontario Energy Board Act*, s. 96(1) ([link](#)).

The OEB is required to consider the full range of factors relevant to the public interest test under s. 96(1) of *Ontario Energy Board Act*. O. Reg 24/19 clearly requires that projects obtain OEB approval even if they have been approved as being eligible for a subsidy under the Natural Gas Expansion Program.⁸ The regulation does not require that the OEB apply a different test or assume the project passes any or all parts of the standard test. That is telling because other regulations under the *Ontario Energy Board Act* regarding other matters do direct the OEB to apply certain tests differently.⁹ The Ontario Government could have directed the OEB to apply a modified test in O. Reg. 24/19, but it did not, and therefore the standard test as set out in s. 96 of the *Act* prevails and is binding on the OEB.

Eligibility for the gas expansion subsidy can help to offset only *some* of the capital costs. The remaining costs must be covered by forecast revenues, and Enbridge remains responsible for establishing that this and other aspects of the EBO 188 test are met. Eligibility for the gas expansion subsidy does not require that the OEB apply a more lax standard or require that the OEB decline to protect the interests of gas customers pursuant to its statutory mandate.

Issue 3: project cost and economics

Significant financial risks to existing customers

Under EBO 188, Enbridge must establish that the present value of the stream of revenue from new customers will totally offset the present value of the incremental costs arising from the project.¹⁰ This requires a reliable forecast of the revenue that will be generated from new customers attaching to the gas system. This is intended to ensure that the project is actually cost-effective and that existing customers will not unfairly subsidize new customers. In the present case, the EBO 188 analysis is run after subtracting the government-mandated subsidy from the capital costs.

As proposed, the projects pose significant financial risks to existing customers. To break even (i.e. achieve a profitability index of 1 and cover incremental capital and operating costs), the new customers connecting to the gas system must pay over \$19 million in distribution charges over the next 40 years (or more if there are construction cost overruns).¹¹ The revenue forecast is based on Enbridge's estimate that the large majority of customers that could connect to the new pipelines will connect to the new pipelines (82% for Selwyn and 69% for Hidden Valley).¹² This high forecast rate of customer connections is highly questionable because customers have a strong financial incentive to install electric heat pumps instead of switching to gas.

Even if customers do switch to gas initially, they will continue to have an incentive to switch away from gas, particularly when their existing equipment reaches the end of its life. This will occur two or three times before the end of the 40-year revenue horizon.

⁸ O. Reg 24/19, s. 2(1)(b) ([link](#)).

⁹ See, for example, O. Reg. 53/05, s. 6(2)(12)(v), 6(2)(5), and 6(2)(11)(ii) ([link](#)).

¹⁰ Final Report of the Board, EBO 188, January 30, 1998, s. 3 ([link](#)) & Appendix B, Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario, s. 2 ([link](#)).

¹¹ EB-2022-0249, Exhibit I.ED.26.

¹² EB-2022-0156, Exhibit I.ED.4, Page 3; EB-2022-0249, Exhibit I.ED.4, Page 3

Procedural Order #3 asked the parties to address the following question: “What is the expected impact of take up of other forms of energy delivery to the customers that will be provided access to natural gas through the completion of the project?” The impact of customers adopting heat pumps instead of gas is revenue shortfalls that will be borne by existing customers, unless the OEB states up front in its decision that Enbridge will bear this risk.

Heat pumps are highly cost-effective

Enbridge has failed to provide a reliable revenue forecast that prudently considers and accounts for the likely take-up rate for electric heat pumps as an alternative to gas. Customers will weigh a variety of factors in considering whether to install an electric heat pump versus gas equipment. The costs of each option will clearly be one of the most important factors. Even Enbridge’s own highly biased analysis shows that heat pumps achieve lower annual costs compared to a gas furnace. In particular, Enbridge estimates that:

- A customer would save over \$19,000 in annual heating costs by installing a heat pump instead of a gas furnace (for a house with a moderate heating load in a climate similar to Ottawa after accounting for the system expansion surcharge).¹³
- A customer would save between \$6,000 and \$16,000 on a lifetime basis (including up-front costs) by installing a heat pump instead of a gas furnace, except in a high-cost scenario that is extreme and unrealistic.¹⁴

This analysis was developed after Enbridge surveyed potential customers, after it developed its revenue forecasts, and after it filed its application.¹⁵ Enbridge evidently did not advise customers that they could save those sums by installing a heat pump before asking whether they wanted to connect to the gas system instead. Enbridge evidently did not account for those financial incentives facing customers in its revenue forecasts, nor update its forecast after completing the analysis. As such, Enbridge has failed to account for what is likely the most important consideration in determining the number of customers that will connect to its gas system and how long they will stay with the system.

Enbridge’s heat pump cost-effectiveness analysis is highly biased

Enbridge’s analysis of heat pumps is highly biased in favour of gas. A balanced analysis would show that heat pumps are even more cost-effective than gas. The pro-gas biases include the following:

1. **Excludes cooling benefits:** High performance heat pumps are more efficient than traditional air conditioners.¹⁶ Installing a heat pump instead of converting to a gas furnace will save cooling costs for those with existing air conditioners (89% of Enbridge

¹³ EB-2022-0249, Exhibit I.ED.16, Attachment 7, Ottawa, 4 Ton Heating Load, “Cost savings” row.

¹⁴ EB-2022-0249, Exhibit I.ED.16, page 6.

¹⁵ EB-2022-0249, Exhibit I.ED.16, page 3 (Noting that the analysis was completed in May of 2023).

¹⁶ EB-2022-0249, Exhibit I.ED.16, Attachment 2, Page 6.

customers have air conditioners).¹⁷ Enbridge disregards these savings in its cost-effectiveness analysis.

2. **Excludes air conditioner costs:** Enbridge's up-front cost comparison is skewed because it compares the cost of a heat pump to the cost of a gas furnace alone, even though a heat pump also provides cooling. A true cost comparison should account for the cost of the air conditioner or otherwise recognise the benefit that heat pumps also provide cooling.
3. **Disregards federal \$40,000 interest-free heat pump loans:** Enbridge disregards the \$40,000 interest-free loans available for heat pump installations under the greener homes grant.¹⁸ By spreading out the capital costs over time on an interest free basis, the loan would significantly decrease the present value of the costs of a heat pump versus a gas furnace.¹⁹
4. **Capital cost survey highly biased:** Enbridge's capital cost survey results are highly biased in favour of gas for the followings reasons:
 - a. **Excludes highest-cost gas scenario:** The survey purports to gather information on high and low-cost estimates of heat pump and gas furnace installations. However, it artificially excludes the highest-cost gas conversion scenario by excluding customers that are converting from electric baseboard heaters and do not have central ductwork.²⁰ This is the highest cost scenario for gas heating because it requires expensive retrofitting to add supply and return ducts for the gas furnace throughout a home. In contrast, ductless heat pumps are readily available and cost-effective and do not require ductwork. By artificially excluding this highest-cost gas scenario, Enbridge greatly skews the comparison between high-cost gas and high-cost heat pump installations.
 - b. **Includes non-typical costs in the low-cost heat pump scenario:** When calculating the low-cost estimate for heat pumps, Enbridge includes costs that are often not required, such as a panel upgrade, utility service upgrade, and wiring beyond the standard installation costs.²¹ A low-cost estimate should not include items such as a utility service upgrade that are not typically required. This artificially skews the low-cost results in favour of gas.
 - c. **Low sample size:** The survey only received five responses. It is unclear whether those surveyed are representative of the market or have sufficient knowledge to accurately predict the cost of items such as electrical panel upgrades and utility service upgrades.

¹⁷ EB-2022-0156 Exhibit I.ED.5

¹⁸ EB-2022-0249, Exhibit I.ED.20.

¹⁹ EB-2022-0249, Exhibit I.ED.16, Attachment 7.

²⁰ EB-2022-0249, Exhibit I.ED.16, Attachment 4, Page 1.

²¹ EB-2022-0249, Exhibit I.ED.16, Attachment 5, Page 1.

- d. **Confusing questions:** The survey questions are confusing. For instance, they ask for the “installed cost” of a heat pump and separately ask for the “wiring or other costs.”²² For many HVAC installers, the installed cost would include wiring.
 - e. **Relies on outliers:** The detailed survey results reveal major outliers, which may be the result of errors, a respondent misunderstanding the questions, or incorrect information.²³ Enbridge should have removed the outliers and taken an average of the estimates. Instead, Enbridge does not take an average, and instead relies exclusively on the outlier responses to come up with its high-cost heat pump estimate.²⁴
 - f. **Emphasizes extreme results:** Enbridge’s approach treats the high-cost heat pump cost estimate as being equally relevant and likely even though it is extreme and highly unlikely.
 - g. **Disregards other additional gas costs:** Enbridge specifically itemizes and asks for additional estimates of any conceivable additional heat pump cost that may arise (e.g. wiring). In contrast, it does not itemize or specifically ask about additional gas costs that are likely to arise, such as the cost to install intake and exhaust vents required for modern furnaces or the cost to pipe gas from the meter to the furnace, both of which could be expensive depending on the home layout and furnace location.
 - h. **Fails to rely on third-party studies:** Instead of conducting its own biased survey, Enbridge should have relied on independent studies prepared by people with expertise in estimating costs of heat pump installations. In the very least, it should have compared its results to publicly available studies. Enbridge even failed to compare its results to the heat pump cost estimates it has submitted in evidence in previous OEB proceedings.
5. **Ignores the extra length charge:** Enbridge disregard the extra length charge it applies to new connections. Whether the charge is at the current levels or those proposed for 2024 (\$159 per m over 20 m), this is an important consideration in the rural communities at issue in this case. A rural property in the relevant communities can be more than 100 m away from the road. Disregarding this cost is yet another example of how Enbridge skews a comparison of high-cost gas versus high-cost heat pump installations.
6. **Model inputs remain unverified:** Enbridge continues to withhold certain excel spreadsheets it used to ran the Guidehouse model. Enbridge acknowledges that it ran the model using unique input assumptions.²⁵ However, it has not provided an example of one of those model runs for us to verify the inputs that were used.²⁶ There continue to be elements that have not been verified, such as whether Enbridge updated the Guidehouse

²² *Ibid.*

²³ *Ibid.*

²⁴ *Ibid.*

²⁵ Enbridge Argument-in-Chief, p. 14.

²⁶ Enbridge states that we can manually run the model to confirm the inputs but we are not able to replicate Enbridge’s results. Enbridge also does not provide all the inputs, including the electricity rates and the tax treatment of energy costs.

spreadsheet to remove taxes from the electricity cost (the Guidehouse model in Attachment 3 applies taxes only to electricity costs, not to gas costs, which significantly skews the results). If Enbridge states in its reply that it did make the adjustment, we ask that it file a copy of Attachment 3 with the inputs corresponding to one of the outputs in Attachment 7 (e.g. Toronto, 4 ton, 2023) so this can be verified.

7. **Underestimate carbon price impacts:** Enbridge underestimates the impacts of carbon pricing by assuming the equipment is installed this year (i.e. 2023), even though the revenue forecast assumes installations will occur over the next decade. The carbon price increases as time goes on. Using a mid-point installation in 2027 as the base case would result in an additional \$0.12/m³ in carbon costs, making the heat pump option even more cost-effective.

Again, as noted above, even Enbridge's biased analysis shows that heat pumps are highly cost-effective. If the biases and methodological errors listed above were fixed, it would show that heat pumps are even more cost-effective in comparison to gas, and even further emphasize the need to consider and account for this factor in revenue forecasting.

Enbridge survey results are biased and unreliable

Enbridge primarily relies on the results of its surveys to forecast the likely number of customers that will connect to its gas system. However, the surveys were biased and unreliable.

Most importantly, the surveys failed to provide key information before asking customers whether they were likely to connect to the gas system.²⁷ This missing information included the following:

1. That the federal government is offering \$5,000 rebates for customers to switch to high-efficiency electric heat pumps, which are not available for gas furnaces.²⁸
2. That the federal government is offering an *additional* \$5,000 in rebates for customers to switch from oil to high-efficiency electric heat pumps if they earn a median income or lower (e.g. \$122,000 after-tax income for a family of 4 in Ontario) through the Oil to Heat Pump Affordability Program.²⁹
3. That the federal government is now providing up to \$40,000 in interest free loans, which can be put towards conversions to electric heat pumps, and not gas equipment, through the Greener Homes Loan.³⁰ (Note: The survey script does include a vague reference to heat pump rebates.³¹ However, that is a far cry from actually indicating the high level of rebates that are available. In addition, the script fails to note that the rebates *and interest free loans* can make a heat pump installation less expensive than a gas furnace coupled with a traditional air conditioner.)

²⁷ The following list is based on the survey information for Hidden Valley and Selwyn. Equivalent information is not available for the Mohawks of the Bay of Quite First Nation but one can assume that the approach was similar.

²⁸ EB-2022-0249, Exhibit I.ED.20 & Exhibit I.ED.5.

²⁹ EB-2022-0249, Exhibit I.ED.20 & Exhibit I.ED.5.

³⁰ EB-2022-0249, Exhibit I.ED.20 & Exhibit I.ED.5.

³¹ EB-2022-0249, Exhibit I.ED.5, Attachment 1, Page 52.

4. That heat pumps could save a customer approximately \$1,200 in annual heating costs versus a gas furnace for a house with a moderate heat load (or whatever Enbridge’s estimated savings are).³²
5. An estimate of the extra line charge based on the distance of the building from the road.
6. That heat pumps significantly reduce summer cooling costs.
7. That natural gas is a potent greenhouse gas and its combustion generates approximately 1/3rd of Ontario’s greenhouse gas emissions.³³
8. That heat pumps result in far less greenhouse gas emissions than gas furnaces.³⁴

Instead of noting the concrete benefits of heat pumps, the script emphasizes that a heat pump may require ductwork changes and an electrical upgrade, even though these are often not required.³⁵

Enbridge’s decision not to provide customers with an estimate of the savings from installing a heat pump versus a gas furnace is particularly concerning. Enbridge *does* tell customers how much they will save as between gas and oil, propane, or electric baseboards.³⁶ There is no reason why Enbridge could not do this for heat pumps as well. Although the upfront costs vary, the operating costs of heat pumps are as consistent as the operating costs of the other heating systems that Enbridge forecasts.

The survey script is also misleading. For example:

1. It states that heat pumps “could result in lower annual operating costs compared to other energy sources.”³⁷ The impression left by this statement is that some modest savings are merely possible. In contrast, Enbridge’s own analysis shows that heat pumps result in far lower annual operating costs that *in each and every scenario* examined – ranging from \$10,000 to \$20,000 lower operating costs over the lifetime of the equipment.³⁸
2. The script refers to “high upfront costs” for heat pumps and implies that they are greater than gas upfront costs.³⁹ However, heat pumps likely have lower upfront costs versus gas equipment (a) in homes heated with baseboards (see above re ductless heat pumps), (b) in rural buildings with high extra length charges, and (c) in homes receiving the \$10,000 Oil-to-Heat-Pump rebate. In other cases, heat pumps will still often be cheaper than a gas

³² EB-2022-0249, Exhibit I.ED.16, Attachment 7, Ottawa, 4 Ton Heating Load, “Cost savings” row, averaged; EB-2022-0249, Exhibit I.ED.5.

³³ EB-2022-0249, Exhibit I.ED.5.

³⁴ *Ibid.*

³⁵ EB-2022-0249, Exhibit I.ED.5, Attachment 1, Page 52.

³⁶ EB-2022-0249, Exhibit I.ED.5, Attachment 1, Page 58 (“With the surcharge added, an average home will save approximately [H5SEL] per year by switching heating equipment to natural gas. Savings are likely greater for businesses Considering this, how likely are you to convert your heating system to natural gas?”).

³⁷ EB-2022-0249, Exhibit I.ED.5, Attachment 1, Page 52.

³⁸ EB-2022-0249, Exhibit I.ED.16, Attachment 7, Ottawa, 4 Ton Heating Load, “Cost savings” row, averaged; EB-2022-0249, Exhibit I.ED.5.

³⁹ EB-2022-0249, Exhibit I.ED.5, Attachment 1, Page 52.

furnace and traditional air conditioner after accounting for the federal rebates and interest free loan.

3. The script also leaves the impression that it is a challenge to heat homes with heat pumps in cold climates without “specialized” equipment or “a supplementary heating source.”⁴⁰ In reality, all that is needed is an inexpensive built-in backup heating coil that comes standard in markets like Ontario.

The lack of information on heat pumps is a problem because current customer knowledge of heat pumps is low but increasing. Customers are likely to learn more before they actually invest in new equipment. Over the 10-year customer connection forecast, knowledge will be greater than it was back in 2022 when the surveys were conducted. Until recently, gas was the cheapest way to heat a home. Most customers likely assume that to be the case. But that has changed because of the following:

- Advancements in heat pump efficiency, which lowers heating costs;
- The advent of cold climate heat pumps and built-in backup electric heating elements;
- The federal government’s rebates and interest free loan program;
- The carbon price, which was only established in 2019 and adds 12.39 cents/m³ now, and will add 32.40 cents/m³ by 2030.⁴¹

In this changing environment, it is not sufficiently reliable to base revenue forecasts on the state of customer knowledge in 2022 when the surveys were conducted. That knowledge has already evolved by now and will keep evolving over the revenue horizon. Enbridge could have corrected for this factor by informing customers of the above details in its survey scripts, but it did not do so.

No analysis of potential customer exits

Enbridge has not conducted any analysis of the possibility that customers connect to the gas system and subsequently leave the gas system. Each customer that exits the system will mean less revenue contributing to the over \$19 million in revenue required to cover the costs of these projects. If the projects are actually built in 2023, the revenue horizon will stretch out beyond 2060. That is a long time for customers to learn about heat pumps and consider switching in order to lower their heating and cooling costs (and avoid the over \$300/year gas customer charge). There is at least a possibility that Enbridge will see a significant number of new customers leave the system, and Enbridge has done no analysis to determine the likelihood or magnitude of this factor.

System exits are most likely when heating equipment reaches the end of its life. For customers who install new gas furnaces, that end-of-life switchover period will be in approximately 15 years from now. For customers who convert their existing propane furnaces to burn methane gas, the switchover period could be much sooner as they would keep their existing furnaces. Customers will also have another opportunity to switch to heat pumps when replacing their air

⁴⁰ EB-2022-0249, Exhibit I.ED.5, Attachment 1, Page 52.

⁴¹ Enbridge Gas, Federal Carbon Charge ([link](#)).

conditioners. All customers will have multiple opportunities to leave the gas system before the end of the 40-year revenue horizon period.

Failing to analyze and account for the possibility of system exists further undermines the reliability of Enbridge's revenue forecast.

Rate stability period does not address financial risks

The 10-year rate stability period does not address the financial risks for existing customers arising from possible revenue shortfalls. In the first rebasing case following the conclusion of the rate stability period, Enbridge will file the actual costs and revenues and seek to recover any deficiencies.⁴² Although the OEB will have an opportunity to disallow full recovery, it will be constrained by the basic principles of energy regulation that allows recovery of investments that were prudent at the time they were made, judged without hindsight. If the OEB grants leave to construct now under the normal regulatory construct, it will be difficult for it to disallow any costs in the future, unless the OEB explicitly states in its decision that Enbridge bears the revenue forecasting risk. Without that, the possibility that anyone other than existing customers will bear the cost of revenue shortfalls is very slim.

Furthermore, the bulk of the risk in this case arises in the 30 years beyond the rate stability period. Over 75% of the revenue needed for the project to break even is forecast to be collected after the end of the rate stability period. If the OEB attempts to disallow costs associated with this period it could face a legal challenge. Again, the only safe and certain way to protect existing customers from revenue shortfalls is to warn Enbridge today that it will be responsible for covering any shortfalls.

	Selwyn	Mohawks of the Bay of Quinte First Nation	Hidden Valley	Total
SES Revenue	\$4,477	\$4,252	\$2,007	\$10,736
Distribution Revenue	\$2,418	\$3,672	\$2,301	\$8,391
Total Revenue	\$6,895	\$7,924	\$4,308	\$19,127
Years 11-40 SES Revenue	\$2,974	\$3,354	\$1,646	\$7,974
Years 11-40 Distribution Revenue	\$1,765	\$2,953	\$1,888	\$6,606
Years 11-40 Revenue	\$4,740	\$6,307	\$3,534	\$14,581
Percent of revenue in years 11-40	68.7%	79.6%	82.0%	<u>76.2%</u>

⁴² Enbridge Argument-in-Chief, p. 25.

⁴³ EB-2022-0249, Exhibit I.ED.26.

Requests re Issue 3

To address the risks outlined above, Environmental Defence requests that the OEB require Enbridge to:

- Bear all of the financial risks of the projects (instead of existing ratepayers); or
- Revisit its project design and file revised materials to establish that existing ratepayers will not be at a significant risk of bearing more of the project cost as intended by Ontario's gas expansion program as set out in Table 2 above.

In Procedural Order #3, the OEB asked parties to answer the following question: "What is the appropriate treatment of the Project after the rate stability period has concluded? Please include treatment if a shortfall of expected Project revenue has occurred." Environmental Defence submits that it is essential that the OEB state today, up front, that Enbridge will bear any revenue shortfalls. Reliance on the standard prudence review at the time of rebasing following the end of the rate stability period is far from sufficient to prevent existing customers from bearing the cost risk.

The alternative option is to require that Enbridge refile revised materials including a more reliable revenue forecast that specifically addresses the possibility that customers adopt heat pumps instead of gas and the possibility that connecting customers subsequently leave the gas system. This could involve additional analysis as well as adjustments to the project parameters to add a contingency for uncertainties.

Issue 7: conditions of approval

If these applications are approved in whole or in part, Environmental Defence asks the OEB to direct Enbridge to include accurate information on the annual operating costs of heat pumps versus gas in any marketing materials that discuss operating cost savings from gas. This is necessary to protect the interests of new customers and to ensure that they are provided the information they need to make fully formed decisions before spending considerable sums to connect to the gas system and convert their heating equipment to gas.

Enbridge has detailed information on the annual operating costs of gas furnaces versus electric heat pumps.⁴⁴ It can likely improve on that information as a result of this proceeding. It should not withhold this information from customers when it is providing them with information of annual operating costs of other heating options in its marketing materials.

Special considerations re Mohawks of the Bay of Quinte First Nation

Special considerations apply to the project that would bring gas to the Mohawks of the Bay of Quinte First Nation, including equity considerations and the First Nation's sovereignty and rights over its lands and affairs. Environmental Defence defers to and supports the First Nation's wishes with respect that project. To the extent that any relief requested herein conflicts with the relief requested by the First Nation, the latter should prevail. The First Nation may seek immediate approval of that project. However, that approval would be entirely consistent with a

⁴⁴ EB-2022-0249, Exhibit I.ED.16, Attachment 7.

direction that Enbridge bear the risks of revenue shortfalls and provide balanced information to all customers in its marketing materials on the operating costs of heating options.

Conclusion

The Ontario Government has approved a subsidy to the 368 customers that Enbridge plans to connect to its gas system that amounts to approximately \$11 million.⁴⁵ The projects, as proposed by Enbridge, are contrary to this Ontario Government policy as there is a significant possibility that they will result in even greater subsidies from existing customers beyond the approved amounts.

As the proponent and staunch defender of these projects, Enbridge should bear the revenue forecast risks, not existing customers. New customers should also be protected by ensuring that Enbridge includes heat pumps in any annual operating cost comparisons that it provides in marketing materials. Both of these requests are central to the OEB's core mandate to "inform consumers and protect their interests with respect to prices and the reliability and quality of gas service."⁴⁶

⁴⁵ O. Reg. 24/19 ([link](#)).

⁴⁶ *Ontario Energy Board Act*, s. 2(2).