

ONTARIO ENERGY BOARD

EB-2022-0111
EB-2023-0200
EB-2023-0201
EB-2023-0261

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 gas pipelines in and around Bobcaygeon, Sandford, Eganville, and Neustadt.

Submissions of Environmental Defence

March 25, 2024

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Background and Overview

Enbridge is proposing to build pipelines to connect four areas to its methane gas distribution system in and around Bobcaygeon, Sandford, Eganville, and Neustadt. Environmental Defence is providing one set of submissions covering all four proceedings as there is a great deal of overlap between the four projects in terms of Enbridge's justifications and Environmental Defence's concerns. We hope that a single set of submissions will facilitate more efficient OEB review.

The projects are forecast to cost over \$165 million in capital costs, which amounts to \$34,340 for each customer that Enbridge plans to connect to its gas system.¹ This does not include the additional costs that the homeowners must incur to convert their heating systems to methane gas and, where applicable, to pay the extra length charge for service lines that are longer than 20 metres.

The four projects are supported by a subsidy of over \$100 million from existing gas ratepayers, which amounts to \$21,497 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. These projects are almost ten times the size of the three recently-approved gas expansion projects in Selwyn, Hidden Valley, and Mohawks of the Bay of Quinte (\$18 million versus \$165 million in capital costs).²

The proposed projects are inconsistent with Ontario's Natural Gas Expansion Program ("NGEP"), put too much financial risk on existing ratepayers, and should not be approved in their current form. 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's customer connection survey is biased and inaccurate and 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.

Environmental Defence asks that the OEB decline to grant leave to construct, without prejudice to Enbridge re-applying with better evidence and/or redesigned projects that ensure existing customers are protected. In the alternative, Environmental Defence seeks a requirement that Enbridge agree up-front to assume all of the revenue forecast risk for these projects as a condition of approval.

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 informed decisions before spending considerable sums to connect to the methane gas system and convert their heating equipment to methane gas.

¹ See [Table 1](#) below.

² Submissions of Environmental Defence in EB-2022-0156/0248/0249, August 9, 2023 ([link](#), p. 4).

As you might expect, Environmental Defence does not support the over \$100 million NGEPS subsidy 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, ensuring that the subsidies from existing customers do not *exceed* those allowed by the NGEPS program, and protecting potential customers that are considering whether to connect to the methane gas system.

Table 1: Forecast Capital Costs			
	Capital Cost ³	Forecast New Customers ³	Capital Cost per New Customer ³
Bobcaygeon	\$115,197,180	3,689	\$31,227
Sandford	\$7,202,770	183	\$39,359
Eganville	\$35,509,622	723	\$49,114
Neustadt	\$7,778,572	230	\$33,820
Total	\$165,688,144	4,825	
Weighted Average Capital Cost Per Customer			\$34,340

Table 2: Subsidies from Existing Ratepayers			
	Subsidy from Existing Customers ³	Forecast New Customers ³	Subsidy per New Customer ³
Bobcaygeon	\$68,029,650	3,689	\$18,441
Sandford	\$4,392,566	183	\$24,003
Eganville	\$26,169,413	723	\$36,196
Neustadt	\$5,128,997	230	\$22,300
Total	\$103,720,626	4,825	\$25,235
Weighted Average Subsidy Per New Customer			\$21,497

³ EB-2022-0111, Exhibit I.ED.18 ([link](#), p. 344); EB-2023-0200, Exhibit I.ED-16 ([link](#), p. 302); EB-2023-0201, Exhibit I.ED-16 ([link](#), p. 399); EB-2023-0261, Exhibit I.ED-16 ([link](#), p. 258).

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.⁴ 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 NGEF program.⁵ 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.⁶ 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 laxer standard or require that the OEB decline to protect the interests of gas customers pursuant to its statutory mandate.

Issue 1: Need

Environmental Defence takes no position on issue 1.

Issue 3: Project cost and economics

Environmental Defence asks that the OEB decline to grant leave to construct because Enbridge has not submitted adequate evidence in support of the project economics, such that existing customers are insufficiently protected from providing an even greater subsidy above and beyond the \$100 million set by the Ontario Government through the NGEF program. In the alternative, if the project is approved, Environmental Defence seeks a requirement that Enbridge agree up-front to assume all of the revenue forecast risk for these projects as a condition of approval. Environmental Defence also asks that the OEB not make findings accepting Enbridge's evidence on the customer connection and revenue forecasts as adequate or reasonable, which could be used in the future by Enbridge to seek to put revenue shortfalls on the existing customer base.

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.⁷ This requires a reliable forecast of the revenue that will be generated from new customers attaching to the gas system. In the present case, the EBO 188 analysis is conducted after subtracting the NGEF subsidy from the capital costs.

⁴ *Ontario Energy Board Act*, s. 96(1) ([link](#)).

⁵ O. Reg 24/19, s. 2(1)(b) ([link](#)).

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

⁷ 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](#)).

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 \$190 million in distribution charges over the next 40 years (or more if there are construction cost overruns).⁸ The revenue forecast is based on Enbridge's assumption that a very high proportion of the customers that could connect to the new pipelines will connect to the new pipelines (e.g. over 85% for Sandford and Neustadt and over 50% for Bobcaygeon and Eganville).⁹ This high forecast connection rate is highly questionable because it is based on a fundamentally flawed customer connection survey and because customers have a strong financial incentive to install electric heat pumps instead of switching to gas.

Even if customers do switch to methane 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.

Major gas expansion deficits and connection shortfalls

Enbridge's performance in meeting forecasts in gas expansion projects has been very poor so far. For past projects, Enbridge acknowledges that "[t]he weighted average revised forecast PI is 0.63. The total shortfall for projects with a revised forecast PI of less than 1.0 is \$44,904,484."¹⁰ That is very concerning as Enbridge seeks approval for an additional \$165 million in gas expansion projects in these four proceedings.

In addition, Enbridge has missed its forecast number of customer connections in each year for the past four years (2020-2023).¹¹ The actual connections in the past two years were 50% and 66% of the forecasted connections.¹² Even these numbers are just the beginning of what may occur as the Competition Bureau inquiry against Enbridge regarding deceptive marketing practices proceeds and more customers learn that heat pumps are the most cost-effective way to heat buildings. The greatest likelihood of connection shortfalls and subsequent disconnections within the 40-year revenue horizon is still in future years.

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.¹³ This missing information included the following:

⁸ See [Table 3](#) below.

⁹ EB-2022-0111, Exhibit I.ED.6 ([link](#), p. 260); EB-2023-0200, Exhibit I.ED-6 ([link](#), p. 2010); EB-2023-0201, Exhibit I.ED-6 ([link](#), p. 314); EB-2023-0261, Exhibit I.ED-6 ([link](#), p. 162).

¹⁰ EB-2022-0111, Exhibit I.ED.39, Page 1 ([link](#), p. 431).

¹¹ EB-2023-0261, Exhibit I.ED-39, Attachment 1 ([link](#), p. 359).

¹² *Ibid.*

¹³ 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.

1. The federal government is offering 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.¹⁴
2. The federal government is 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.¹⁵ (Note: The survey script does include a vague reference to heat pump rebates. 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.)
3. Enbridge will charge customers to connect to the methane gas system if it requires a service line that is longer than 20 metres.¹⁶ This is a major factor to have left out. For instance, 25% of potential customers in Sandford will need to pay this charge, which will be over \$4,500 on average.¹⁷
4. Heat pumps result in lower annual energy costs compared to traditional gas equipment for home heating.¹⁸
5. Heat pumps could save a customer over \$1,000 in annual heating costs versus a gas furnace for a house with a moderate heat load (or whatever Enbridge’s estimated savings are).¹⁹
6. Heat pumps significantly reduce summer cooling costs.²⁰
7. “Natural” gas is a potent greenhouse gas and its combustion generates approximately one third of Ontario’s greenhouse gas emissions.²¹
8. Heat pumps result in far less greenhouse gas emissions than gas furnaces.²²

Furthermore, 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.²³

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

¹⁴ EB-2023-0201, Exhibit I.ED-9(b) ([link](#), p. 357-358).

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ EB-2023-0200, Exhibit I.ED-21, p. 3 (This interrogatory response calculated the average ELC based on \$32 per metre over 20 metres, but the charge is now \$159 per metre over 20 meters, see *ibid.*) ([link](#), p. 311).

¹⁸ *Ibid.*

¹⁹ EB-2022-0111, Exhibit I.ED.28, Attachment 6, Ottawa, 4 Ton Heating Load, “Cost savings” row, averaged ([link](#), p. 405); *ibid.*

²⁰ EB-2023-0201, Exhibit I.ED-9(b) ([link](#), p. 357).

²¹ *Ibid.*

²² *Ibid.*

²³ EB-2022-0111, Exhibit I.ED.9, Attachment 3, Page 3 ([link](#), p 283).

much they will save as between methane gas versus oil, propane, or electric baseboards.²⁴ 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.”²⁵ 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.²⁶
2. The script refers to “high upfront costs” for heat pumps and implies that they are greater than gas upfront costs.²⁷ However, heat pumps likely have lower upfront costs versus gas equipment in a number of scenarios: (a) in homes heated with baseboards (see below 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 can still be cheaper than a gas furnace and traditional air conditioner after accounting for rebates and interest-free loans.
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.”²⁸ 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, methane gas was the cheapest way to heat a home. Most customers likely assume that still to be the case, especially because Enbridge is incorrectly stating so in its marketing materials.²⁹ 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; and

²⁴ EB-2022-0111, Exhibit I.ED.9, Attachment 3, Page 5 ([link](#), p 287).

²⁵ EB-2022-0111, Exhibit I.ED.9, Attachment 3, Page 3 ([link](#), p 285).

²⁶ EB-2022-0111, Exhibit I.ED.28, Attachment 6, Ottawa, 4 Ton Heating Load, “Cost savings” row, averaged ([link](#), p. 405).

²⁷ EB-2022-0111, Exhibit I.ED.9, Attachment 3, Page 3 ([link](#), p 285).

²⁸ EB-2022-0111, Exhibit I.ED.9, Attachment 3, Page 2 ([link](#), p 284).

²⁹ Application for Competition Act Inquiry, June 19, 2023 ([link](#), p. 9).

- The carbon price, which was only established in 2019 and adds 12.39 cents/m³ now, and will add 32.40 cents/m³ by 2030.³⁰

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.

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 methane gas furnace. In particular, Enbridge estimates that:

- A customer would save over \$1,000 in annual heating costs on average 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), amounting to over \$16,000 in savings over the 15-year lifetime of the equipment.³¹
- A customer would save between \$12,000 and \$20,000 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.³²

This analysis was developed *after* Enbridge surveyed potential customers.³³ 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. Likewise, 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 connected to 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.³⁴ Installing a heat pump instead of converting to a gas furnace

³⁰ Enbridge Gas, Federal Carbon Charge ([link](#)).

³¹ EB-2022-0111, Exhibit I.ED.28, Attachment 6, Ottawa, 4 Ton Heating Load, sum of "Cost savings" row ([link](#), p. 405).

³² EB-2022-0111, Exhibit I.ED.28, page 8 ([link](#), p. 374).

³³ EB-2022-0111, Exhibit B, Tab 1, Schedule 1, Attachment 4, Page 2 ([link](#), p. 39).

³⁴ EB-2022-0111, Exhibit I.ED.28, Attachment 1, Page 6 ([link](#), p. 383).

will save cooling costs for those with existing air conditioners (89% of Enbridge customers have air conditioners).³⁵ 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.³⁶ 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.³⁷
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.³⁸ 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.³⁹ A low-cost estimate should not include items that are not typically required, such as a utility service upgrade. 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.

³⁵ EB-2022-0111 Exhibit I.ED.9(f), Page 3 ([link](#), p. 279).

³⁶ EB-2022-0111, Exhibit I.ED.20 ([link](#), p. 346).

³⁷ EB-2022-0111, Exhibit I.ED.28, Attachment 6 ([link](#), p. 403).

³⁸ EB-2022-0111, Exhibit I.ED.12 ([link](#), p. 305); EB-2022-0111, Exhibit I.ED.28, Attachment 3, Page 1 ([link](#), p. 400).

³⁹ EB-2022-0111, Exhibit I.ED.28, Attachment 4, Page 1 ([link](#), p. 401).

- 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.”⁴⁰ 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.⁴¹ 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.⁴² In other words, instead of excluding outliers, Enbridge bases its entire analysis on the outliers by labelling the extreme results as the high-cost scenario.
 - 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 disregarded the extra length charge it applies to new connections in its cost comparisons. This is an important consideration in the rural communities at issue in this case, especially since Enbridge’s recently approved increase in the charge for 2024 onward to \$159 per metre over 20 metres.⁴³ For example, approximately 25% of the buildings in Sandford will require a charge, with the average cost being \$4,737.⁴⁴ Disregarding this cost is yet another example of how Enbridge skews a comparison of high-cost gas versus high-cost heat pump installations.
6. **Underestimates carbon price impacts:** Enbridge underestimates the impacts of carbon pricing by assuming the equipment is installed the first year, 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

⁴⁰ *Ibid.*

⁴¹ *Ibid.*

⁴² *Ibid.*

⁴³ EB-2022-0200, Decision and Order, December 21, 2023, p. 50 ([link](#)).

⁴⁴ EB-2023-0200, Exhibit I.ED-21, p. 3 (This interrogatory response calculated the average ELC based on \$32 per metre over 20 metres, but the charge is now \$159 per metre over 20 meters, see *ibid.*) ([link](#), p. 311).

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.

No analysis of customer disconnections within 40 years

Enbridge has not conducted any analysis of the possibility that customers who connect to the methane gas system may subsequently leave the gas system before the end of the 40-year revenue horizon.⁴⁵ Each customer that exits the system will mean less revenue contributing to the over \$190 million in revenue required to cover the costs of these projects. If the projects are actually built in 2024, 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 in fixed gas customer charges). 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.

Disconnections 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 (replacing only the burners). Customers will also have another opportunity to switch to heat pumps when replacing their air 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 subsequent disconnections further undermines the reliability of Enbridge's revenue forecast.

Average annual consumption is overestimated

Enbridge assumed that the newly connecting customers in Bobcaygeon, Sandford, and Eganville would consume more gas annually than the average Enbridge customer and more than average consumption in gas expansion communities thus far.⁴⁶ These estimates were explained, but the underlying studies and analysis were not provided. These assumptions have inflated the assumed revenue generated per customer, making the projects appear more cost-effective than they would be based on Enbridge-wide averages.

The impact of a variance in average annual consumption depends on the type of distribution charges – the standard distribution charges or the system expansion surcharges (“SES”). The overly optimistic forecast is particularly problematic with respect to standard rates because existing customers bear the financial risk that the average annual consumption (and thus average

⁴⁵ EB-2023-0200, Exhibit I.ED-26(a) ([link](#), p. 327).

⁴⁶ EB-2022-0111, Exhibit I.ED.27; EB-2023-0200, Exhibit I.ED-25 ([link](#), p. 325); EB-2023-0261, Exhibit I.ED-25 ([link](#), p. 279).

revenue) will be lower than forecast due to the operation of the normalized average consumption variance account. In other words, if the standard distribution revenue is lower than forecast due to lower-than-forecast average gas consumption, existing customers will make up the shortfall.

With respect to lower SES revenue arising from lower average consumption, the allocation of any shortfalls would be determined in the first rebasing case following the 10-year rate stability period (see below). There is therefore also a high risk that existing customers would bear that shortfall as well.

Normalized reinforcement costs are excluded contrary to EBO 188

Enbridge excluded normalized reinforcement costs in determining the cost-effectiveness of the projects despite the relevant OEB guideline requiring that they be included.⁴⁷ Enbridge simply said “[n]ormalized reinforcement costs are not applicable to community expansion projects” without explaining why.⁴⁸ Excluding these costs makes the projects appear more cost-effective than they actually are.

Enbridge’s capital plan includes various distribution and transmission reinforcement projects upstream of these communities. The proposed projects will add incremental demand, and thus some of the costs of those upstream projects are attributable to this gas expansion. That is why EBO 188 requires that normalized reinforcement costs be used in cost-effectiveness calculations, and why it is problematic that Enbridge has not done so.

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 of the Project with the OEB for consideration of inclusion in rates in the rebasing application following the conclusion of the RSP.”⁴⁹ This means that Enbridge will be seeking to recover any shortfalls in the revenue forecast that arise in the first 10 years at that stage. The 10-year rate stability period does not insulate existing customers from revenue shortfalls arising in the first 10 years – it merely delays the time at which Enbridge can seek to recover those costs from existing customers.

Furthermore, the bulk of the risk for these projects arises in the 30 years beyond the rate stability period. Over 80% of the revenue needed for the project to break even is forecast to be collected after the end of the rate stability period, as shown in Table 3 below.

⁴⁷ Guidelines for Assessing and Reporting on Natural Gas System Expansion in Ontario, EBO 188, January 30, 1998, section 2.1, Capital Costs, (c) ([link](#), p. 4).

⁴⁸ EB-2023-0200, Exhibit I.ED-20(c)(vi) ([link](#), p. 307).

⁴⁹ EB-2022-0111, Exhibit I.ED.19 ([link](#), p. 345).

Table 3: Required Revenue Per EBO 188 Analysis (millions)⁵⁰					
	Bobcaygeon	Sandford	Eganville	Neustadt	Total
SES Revenue	\$77,339	\$4,958	\$18,277	\$5,587	\$106,161
Distribution Revenue	\$64,875	\$3,670	\$14,616	\$3,272	\$86,433
Total Revenue	\$142,214	\$8,628	\$32,893	\$8,859	\$192,594
Years 11-40 SES Revenue	\$65,280	\$4,038	\$14,963	\$4,210	\$88,491
Years 11-40 Distribution Revenue	\$54,930	\$2,991	\$11,986	\$2,561	\$72,468
Years 11-40 Revenue	\$120,210	\$7,029	\$26,949	\$6,771	\$160,959
Percent of revenue in years 11-40	82%	82%	82%	76%	84%

Statements of expectations do not address financial risk

The OEB Panel in the Selwyn, Hidden Valley, and Mohawks of the Bay of Quinte cases made some statements regarding these issues that ultimately fall far short of what is needed to protect existing customers from bearing revenue shortfalls. In the Selwyn case, for instance, the OEB Panel stated as follows:

The OEB cannot bind a future panel determining that future application to be made by Enbridge Gas post-RSP. However, the OEB notes that if Enbridge Gas's estimate of customers likely to take up gas service is correct, existing natural gas customers will have contributed approximately \$19,500 per customer served by the Project to assist in the expansion of gas in these communities. There is a reasonable expectation that such customers will not be called upon to provide a further subsidy to compensate for post-RSP revenue shortfalls.⁵¹

Although the OEB will have an opportunity to disallow full recovery, it will be constrained by the legal principles of energy regulation that allow 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 and accepts Enbridge's evidence on the project economics, it will be difficult for a future OEB panel to disallow any costs in the future. The only way to fully protect existing customers is to explicitly require that Enbridge bear the revenue forecasting risk through a condition of approval. Without that, it is unlikely that anyone other than existing customers will bear the cost of revenue shortfalls.

⁵⁰ EB-2022-0111, Exhibit I.ED.41 ([link](#), p. 441); EB-2023-0200, Exhibit I.ED-42 ([link](#), p. 399); EB-2023-0201, Exhibit I.ED-43 ([link](#), p. 514); EB-2023-0261, Exhibit I.ED-43 ([link](#), p. 371).

⁵¹ EB-2022-0156, Decision and Order, September 21, 2023, p. 21 ([link](#)).

Accepting Enbridge evidence will undermine customer protection

It will be even more difficult for a future panel to protect existing customers from revenue shortfalls if the OEB finds that Enbridge's revenue and customer connection forecasts are reasonable. This would make it very difficult for a future OEB panel to come to findings that would insulate existing customers from covering revenue shortfalls in the future. Again, Enbridge is guaranteed recovery and a fair rate of return on prudently-incurred capital costs. It will be very difficult for a future OEB panel to find any lack of prudence with positive findings from this OEB Panel regarding Enbridge's evidence regarding the project economics.

Existing customers would be best protected if the OEB finds that Enbridge's customer connection forecasts and revenue forecasts have *not* been adequately supported by evidence, such that Enbridge must agree to bear the revenue shortfall risk should it wish to proceed with the project. But even short of that outcome, if the OEB grants leave to construct, Environmental Defence asks that the OEB decline to make the following findings:

- Accepting Enbridge's customer connection forecast or finding it to be reasonable;
- Accepting Enbridge's revenue forecast or finding it to be reasonable;
- Accepting the validity or accuracy of Enbridge's customer connection survey or finding its design to be reasonable; and
- Accepting the Enbridge's assertions that the project is economic and can achieve a profitability index of 1.0.

If the allocation of any shortfalls in the \$192 million revenue forecast will be left to a future OEB panel to decide, it is critical that the OEB's findings in this decision today would support a decision that would protect existing customers when viewed through the fair return standard and other regulatory principles that will apply at that time.

Letters of comment

Enbridge's Argument in Chief highlights a small number of letters of comment asking for gas service as soon as possible. These letters should be read in light of the misleading marketing campaign that Enbridge has pursued in the gas expansion communities. In short, Enbridge has been telling potential customers and municipalities that gas is the cheapest way to heat homes, which is false. Heat pumps are the cheapest way to heat homes, as noted above. For details, we ask the OEB to refer to the application to the Competition Bureau for an inquiry in to this matter, which has resulted in the Competition Bureau commencing the requested inquiry.⁵²

It is no surprise that some customers and some of their municipal leaders are anxious to secure gas service when they have been told that this is the best way to achieve the lowest heating bills. These letters should not override the OEB's mandate to protect existing customers from undue cross-subsidies, ensure that the subsidy levels mandated by the NGEP program are not exceeded, and to conscientiously determine if the requirements of EBO 188 are met.

⁵² Application for Competition Act Inquiry, June 19, 2023 ([link](#), p. 9).

Consistency with the three recent gas expansion decisions

Environmental Defence is asking the OEB to take stronger measures to protect existing customers than it did in the recent decisions in the Selwyn, Hidden Valley, and Mohawks of the Bay of Quinte First Nation cases. We believe stronger measures are justified in the current proceedings, including for the following reasons:

- These four projects are approximately 10 times larger than the Selwyn, Hidden Valley, and Mohawks of the Bay of Quinte First Nation cases in terms of capital costs.⁵³ They are 23 times the size of the two proceedings that were ultimately the subject of the review motion (Selwyn and Hidden Valley). The OEB Panel that decided the review motion emphasized that they were “small projects” twice in its decision.⁵⁴ It may not have come to the same conclusion for the far larger projects at issue here.
- There is evidence on the record in these four cases regarding the poor performance in previous gas expansion cases, namely a revised profitability index of 0.63, with a cumulative shortfall of \$45 million for those projects with revisions, and a failure to meet customer connection forecasts in each of the previous four years.⁵⁵ This evidence was not on the record in the Selwyn, Hidden Valley, and Mohawks of the Bay of Quinte First Nation cases.
- There is evidence on the record in these four cases regarding Enbridge’s average consumption assumptions appearing to be inflated and about existing customers bearing any shortfalls arising from lower average consumption with respect to standard distribution rates.⁵⁶
- There is evidence on the record regarding the exclusion of normalized reinforcement costs contrary to EBO 188.⁵⁷
- Finally, *stare decisis* does not apply to administrative tribunal decisions. As such, the OEB Panel for these four cases is not bound to follow the outcome in the Selwyn, Hidden Valley, and Mohawks of the Bay of Quinte First Nation cases.

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 with 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.

⁵³ See [Table 1](#) above; Submissions of Environmental Defence in EB-2022-0156/0248/0249, August 9, 2023 ([link](#), p. 4).

⁵⁴ EB-2023-0313, Decision and Order, December 13, 2023, p. 3 & 17 ([link](#)).

⁵⁵ See page 6 above.

⁵⁶ See page 12 above.

⁵⁷ See page 13 above.

Enbridge has detailed information on the annual operating costs of gas furnaces versus electric heat pumps.⁵⁸ 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.

We acknowledge that the Competition Bureau has commenced an inquiry into alleged deceptive marketing in these communities and that it has jurisdiction over deceptive marketing practices. However, that inquiry will not be complete until long after these pipelines have been built if leave to construct is granted, leaving a considerable risk that customers will spend considerable sums to convert their heating systems based in part on false information, and certainly without being fully informed. The OEB should ensure that that does not occur.

In addition, Environmental Defence requests the condition of approval regarding revenue shortfall risk as described above with respect to issue 3.

Conclusion

The Ontario Government has approved a \$100 million subsidy for these projects, coming to over \$20,000 per forecast new customer.⁵⁹ 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.

Environmental Defence therefore asks that the OEB decline to grant leave to construct, without prejudice to Enbridge re-applying with better evidence and/or redesigned projects that ensure existing customers are protected. In the alternative, Environmental Defence seeks a requirement that Enbridge agree up-front to assume all of the revenue forecast risk for these projects as a condition of approval and that the OEB avoid any findings that would put existing customers at risk of bearing those shortfalls.

Environmental Defence acknowledges that the OEB may be concerned about denying leave to construct for projects that were explicitly approved by the Ontario Government for the NGEP program. However, the Ontario Government also required that Enbridge obtain leave to construct and is relying on the OEB to carefully review the project economics. It is therefore the OEB's duty to determine if there would be additional subsidies contrary to the NGEP program and the public interest. If the OEB declines to provide leave to construct it would have fulfilled its duties and the Ontario Government can then consider whether to subsequently increase the allowable subsidies for these projects.

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."⁶⁰

⁵⁸ EB-2022-0111, Exhibit I.ED.28, Attachment 6 ([link](#), p. 403-406).

⁵⁹ See [Table 2](#) above.

⁶⁰ *Ontario Energy Board Act*, s. 2(2) ([link](#)).