

Elson Advocacy

June 7, 2023

BY RESS

Nancy Marconi

Registrar

Ontario Energy Board

2300 Yonge Street, Suite 2700, P.O. Box 2319

Toronto, Ontario M4P 1E4

Dear Ms. Marconi:

Re: EB-2022-0156 – Enbridge Gas Inc. – Selwyn Pipeline Project
EB-2022-0248 – Enbridge Gas Inc. – Mohawks of the Bay of Quinte First
Nation Pipeline Project
EB-2022-0249 – Enbridge Gas Inc. – Hidden Valley Pipeline Project

I am writing on behalf of Environmental Defence pursuant to *Procedural Order #2* to request that the OEB allow supplementary interrogatories on the cost-effectiveness of cold climate heat pumps as that topic relates to the relevant communities and the above three applications.

Supplementary Interrogatories

As noted previously by Board Staff, Environmental Defence, and Pollution Probe, the cost-effectiveness of cold climate heat pumps is relevant to the customer and revenue attachment forecasts that underlie the project economics, and therefore also the financial risks borne by existing customers. This evidence could underpin potential requests for adjustments to the proposed projects to reduce those risks or reallocate some risks to the entity best able to mitigate them (Enbridge). The evidence could also underpin requests for conditions of approval, such as conditions regarding accurate customer communications. The evidence is not submitted for the purpose of asking the OEB to reject the proposed projects in favour of heat pumps or to ask the OEB to opine on the wisdom of the National Gas Expansion Program. That relief is clearly not available in this proceeding.

Although Enbridge has provided additional information on the cost-effectiveness of heat pumps versus gas, it is inadequate and incomplete. Interrogatories could help to confirm our concerns with the evidence and help obtain more complete information. Enbridge filed its own analysis and analysis prepared by Guidehouse. The issues with this evidence are as follows:

1. **Ignores monthly customer charge:** The Guidehouse cost comparison ignores the monthly customer charge applied to gas bills. This significantly impacts the costs facing a

customer deciding between gas and an electric heat pump.¹ Enbridge proposes a \$29.37 monthly customer charge in its rebasing application, which amounts to \$398.25 annually and \$5,973.85 over 15 years.² As a result, the Guidehouse analysis ignores over \$5,000 in savings that would accrue to a customer choosing a heat pump over connecting to the gas system based on this single factor alone. Supplementary interrogatories could confirm whether this is the case, determine whether Enbridge’s own analysis properly accounts for the monthly gas charges, and request adjustments to properly account for this factor.

2. **Ignores the Extra Line Charge:** Both the Guidehouse and Enbridge cost comparisons appear to ignore the Extra Line Charge (“ELC”) that customers must pay if a new gas service line to their home would be above a certain length. In its new rebasing case, this charge is increasing to \$122 per additional metre beyond 20 metres (up from \$45 per metre beyond 30 metres in the Union rate zone).³ Because of the rural nature of the communities in question, this is a significant potential up-front cost and would impact decisions to connect to the gas system versus accepting federal incentives to install a heat pump. For instance, our Selwyn interrogatories of April 28, 2023 cite examples of homes that are over 170 metres from the road, which would require an ELC of over \$20,000 (incl. tax). Interrogatories could confirm whether the new ELC will apply and request that this be factored into the cost-effectiveness comparisons.
3. **Ignores carbon price increases:** The Guidehouse cost comparison ignores increases in carbon prices beyond 2023 by focusing only on 2023. This is significant seeing as the carbon price is set to increase by 21 cents per m³ between 2023 and 2030.⁴ Supplementary interrogatories could confirm whether this is the case for the Guidehouse comparison, determine whether Enbridge’s own analysis properly accounts for increases in carbon prices, and request adjustments to properly account for this factor.
4. **Ignores the 23 cents per m³ surcharge:** The Guidehouse cost comparison does not account for the System Expansion Surcharge. It appears that including the surcharge would change the results as between a hybrid heating system and an all-electric heating system. Supplementary interrogatories could confirm whether this is indeed the case and determine whether Enbridge’s own analysis properly accounts for the surcharge.
5. **Ignores impacts on cooling costs:** Both the Guidehouse and Enbridge cost comparisons ignore the annual cooling cost savings that accrue to customers who purchase cold climate heat pumps. These savings arise because cold climate heat pumps are more efficient at cooling in comparison to traditional cooling equipment, whereas switching to gas will do nothing to decrease cooling cost.⁵ This factor is typically accounted for in

¹ This customer will already be paying the fixed monthly electricity distribution charge. Installing a heat pump will not increase their electricity distribution charges. However, installing a gas furnace will require incremental gas monthly charges.

² EB-2022-0200, Exhibit 8, Tab 2, Schedule 7, Attachment 2 (calculation:29.37*12*1.13*15).

³ EB-2022-0200, Exhibit 8, Tab 3, Schedule 1, Page 10.

⁴ EB-2022-0249, Exhibit I.ED.16, Attachment 3.

⁵ EB-2022-0249, Exhibit I.ED.16, Attachment 2, Page 6.

heat pump cost comparisons.⁶ Supplementary interrogatories could confirm this gap and request adjustments to properly account for this factor.

6. **Ignores new rate design:** The Guidehouse cost comparison evidence is based solely on its existing rate design. However, Enbridge plans to move to a Straight Fixed Variable with Demand (SFVD) design for residential customers that would introduce demand charges for the first time.⁷ This would presumably impact the cost-effectiveness of the hybrid gas systems discussed in the Guidehouse report because those systems have lower annual gas volumes (on which most charges are currently levied now) but maintain the peak volumes (on which the future demand charges will be levied). Enbridge proposes distribution charges of 68 cents per m³ for times of peak demand.⁸ Interrogatories could confirm whether this is the case and assess the impacts on the results.
7. **Ignores federal rebates:** The Enbridge analysis ignores the \$5,000 oil-to-gas rebate available from the federal government and the financial benefit of the federal \$40,000 interest free loans. The Guidehouse analysis ignores all federal incentives. Interrogatories could confirm whether this is the case and ask for the analysis to be redone with these incentives accounted for.
8. **Inaccurate and unreliable heat pump cost estimates:** Enbridge's analysis of the up-front cost of heat pump installations is inaccurate and unreliable. First, Enbridge compared the cost of a heat pump to a gas furnace alone, whereas the accurate comparator is a furnace coupled with an air conditioner because a heat pump serves both functions – heating and cooling.

Second, Enbridge based its results on a mere survey with a mere five responses and apparently no follow-up. In contrast, Dr. McDiarmid bases her estimates on approximately 20 real-world contractor quotes, which have been triangulated with other sources. There are also large-scale third-party cost assessments that are available, which are relied on in other heat pump cost-effectiveness studies.⁹ It is therefore no surprise that Enbridge's results conflict with Guidehouse's results and even the results in past Enbridge evidence.¹⁰

Third, Enbridge's survey is skewed because it intentionally excludes homes heated by electric baseboards even though there are a significant number of these in the relevant communities. Heat pumps have the greatest up-front cost advantage for homes with electric baseboards because ductless heat pumps are available (and require no duct additions) whereas switching to gas would require retrofit ducting (which Enbridge estimates to cost \$7,000).

⁶ See e.g. Dr. McDiarmid's evidence in EB-2021-0002 and EB-2022-0157; Evidence of the Energy Futures Group in Ontario Energy Board File # EB-2022-0200, p. 23 ([link](#)) ([link for sources](#)).

⁷ EB-2022-0200, Exhibit 8, Tab 2, Schedule 3, Page 14.

⁸ EB-2022-0200, Exhibit 8, Tab 2, Schedule 7, Attachment 2, Page 8.

⁹ Evidence of the Energy Futures Group in Ontario Energy Board File # EB-2022-0200, p. 23 ([link](#)) ([link for sources](#)).

¹⁰ See e.g. the response to Board Staff Interrogatory 77 in EB-2021-0002

Supplementary interrogatories could confirm if these critiques are accurate, request comparisons of Enbridge's figures with others, and seek revised analysis based on reputable third-party cost figures.

9. **Missing underlying calculations:** Enbridge has not included the calculations and assumptions underlying its own analysis. Dr. McDiarmid reviewed its results spreadsheet and commented that certain values appear low, but was unable to determine the cause. Environmental Defence already requested the calculations and assumptions. Supplementary interrogatories could reiterate that request with additional specificity and request a re-running of the analysis.
10. **Disjointed, complicated, and unhelpful:** Enbridge's evidence is overly complicated, disjointed, and unhelpful because it consists of two separate pieces of analysis, one by Enbridge and one by Guidehouse, which conflict in multiple aspects and each have their own focus, gaps, and failings. It is very challenging to obtain an overall picture of the cost decisions facing individuals in the relevant communities based on this evidence. Although it will be quite difficult to remedy this without leave to file intervenor evidence, supplementary interrogatories may be able to bring about more clarity.

Each of these factors is worth exploring through further discovery because the impacts are very significant. For the Guidehouse analysis, a number of the above factors, even when taken individually, would flip the results between hybrid gas/electric heating and all-electric heating. For the Enbridge analysis, it is not even possible to understand the results without the underlying spreadsheets and details that would come out through interrogatories. For both, adding the additional factors listed above would provide a clearer picture of the financial factors that will face homeowners over the 40-year revenue horizon as they decide whether to attach to the gas system and, for those that do attach, whether to stay with the gas system when their heating equipment reaches the end of its life.

If the OEB decides to allow supplementary interrogatories, we request at least one week to prepare those.

Yours truly,



Kent Elson

cc: Applicant and intervenors in the above applications