



ENERGY FUTURES GROUP



# REVIEW OF ENBRIDGE HEATING COST COMPARISON

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## SUMMARY

Enbridge's most recent approach to presenting estimates of the different costs of residential heating options to customers is both confusing and misleading in ways that are biased against electric heat pumps. The primary concerns are as follows:

- **Disregards important heat pump savings:** *Enbridge's comparison does not account for or provide information on the following sources of energy bill savings from heat pumps:*
  - **Avoided fixed gas costs:** *the additional amounts a customer saves if they install a heat pump as part of fully electrifying their home (\$332/year);*
  - **Cooling savings:** *the cooling savings that accrue because heat pumps are more efficient than traditional A/C (~\$150/year per Ontario TRM assumptions);*
  - **Low-income rebates:** *the additional electricity rebates available to qualifying low-income customers with electric heating (between \$204-\$456/year);*
  - **Avoided gas expansion surcharges:** *the additional savings from installing a heat pump where a customer is subject to \$0.23/m<sup>3</sup> gas surcharges (~\$400/year); and*
  - **Furnace fan savings:** *the savings from avoiding furnace fan power consumption (\$78/year).*
- **Misleading:** *The Enbridge comparison uses misleading wording that results in an inaccurately negative impression of the cost-effectiveness of heat pumps.*
- **Inaccurate and confusing:** *The Enbridge comparison uses unnecessarily confusing wording, which in some instances is also clearly inaccurate.*

The additional factors noted above are important to identify both for accuracy and because they can impact the overall cost-effectiveness of heat pumps. For example, a customer that replaces a gas furnace with a heat pump as part of fully electrifying their home will typically reduce their annual energy bills for space heating and cooling.

Overall, given all the variables involved, the most effective way to inform customers of the energy bill impacts of switching from a gas furnace to a heat pump is to show the full range of changes in *annual* bill impacts for different heat pump applications. The total impacts should be shown in a comparison bar chart, with a supporting table with details. At least the following heat pump use cases should be included:

- *As part of a full electrification of all end uses;*
- *Full electrification of just heating but continued use of gas for other end uses; and*
- *Partial electrification of heating with a hybrid furnace-heat pump system.*

The Company should then provide appropriate caveats about these being average impacts and that actual impacts will vary depending on a variety of factors. More specific suggestions for presentation of information are provided in the recommendations section at the end of this report.

## OVERVIEW OF ENBRIDGE'S COST COMPARISON

In response to an Environmental Defence/GEC set of questions, Enbridge provided a document which it says provides “all energy cost comparisons distributed after the 45-day period referenced in the settlement agreement” in EB-2025-0064. Several specific examples are provided. The first provides “the current version of the disclaimer displayed on the Home Renovation Savings (HRS) website, updated for an error in footnote A.” The following table is included in that version:

Equipment Type	Heat Energy Delivered to Home <sup>a</sup>	Equipment Efficiency <sup>b</sup>	Energy Consumed (what you see on your utility bill)	Energy Cost (Energy Used x Energy Prices <sup>c</sup> )
Electric air source heat pump	3,200 kWh	200%	1,600 kWh	~ \$196.80
Electric air source heat pump	3,200 kWh	400%	800 kWh	~ \$98.40
High efficiency natural gas furnace	3,200 kWh	90%	3,556 kWh (~343 m <sup>3</sup> )	~ \$102.77
High efficiency natural gas furnace	3,200 kWh	98.50%	3,249 kWh (~314 m <sup>3</sup> )	~ \$93.90

The table is part of a three-page document that includes footnotes describing the assumptions used to generate the values in the table, discussion of how differences in gas and electric prices – what Enbridge calls the “fuel price ratio” – and differences in heating equipment efficiencies affect heating costs, conclusions about how greenhouse gas emissions might differ between systems, and information on how hybrid furnace-heat pump systems work. Generally speaking, the other documents in which Enbridge has recently presented heating costs comparisons are similar in structure.

## CONCERNS WITH HOW INFORMATION IS PRESENTED

Enbridge’s presentation of cost comparisons will likely be confusing to many customers and misleading in ways that are biased against heat pumps for several reasons.

### EXCLUDING FIXED COSTS

Perhaps most importantly, the table above – which is likely the part of the three pages of information on which most customers will primarily focus – is based entirely on variable heating costs. It ignores the possibility that customers who fully electrify space heating may also electrify – now or in the future – other end uses, enabling them to also eliminate fixed monthly gas charges. That is not an unreasonable expectation since heating typically accounts for a large majority of gas use and is typically the most expensive

end use to electrify. In other words, once heating is electrified, the customer is most of the way to getting off gas altogether.

While not all customers will electrify all end uses, presenting cost implications for those who might is important. It is even valuable for those who may not fully electrify right away, because they may do so within the expected 16-year average life of a new heat pump.<sup>1</sup>

While Enbridge states below its table that “fixed monthly charges for electricity and natural gas are not included” in its cost comparisons, that is not enough to address what can be a very important factor for customers.

Moreover, Enbridge’s statement about excluding *both* gas *and* electric fixed charges is misleading because monthly charges for electricity will typically not be affected by decisions to install a heat pump; only gas fixed charges will be.

## MISLEADING TABLE DESCRIPTION

The cost comparison table in Enbridge’s materials is presented as “potential monthly home energy costs of heating”. A footnote to the table explains that the estimates are for the month of January. However, many customers will not read through the “fine print” footnotes and may interpret the values as *average* monthly heating costs. The average value for the heating months of October through April will be non-trivially lower.

Providing figures only for the month with the highest heating load is also misleading and biased against heat pumps, in part because it disregards the savings from cooling with a heat pump, discussed more fully below.

## CONFUSING ENERGY UNITS

Enbridge’s table shows average “heat delivered to a home” in kWh terms. The average customer will not understand what that means. Most customers that have any familiarity with the term “kWh” will likely understand it to just be a unit of electricity consumption for which they pay a price set by their local

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<sup>1</sup> Natural Gas Demand Side Management Technical Resource Manual, Version 10.0, March 19, 2026, PDF p. 162 ( <https://engagewithus.oeb.ca/natural-gas-conservation-evaluation-advisory-committee/widgets/141698/documents>).

electric utility. The 3200 kWh value in Enbridge’s cost comparison table may seem very large in that context and potentially confusing relative to what a heat pump will consume – even though the heat pump consumption values are provided two columns to the right. Put simply, this is a level of detail on the “math” of estimating differences in heating costs that is not needed in a customer education piece and may create more confusion than clarity. At most, this detail should be moved to a footnote.

## MISLEADING WORDING AND EMPHASIS ON FUEL PRICE RATIO

Enbridge’s focus on the “fuel price ratio” in its discussion of cost trade-offs is both unnecessary and misleading. Enbridge describes this as “the ratio of how much you pay for electricity versus natural gas per unit of energy.” The first “Key Fact” listed in the document states: “Natural gas and electricity have different costs per unit of energy. As of January 2026, electricity costs are more than 4 times higher per energy unit than natural gas, however heat pumps are more efficient than gas furnaces.”

While it is true that estimating cost differences requires consideration of both differences in costs per unit of energy and differences in heating equipment efficiency, that aspect of the math does not need to be explained to customers – at least not in such a prominent way – because it is not the entire story. Cost tradeoffs are also affected by whether fixed costs are avoided (see discussion above), the electrical cost of running a furnace (which is excluded from Enbridge’s analysis – see below), the potential for significant air conditioning efficiency savings (which is also excluded from Enbridge’s analysis – see below), and other factors. Customers simply need to understand the bottom-line differences and the factors that affect them.

It is particularly concerning that Enbridge’s document makes the point of saying in its “Key Facts” section that “electricity costs are more than 4 times higher per energy unit than natural gas” and then ends the sentence by saying that “heat pumps are more efficiency than gas furnaces” without specifying that efficiency gain can be a factor of 2 to 4. In other words, just in terms of heating system efficiency – excluding gas furnace fan electricity use – heat pumps can come close to offsetting the effect of the price ratio.

Some other parts of Enbridge’s explanation of cost trade-offs are also unbalanced, misleading, and/or inaccurate. For example, the hybrid heating section includes the following sentence, with the bolding in the original Enbridge text: “Your **total energy bill may go up** where electricity is more expensive than natural gas (per equivalent unit of heating after accounting for your realized equipment efficiency), and vice versa.” A customer scanning the wording may be drawn to the bolded language about heating bills going up and either not read about the potential for (“or vice versa” language) or assume there is a much lower probability of bills going down. Also, the sentence is not accurate because it excludes consideration of other factors discussed below (e.g., cooling energy savings).

## OMISSIONS FROM ENBRIDGE ANALYSIS

Enbridge’s cost comparison omits several important factors.

### FIXED GAS COSTS

As discussed above, the most important omission is the potential impact of avoiding fixed monthly gas charges if all end uses are electrified. The same reference Enbridge used for its gas energy costs suggests that customers who fully electrify would save an additional \$332 per year in fixed monthly gas charges.

### COOLING SAVINGS FROM HEAT PUMPS

Enbridge omits the effect of installing a high-performance air source heat pump on cooling energy consumption. Cold climate air source heat pumps tend to be more efficient in cooling mode than the central air conditioners that they would replace.<sup>2</sup> Assumptions from the current Ontario Natural Gas Technical Resources Manual (TRM), suggest cooling bill savings in excess of \$150 per year.<sup>3</sup>

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<sup>2</sup> Ontario gas TRM, PDF p. 131.

<sup>3</sup> The Ontario gas TRM provides estimated changes in kWh consumption for homes with and without central air conditioning. For cases in which there is full electrification of heating, the difference between the two can be assumed to be the cooling energy savings. For example, Table 2 of the TRM for heat pumps suggests that a customer in the South that fully electrifies heating (option 4D) would increase electricity consumption under an automatic switchover

## FURNACE FAN ELECTRICITY CONSUMPTION

Enbridge's analysis omits the electricity consumption associated with furnace fans. Gas furnaces cannot provide heat to a home without such fans. When a heat pump replaces a gas furnace it has its own fans whose consumption is already factored into its efficiency rating; fan energy is not factored into gas furnace efficiency ratings. One commonly cited report suggests that the average furnace fan for Energy Star rated furnaces installed in northern U.S. states (i.e., roughly comparable winters to Ontario's) consume 631 kWh per year. Using the same Toronto Hydro prices that Enbridge used in its cost comparison, eliminating the furnace fan consumption when converting to a heat pump would translate to \$78 per year in energy bill savings that are not included in Enbridge's analysis.

## ELECTRIC HEATING REBATES FOR LOW-INCOME CUSTOMERS

The Ontario government provides higher electricity price rebates for low-income customers if they have electric heating.<sup>4</sup> Depending on income and size of household, the increase ranges from \$204 per year to \$456 per year. Enbridge omits this fact from its comparison.

## HIGHER GAS BILLS WHERE SYSTEM EXPANSION SURCHARGES APPLY

Heat pumps provide greater avoided gas savings where gas surcharges apply.<sup>5</sup> These surcharges are typically \$0.23/m<sup>3</sup> – or nearly \$400 per year in

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approach by 6685 kWh if it has central air conditioning and by 7864 kWh if it did not (TRM PDF pp. 124-125). The difference must be cooling efficiency savings. The same Toronto Hydro TOU rates referenced by Enbridge in its cost-comparison – combined with an hourly cooling energy load shape for the state of New York from the Electric Power Research Institute (<https://loadshape.epri.com/enduse>) to estimate the portion of cooling kWh consumption that is on-peak, mid-peak and off-peak – suggests an average value of \$0.134 per reduced cooling kWh. EFG has questions about whether the Ontario gas TRM may overstate average Ontario cooling energy consumption, and therefore the magnitude of assumed cooling energy savings from high performance heat pumps. However, the TRM is based on Enbridge's analysis, was reviewed by the OEB's evaluation consultants and ultimately approved by the OEB. Regardless of the precise level of savings, the impact that high performance heat pumps have on the cooling component of electricity bills should be included in any cost comparisons with gas furnaces.

<sup>4</sup> <https://ontarioelectricitysupport.ca/faq>.

<sup>5</sup> <https://www.enbridgegas.com/ontario/new-customers/surcharge>

added gas heating costs for the typical home<sup>6</sup> – and therefore have a significant impact on cost comparisons between gas and electric heating.

## RECOMMENDATIONS

EFG has the following recommendations to both correct (i.e., make more accurate) the cost comparison information and improve the ability of customers to understand any Enbridge cost comparisons between gas furnaces and heat pumps:

1. **Present the comparisons on an annual basis.** *This is the only way to clearly account for the full range of impacts, including cooling energy savings.*
2. **Present the comparisons for different heat pump scenarios.** *This should include (1) heat pumps installed as part of a full electrification of all end uses; (2) full electrification of just heating but continued use of gas for other end uses; and (3) partial electrification of heating with a hybrid furnace-heat pump system.*
3. **Include all energy cost impacts** – *including potentially avoidable gas fixed monthly charges for customers who fully electrify all gas end uses (i.e., scenario #1 in the recommendations provided above), avoided gas furnace fan electricity consumption and reductions in electricity required for cooling.*
4. **Express and quantify additional heat pump savings** *for low-income households and those in gas surcharge areas. Although these can be separate from the main cost comparison chart and/or table, it is important to identify and quantify the savings.*
5. **Move discussion of computational details to the footnotes**, *such as fuel price ratios, heating efficiency differences, etc..*

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<sup>6</sup> Assuming an average gas heating consumption of 1717 m<sup>3</sup>, consistent with the Ontario gas TRM (Option 4D in the South).

6. **Avoid misleading and unbalanced wording** that is skewed in favour of gas heating.
7. **Present total heating and cooling energy bills in a simple bar chart**, as many customers may find that easier to understand. The chart should show the combined heating and cooling cost of a gas furnace and central air conditioner, as well as for the three heat pump scenarios described in recommendation #2 above. The chart should be followed by appropriate caveats explaining that cost differences will vary based on a variety of factors including current and future energy prices, furnace and heat pump efficiency ratings, the size of the home, insulation levels of the home, etc.
8. **Provide a supporting table that provides more detail, but with a focus on the categories of cost impacts rather than the math used to compute those impacts.** An illustrative example is provided below.

Cost Categories	Gas Furnace	cold climate Air Source Heat Pump		
		Fully Electrify All Gas Uses	Fully Electrify Heating, but Retain Gas for Other Uses	Partially Electrify Heating (Gas Furnace Remains as Back-Up)
Gas Heating Charges (non-fixed)	\$XX	\$XX	\$XX	\$XX
Electric Heating Charges (non-fixed)	\$XX	\$XX	\$XX	\$XX
Electric Cooling Charges (non-fixed)	\$XX	\$XX	\$XX	\$XX
Gas Fixed Monthly Charges	\$XX	\$XX	\$XX	\$XX
<b>Total</b>	<b>\$XX</b>	<b>\$XX</b>	<b>\$XX</b>	<b>\$XX</b>