

**EB-2022-0249**  
**Hidden Valley Community Expansion Project**

**Supplementary Interrogatories of Environmental Defence**

**Interrogatory # 3.0-ED-29**

Reference: Exhibit E, Tab 1, Schedule 1, Attachment 2

Preamble:

Interrogatory 3.0-ED-16(e) requested the following:

“Please provide Enbridge’s best estimate of the relative cost-effectiveness of an average customer in the project area converting to an air-source cold climate heat pump versus gas. Please generate (i) the lifetime difference in total capital costs and operational costs (NPV) based on customer prices over the equipment lifetime and (ii) the difference in average annual operational costs over the equipment lifetime. Please include all material customer-facing costs and benefits, including energy costs, carbon costs, the Greener Homes Grant incentives for heat pumps, and the gains from more efficient summer cooling of an air source heat pump versus a traditional air conditioner. Please provide all calculations and assumptions. Please make assumptions and state caveats as necessary.”

This interrogatory requests further detail in light of the OEB’s decision on intervenor evidence.

Questions:

- (a) Please re-run the cost comparison spreadsheet underlying Interrogatory 3.0-ED-16(e) with the following assumptions:
- (i) Customer-facing gas and electricity prices for the project area are based on either: (A) the average price over the past 12 months inflated by 2% annually going forward or (B) the current prices inflated by 2% annually going forward;
  - (ii) A carbon price forecast consistent with the IESO 2050 Pathways to Decarbonization Report, namely: that the carbon price “[c]ontinues rising by \$15/tonne from 2030-2035, and thereafter increases with the rate of inflation.”
  - (iii) The installed cost and performance (COP/HSPF & SEER) of the cold climate air source heat pump is based on the Moovair Central heat pumps;<sup>1</sup>
  - (iv) The average SEER of an air conditioner is 13 (per EB-2021-0002, Exhibit I.10h.STAFF77);

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<sup>1</sup> The specs for the Moovair central can be found here: <https://moovair.ca/central-moov-2022/>.

- (v) Two scenarios for water heating: (A) the customer keeps their existing electric water heater and (B) the customer purchases a Rheem hybrid high-efficiency heat pump water heater; and
  - (vi) The customer's air conditioner is at 50% of its useful lifetime and its future replacement costs are avoided if the customer installs a heat pump.
- (b) Fall each scenario, please provide the lifetime NPV and the first-year annual operating costs for both options.
  - (c) Please provide the spreadsheet underlying the answer to Interrogatory 3.0-ED-16(e) and to (a) above.
  - (d) Please confirm that Moovair is a heat pump developed and sold by The Master Group, which is the largest independent HVAC-R distributor in Canada.<sup>2</sup> [To explain why we suggest using that model as a concrete example.]
  - (e) Do the average-use figures assumed in Enbridge's revenue forecast correspond to customers with gas for space heating only or also gas for other uses, such as water heating?
  - (f) Please confirm that there are over 430 models of centrally-ducted heat pumps on the Greener Homes Grant eligible equipment list with an HSPF (Region 5) of 10 or higher and that the top-rated Carrier 3-ton units have an HSPF (Region 5) of 11.3.
  - (g) Please confirm that there are over 270 models of centrally-ducted heat pumps rated for 30,000 BTUs or higher on the Greener Homes Grant eligible equipment list with an HSPF (Region 5) of 10 or higher.
  - (h) Please provide the conversion rate between region 4 and 5 HSPF figures and between HSPF and COP.
  - (i) Please provide a table for the duration of the customer attachment horizon with rows for:
    - (i) The number of forecast attachments;
    - (ii) The average capital cost per attachment (e.g. dedicated service line and meter);
    - (iii) The amount of the attachment costs in (ii) covered by rates on average;
    - (iv) The amount of the attachment costs in (ii) covered by the customer on average;
    - (v) The total attachment costs (dedicated service line and meter) for each year; and
    - (vi) A reconciliation of (v) with the incremental capital figures in the DCF table in E-1-1 Attachment 2.

### **Interrogatory # 3.0-ED-30**

Reference: Exhibit E, Tab 1, Schedule 1, Attachment 2

Preamble:

These questions relate to the costs of individual customer attachments (i.e. dedicated service line and meter), the portion of those costs that will be borne via up-front payments by customers considering a switch to gas, and how this might impact the number of attachments as customers consider gas versus heat pumps.

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<sup>2</sup> <https://moovair.ca/why-moovair/>

Questions:

- (a) Please confirm that, in its rebasing case, “Enbridge Gas is proposing a harmonized service length threshold of 20 metres and an updated ELC [Extra Length Charge] of \$122 per additional metre that will apply consistently across all franchise areas.”
- (b) Please provide a rough estimate of the Extra Length Charge that would be applicable to the buildings in the project area on average.