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August 23, 2024

Nancy Marconi  
Registrar  
Ontario Energy Board  
2300 Yonge Street, P.O. Box 2319  
Toronto ON, M4P 1E4

Dear Ms. Marconi,

**RE: EB-2024-0111: Enbridge Gas Rebasing Phase 2  
Energy Probe Interrogatories to the Energy Futures Group**

Attached are the interrogatories of Energy Probe on Exhibit M1 evidence by the Energy Futures Group filed by GEC and Environmental Defense in the EB-2024-0111 Enbridge Gas Rebasing Phase 2 proceeding.

Respectfully submitted on behalf of Energy Probe.

Tom Ladanyi  
TL Energy Regulatory Consultants Inc.

cc. Patricia Adams (Energy Probe Research Foundation)  
Khalil Viraney (OEB Staff)  
EGI Regulatory Proceedings  
Intervenors of Record

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Energy Probe Research Foundation 417 Bloor Street West, Suite 202, Toronto, Ontario, M5S 1X6

Phone: (416) 964-9223 Fax: (416) 964-8239 E-mail: [EnergyProbe@nextcity.com](mailto:EnergyProbe@nextcity.com) Internet: [www.EnergyProbe.org](http://www.EnergyProbe.org)

**Enbridge Gas Inc. 2024 Rebasing Application Phase II**  
**Energy Probe Interrogatories to Energy Futures Group**

**M1.EP-1**

**Reference:** OEB Rules of Practice and Procedure

**Preamble:** Quote from the OEB Rules of Practice and Procedure:

***13A. Expert Evidence***

*13A.01 Where a party intends to engage one or more experts to give evidence in a proceeding on issues that are relevant to the expert's area of expertise, Rule 13 applies to that evidence.*

*13A.02 An expert shall assist the OEB impartially by giving evidence that is fair and objective.*

*13A.03 An expert's written evidence shall, at a minimum, include the following:*

- (a) the expert's name, business name and address, and general area of expertise;*
- (b) the expert's qualifications, including the expert's relevant educational and professional experience in respect of each issue in the proceeding to which the expert's evidence relates;*
- (c) the instructions provided to the expert in relation to the proceeding and, where applicable, to each issue in the proceeding to which the expert's evidence relates;*
- (d) the specific information upon which the expert's evidence is based, including a description of any factual assumptions made and research conducted, and a list of the documents relied on by the expert in preparing the evidence;*
- (e) in the case of evidence that is provided in response to another expert's evidence, a summary of the points of agreement and disagreement with the other expert's evidence; and*
- (f) an acknowledgement of the expert's duty to the OEB in **Form A** to these Rules, signed by the expert.*

**Question:**

Please explain how Exhibit M1 adheres to the rules for Expert Evidence quoted in the Preamble.

**M1.EP-2**

**Reference:** Exhibit M1, Page 7, Section B

**Preamble:** “The problem is that Enbridge’s conclusions regarding what is a “safe bet” are fundamentally flawed. They are also clearly biased towards solutions that maximize the potential future role (and therefore profits) of the Company.”

**Questions:**

- a) Please confirm that the conclusions of the co-authors regarding what is a “safe bet” are biased towards solutions that minimize the potential future and role of the Company.
- b) Please confirm that the co-authors want the use of natural gas to be eliminated as soon as possible no matter what it may cost the 3.8 million Enbridge Gas customers.

**M1.EP-3**

**Reference:** Exhibit M1, Page 7, Section B

**Preamble:** “Weatherization will reduce annual gas use, reduce gas bills, reduce peak demand that drives gas infrastructure costs, and ultimately reduce impacts on the electric grid when buildings electrify their space heating.”

**Questions:**

- a) Please define the term “weatherization.”
- b) What percentage of the 3.8 million premises that are currently served by Enbridge Gas are weatherized?
- c) Are the co-authors recommending that all premises should be weatherized and that Enbridge Gas ratepayers be forced to pay for this weatherization in rates?
- d) How much time would it take to weatherize all currently un-weatherized premises?
- e) Please provide the co-authors’ estimate of the cost of weatherization of all premises served by Enbridge Gas?

#### **M1.EP-4**

**Reference:** Exhibit M1, Page 8, Footnotes 8 and 9, the Canadian Institute for Climate Choices and the Canadian Climate Institute

#### **Questions:**

- a) Please confirm that the Canadian Institute for Climate Choices and the Canadian Climate Institute are the same organization and not two separate organizations.
- b) Have either of the co-authors or Environmental Defense, Greenpeace Canada or the Sierra Club Canada, ever been directly or indirectly involved with the Canadian Climate Institute/ Canadian Institute for Climate Choices.
- c) Are any members of the Board of Directors of the Canadian Climate Institute also on the boards of directors or members of the executive of the Environmental Defense, Greenpeace Canada or the Sierra Club Canada?

#### **M1.EP-5**

**Reference:** Exhibit M1, Page 8

**Preamble:** “There is no real debate about whether significant portions of current gas use will need to be electrified in order to decarbonize the fossil gas sector. The only questions are how much and how fast.”

#### **Questions:**

- a) Please explain what a “real debate” is and why there is no such debate.
- b) Was there ever a debate about the need for electrification? If the answer is yes, when did this debate start and when did it end, where was it held, and who were the participants?
- c) Please confirm that electrification will require large quantities of copper and other metals which will need to be mined using explosives and heavy diesel powered mining equipment, processed using dangerous chemicals such cyanide, smelted using gas or coal furnaces, cast or rolled into shape using large amounts of energy, transported using diesel powered ships, trains and trucks, and installed using diesel powered heavy equipment and that electrification may actually release large quantities of carbon dioxide, other gasses and dangerous chemicals that is greater than are released by the natural gas sector.

#### **M1.EP-6**

**Reference:** Exhibit M1, Page 8, Table 1, *Decarbonization Study Conclusions on Reductions in Annual Gas Energy Throughput by 2050*

**Preamble:** “For example, Table 1 of that report – replicated below – shows that multiple studies in Canada and in northeastern U.S. states have concluded that massive reductions in gas throughput as a result of electrification will need to be part of any realistic transition to net zero emissions by 2050.”

**Questions:**

- a) What is the relevance of Table 1 if it does not include Ontario but shows Massachusetts and has a 2016 as the base year for Quebec while others have 2020?
- b) Please confirm that “realistic transition to net zero” must include the estimate of the cost of transition and identification of who will be paying for it.
- c) Please explain what is “transition to net zero”. Does it consist of complete elimination of natural gas?
- d) What are the co-authors’ estimate of the cost of transition for Ontario?

**M1.EP-7**

**Reference:** Exhibit M1, page 9

**Preamble:** “However, because electrification is a far better alternative, CCUS is not even mentioned by other studies – not even in the Massachusetts study funded by the state’s gas utilities – as a viable option for commercial customers.”

**Questions:**

- a) Does Massachusetts have large underground storage reservoirs like Ontario?
- b) Please confirm that availability of underground storage may have been the reason why it was not mentioned in the Massachusetts study.

**M1.EP-8**

**Reference:** Exhibit M1, page 10

**Preamble:** “It is worth noting that some leading gas utilities in other jurisdictions are funding pilot projects that focus on electrification. For example, the Massachusetts Department of Public Utilities, the state’s energy regulator, recently issued an order that supported its state’s gas utilities’ proposal to invest in pilot projects to test the potential for cost-effective GHG emission reductions through networked geothermal systems.”

**Questions:**

- a) Are some gas utilities considered to be “leading gas utilities” based on objective assessment criteria or just in the opinion of co-authors?
- b) Is Enbridge Gas a leading gas utility? Please explain the co-authors’ answer.

- c) Is the Massachusetts Department of Public Utilities the regulatory body with the authority to approve rates and other charges of utilities in that state, similar to the authority of the OEB in Ontario?
- d) Why should the OEB follow what the Massachusetts Department of Public Utilities is doing?

### **M1.EP-9**

**Reference:** Exhibit M1, page 11

**Preamble:** “Similarly, Vermont Gas Systems is supporting a pilot project to produce and use green hydrogen by one of its largest industrial customers (a microchip manufacturing facility).”

#### **Questions:**

- a) Is the customer being charged the total cost of green hydrogen or is the cost of green hydrogen being subsidized by all customers of Vermont Gas?
- b) What are the sources of electricity used to produce the green hydrogen for this customer of Vermont Gas?

### **M1.EP-10**

**Reference:** Exhibit M1, page 12

**Preamble:** “The only reason gas heat pumps reduce GHG emission is because they are an efficiency measure. Similarly, the only reason gas heat pumps reduce peak loads is because they are an efficiency measure. In other words, there is not any extra GHG reduction or peak load reduction benefit “beyond energy efficiency.” With respect to “maintaining customer choice”, the ETTF should only invest in technology that is likely to offer customers *better* choices.”

#### **Questions:**

- a) Do the customers have a right to decide what is a better choice or are the co-authors the only ones who decide what is a better choice?
- b) Please confirm that the cost of natural gas compared to the cost of electricity may influence the decision by customers to what is the better choice.

### **M1.EP-11**

**Reference:** Exhibit M1, Page 13

#### **Preamble:**

“If such a targeted ETTF were to be approved, the Board should also require that Enbridge develop a scoring rubric for prioritizing different potential low-carbon alternatives for high-heat industrial process needs. At a minimum, scoring criteria should include:

- the lifecycle carbon intensity of the options (the lower the better);
- the potential for the cost per tonne of GHG emission reduction to be lower than other alternatives; and

- the likelihood that the project will accelerate adoption of the technology by Ontario customers.”

**Questions:**

- a) Considering that many components for low carbon alternatives will be imported from China, such as heat pumps currently are, how should the scoring rubric account for the GHG emissions during the manufacture of these components.
- b) Considering that complex components of low carbon alternatives may have a shorter life than conventional simpler components, how should the scoring rubric account for different service lives?
- c) Considering that complex components of low carbon alternatives may require greater use of difficult to recycle metals and non-metallic materials, how should the scoring rubric account for disposal difficulties and costs?

**M1.EP-12**

**Reference:** Exhibit M1, Page 13

**Preamble:** “Finally, we recommend that the Board create a stakeholder advisory committee that would be expected to work with Enbridge on both the development of a scoring rubric, the actual scoring of different options and ultimately the selection of project funding priorities.”

**Question:**

Are the co-authors recommending that their clients, The Green Energy Coalition and Environmental Defense be represented on the stakeholder advisory committee?

**M1.EP-13**

**Reference:** Exhibit M1, Page 21

**Preamble:** “As detailed below, we recommend that the OEB require that Enbridge develop its approach to system pruning in consultation with the IRP Working Group within 6 months and begin implementation on a small pilot within 12 months.”

**Question:**

Are The Green Energy Coalition and Environmental Defense, the clients of the co-authors represented on the IRP Working Group?

**M1.EP-14**

**Reference:** Exhibit M1, Page 22

**Preamble:** “Conceptually, as long as customers can be severed from the system without causing safety or reliability issues for other gas customers, there should not be technical constraints to pruning.”

**Question:**

Do the co-authors believe that the safety or reliability issues of the customers being severed should not be considered?

**M1.EP-15**

**Reference:** Exhibit M1, page 22

**Preamble:** “Similarly, we do not see a need for the Company to have to consult the IESO or local municipalities about such projects. Electrifying a few customers should not affect electric grid loads at a level important to the IESO and local municipalities do not need to be involved in individual customers’ fuel choices. While consultation with the local distribution company could be important to ensuring any local electric distribution capacity constraints are identified, that is no different than the consultation Enbridge presumably undertook as part of its non-pruning IRPA pilot project proposal which included partial electrification of set of customers.”

**Questions:**

- a) How many local electric distribution companies are there in Ontario and how many of them are regulated by the OEB?
- b) Do the co-authors believe that every feeder of every one of those electricity distribution companies has adequate spare capacity to supply customers switching from gas to electricity?

**M1.EP-16**

**Reference:** Exhibit M1, pages 22 and 23

**Preamble:** “For example, as noted in a white paper recently published by National Grid (a large gas utility serving customers in several northeastern states) and the Rocky Mountain Institute (a non-profit advocacy organization promoting clean energy), Pacific Gas and Electric has already completed 85 pruning projects in its California gas service territory.”

**Questions:**

- a) Have either of the co-authors or their clients, Environmental Defense, Greenpeace or the Sierra Club, ever been directly or indirectly involved with the Rocky Mountain Institute?
- b) Please confirm that many gas customers of the Pacific Gas and Electric company in California use gas only for cooking and water heating.

### **M1.EP-17**

**Reference:** Exhibit M1, Page 23

**Preamble:** “Finally, we recommend that Enbridge consider strategies for addressing situations where most customers are prepared to fully electrify but a very small number or portion are not. When that occurs in a situation in which getting all customers to disconnect from the gas distribution system would provide significant economic benefits to gas ratepayers as a whole, it may be appropriate to consider options other than just incentives. One option might be different gas rates for such “hold outs” that would fairly reflect the cost they are imposing on the system. However, consideration of this option should not hold up initiation of small pilot pruning projects for which there are no “hold outs”.”

#### **Questions:**

- a) Please confirm that customers disconnecting from the distribution system would result in the costs of operations, maintenance and return of the common facilities such as compressors, regulating stations, storage and transmission being recovered from fewer customers, which would increase their rates.
- b) The so called “holdouts” are likely to be long time loyal customers of Enbridge Gas. For various reasons including the cost of conversion they would prefer to continue using gas instead of converting to electric space and water heating. Why do the co-authors recommend that they be punished?

### **M1.EP-18**

**Reference:** Exhibit M1, Page 25

**Preamble:** “**Electric ccASHPs have the lowest annual energy bills.** As Figure 2 shows, using all of the same assumptions that Enbridge is using, plus reasonable assumptions about the average seasonal efficiency of ccASHPs and heat pump water heaters, we calculate that ccASHPs can be expected to have significantly lower average annual heating bills than all the other heating fuel options that Enbridge is currently comparing.”

#### **Questions:**

- a) Please file your calculations including all assumptions.
- b) Does a Cold Climate Air Source Heat Pump use electric resistance heating when the outdoor temperature is below a certain setting?
- c) Are any ccASHPs manufactured in Canada?
- d) Do the co-authors assume that all homes have air ducts and air handling circulation fans?

- e) Do the co-authors assume that all homes have the same amount of insulation?
- f) Many rental apartment buildings in Ontario built in the sixties and seventies have electric resistance baseboard heating. The co-authors recommend that their owners consider heat pumps. Please explain how such buildings would be converted to heat pumps.

**M1.EP-19**

**Reference:** M1, page 29

**Preamble:**

“There is one element that is present in all of the aspects of Enbridge's application discussed in our report, namely a very strong bias in favor of actions that support the continued use of and expansion of gas infrastructure.

Our recommendations, summarized in the executive summary above, attempt to put customer interests first, as much as is possible in the context of the proposals that have been included, and not included, in the Company's application.”

**Questions:**

- a) Please confirm that Enbridge Gas is not forcing customers to use gas and that a vast majority of its 3.8 million customers want to continue using gas instead of converting to electricity.
- b) Why do the co-authors believe that they know better than the customers themselves what are customer interests?