

**EB-2020-0293**  
**Enbridge St. Laurent Ottawa North Replacement Project**

**Interrogatories of Environmental Defence  
To Ottawa-PP-SEC**

February 8, 2022

Note: Most questions below relate both to issues 1 and 2.

**Interrogatory # Sponsors' Evidence-1-ED-1**

Reference: Evidence, p. 4 & 97 & 119

Questions:

- (a) Please describe the role that renewable natural gas ("RNG") is expected to play in meeting Ottawa's energy needs by 2050, including high-level estimates of the RNG (m3) to be used for (i) directly heating buildings, (ii) industrial uses, and (iii) power generation.
- (b) Please comment on whether the RNG expected to be used in Ottawa in 2050 would likely be transported in the provincial pipeline (vs. truck or short local pipelines from production facilities to end-uses).
- (c) Please comment on whether it is likely more cost-effective to meet the space and water heating needs in Ottawa's buildings via the combustion of RNG versus an optimal combination of ground-source heat pumps, thermal energy storage, and air-source heat pumps.
- (d) Page 6 of Energy Evolution (evidence p. 97) describes a reduction in GHGs of 12% attributable to RNG. Please provide a breakdown of these reductions between (i) reductions in fugitive emissions and (ii) displacing consumption of fossil gas.
- (e) Page 28 of Energy Evolution (evidence p. 119) describes a reduction in GHGs attributable to "waste and renewable natural gas." How much of this is attributable to displacing the consumption of fossil fuels with RNG (versus, for example, avoiding fugitive emissions or electrifying the waste disposal fleet).

**Interrogatory # Sponsors' Evidence-1-ED-2**

Reference: Evidence, p. 4 & 183

Questions:

- (a) Please compile a list of addresses of buildings owned by the City of Ottawa and ask Enbridge to calculate the gas demand (m3) from those buildings (e.g. from billing data) that are served by the St. Laurent pipeline in terms of design day demand (m3/d), peak hour (m3/h), and annual demand.

### **Interrogatory # Sponsors' Evidence-1-ED-3**

Reference: Sponsors Evidence

Question(s):

- (a) Please respond to Enbridge's description of the Sponsors' evidence as containing "aspirational plans."
- (b) Municipal climate plans are sometimes criticized as being merely aspirational because they do not include sufficient concrete plans and investments to be realized. Please respond to that potential criticism as it relates to Ottawa's plans to the extent that there is anything to add in addition to the response to (a).
- (c) When will the next major status reports or updates be published that could help assess whether Ottawa's climate plans are or are not being realized?

### **Interrogatory # Sponsors' Evidence-1-ED-4**

Reference: Sponsors Evidence

Question(s):

- (a) Please comment on Enbridge's assertion under the heading "feasibility of electrification" that "The equivalent amount of energy from electricity required to replace the energy provided by the proposed Project over the course of 1 hour is approximately 1.64 GW" and that "electricity generation, transmission and/or distribution infrastructure amounting to up to double the current peak demands for the City of Ottawa (served via Hydro Ottawa) or more than half of the generation capacity of the Pickering Nuclear Generating Station would need to be built and placed into service in order to eliminate the St. Laurent pipeline system." Please address the following factors in your response:
  - i. At footnote 6 Enbridge cites 155,300 m<sup>3</sup>/h but notes on page 3 that the peak design day demand is 139,800 m<sup>3</sup>/h;
  - ii. Enbridge's calculations do not appear to account for
    - A. Ottawa's plans to improve efficiency in buildings, and the impact this would have on the load for electrically-heated homes;
    - B. The efficiency of gas equipment and the fact that less than 100% of the energetic value of fossil gas is converted into heat;
    - C. The efficiency of heat pumps and the fact that 1 watt of electricity can produce considerably more than 1 watt of heat via a heat pump;<sup>1</sup>
    - D. Thermal storage and battery storage can shift load from peak to off-peak times;<sup>2</sup>

---

<sup>1</sup> E.g. see <https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/about/energy-star-announcements/publications/heating-and-cooling-heat-pump/6817>.

<sup>2</sup> E.g. <https://www.hydroquebec.com/residential/energy-wise/windows-heating-air-conditioning/thermal-storage/>;  
<https://www.nspower.ca/your-home/energy-products/electric-thermal-storage>

- E. Ground-source heat pumps maintain efficiency levels despite outdoor air temperatures;<sup>3</sup> and
  - F. The existing electrical capacity in place to meet the peak summer demand when air conditioners are running.
- (b) If possible, please recalculate the peak electrical needs accounting for (i) planned building envelope improvements, (ii) the differential in efficiency between existing gas equipment and heat pumps, (iii) the potential use of thermal storage and/or battery storage to shift load from peak to off-peak times, (iv) the electricity capacity in place, and (v) any other relevant factors.

### **Interrogatory # Sponsors' Evidence-1-ED-5**

Reference: Sponsors Evidence

Question(s):

- (a) Please describe any additional technologies and/or programming being considered for future phases of Energy Evolution aimed at reducing consumption of fossil gas for space and water heating.

---

<sup>3</sup> <https://www.nrcan.gc.ca/energy-efficiency/energy-star-canada/about/energy-star-announcements/publications/heating-and-cooling-heat-pump/6817>.