



May 9, 2024

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

Dear Ms. Marconi,

**RE: EB-2023-0195 Toronto Hydro Application for Electricity Distribution Rates  
CCMBC Interrogatories to BOMA on the Enerlife Expert Evidence**

Attached are the interrogatories of the Coalition of Concerned Manufacturers and Businesses of Canada (CCMBC) to BOMA on the Enerlife Expert Evidence in the EB-2023-0195 proceeding.

Respectfully submitted on behalf of CCMBC,

Tom Ladanyi  
TL Energy Regulatory Consultants Inc.

cc. Daliana Coban (Toronto Hydro)  
Thomas Eminowicz (OEB Staff)  
Clement Li (BOMA)  
Catherine Swift (CCMBC)  
Intervenors of Record

## EB-2023-0195 Toronto Hydro Application for Electricity Distribution Rates

### Interrogatories of The Coalition of Concerned Manufacturers and Businesses of Canada to BOMA on the Enerlife Expert Evidence

May 9, 2024

#### M2-CCMBC-1

**Reference:** BOMA evidence, Page 3

**Preamble:** “BOMA Toronto’s members represent over 85% of the Commercial Real Estate (CRE) Industry (which includes mainly condominium and apartment buildings, office space, retail and light industrial buildings) in the Toronto Hydro service area.”

#### **Questions:**

- a) Please explain what is Enerlife and what is its relationship with BOMA.
- b) In this proceeding, EB-2023-0195, is Enerlife an independent consultant assisting the OEB in reaching its decision or is Enerlife a consultant representing BOMA’s positions on issues in the EB-2023-0195 proceeding and its evidence is pre-filed argument submission?
- c) Please file the engagement letter from BOMA to Enerlife that sets out the terms of reference or any other instructions from BOMA for this evidence. If no such document(s) exist, please explain why not.
- d) Did BOMA review and approve Enerlife Expert Evidence, *Building towards a sustainable future*, prior to filing? If the answer is yes, please provide the title(s) and position(s) of the person(s) who reviewed this evidence prior to filing.
- e) Does BOMA agree with the findings of the Enerlife Expert Evidence, *Building towards a sustainable future*? If the answer is no, please list the areas of disagreement.
- f) Please file a table showing the types of heating and cooling systems currently used by BOMA’s Toronto members, with number of buildings using each system. In particular please list the number of buildings using each type of heat pump, electric baseboard heating and hybrid systems that use both electricity and gas.

## **M2-CCMBC-2**

**Reference:** Exhibit M2, Page 5

**Preamble:** “In its prefiled evidence, and further confirmed in the Technical Conference, Toronto Hydro indicated that the potential load impacts of electrification in commercial buildings, such as heat pumps, installation of heat recovery chillers and connection to district energy, are not incorporated in its 2025 – 2029 load forecast. Enerlife believes that significant electrification of commercial buildings will occur during this period and recommends that Toronto Hydro should review the analysis provided in this report and assess its potential impact on the proposed load forecast, capital investment plan and revenue requirement in Toronto Hydro’s current and future rate applications.”

### **Questions:**

- a) Based on the above quoted paragraph, does Enerlife believe that Toronto Hydro’s load forecast is too low and should be higher?
- b) If the answer to the above question is yes, by how much should the load forecast be increased for each rate class and for each year of the forecast period? If the answer is no, please explain why not.

## **M2-CCMBC-3**

**Reference:** Exhibit M2, Page 11, Table 2-2 *2024 to 2029 Expected CDM Cumulative Savings (Electricity Consumption) by Commercial Building Type*

### **Question:**

Please explain how the numbers in the table shown for *Multi-Residential (Condo/Apartment)* buildings and *Warehouses* were determined listing all assumptions sources of data and showing all calculations with formulas.

## **M2-CCMBC-4**

**Reference:** Exhibit M2, Page 12, *Figure 2-2 Toronto Office Building’s Progression to Electrification and Pages 39 to 43, Appendix B “Electrification Archetypes”*.

### **Question:**

- a) What is “energy use intensity” (EUI) and how is it determined and measured?
- b) Are the “*Archetype Office Building*” in Figure 2-2 and “*a representative small size office building*” discussed in the text the same or different buildings?

- c) Is the “*Archetype Office Building*” the same building in 2010 and 2019 that has been retrofitted, or do the results for 2010 and 2019 show different buildings?
- d) Please list all assumptions and sources of data and show all calculations including formulas that support the numerical quantities shown in Fig 2-2.
- e) Considering that 2019 was 5 years ago why has BOMA not used more recent information?

## **M2-CCMBC-5**

**Reference:** Exhibit M2, Page 11, and Page 13, Figure 2-3

**Preamble:** “While there are significant differences between commercial building types, most differ from residential buildings (single family homes) in two major ways:

- Large ventilation systems, which account for as much as half of building heating loads (natural gas) and have the potential for highly efficient heat reclaim from exhaust air to preheat outside air makeup where feasible, or boost it to a higher heat grade through the use of water source heat pump for use in building heating, which can significantly and cost effectively reduce peak as well as annual natural gas demand.
- Large internal process heat gains which are currently rejected to atmosphere but are increasingly being recycled to offset heating requirements (natural gas) in winter. For example, there is a large-scale national program underway for retrofitting arena facilities to displace fossil fuels used for space and water heating with heat recovered from the ice plant condensers.”

### **Questions:**

- a) These passages reference water source heat pumps (WSHPs). How do these differ from ground source heat pumps?
- b) Could any existing commercial building be adapted to use a WSHP, or is significant foundation, structure, or other groundwork required making WSHP only suitable for new construction?
- c) Can you provide more examples of commercial buildings that use WSHPs today and how they are using WSHPs in both summer and winter?
- d) How many commercial buildings use WSHPs in Toronto?

- e) Where are WSHPs located inside commercial buildings? Could they be installed in spaces currently occupied by existing underground parking garages?
- f) How does the efficiency of a typical WSHP used in a commercial building compare with an air source heat pump (ASHP) sized for the same building?
- g) Why would a commercial building choose to use a WSHP instead of an ASHP, or vice-versa?

## **M2-CCMBC-6**

**Reference:** Exhibit M2, Page 25

**Preamble:** “In hybrid electrification, natural gas heating remains as a supplementary heating source, with electric heat pumps and heaters displacing a large share of previous fossil fuel consumption, but gas-fired boilers or furnaces continuing to provide a significant part of demand during peak heating periods. The hybrid solution is generally the most cost effective for all types of commercial buildings with current utility rates. For most commercial buildings, it also avoids major costs for electrical service upgrades and associated upstream electrical capacity investments. In most cases, commercial buildings’ electrical infrastructure is sized for the air conditioning load in the summer. Since the impact of electrification is primarily seen in winter (natural gas heating replaced by electric heat pumps), existing electrical infrastructure provides enough capacity for hybrid electrification. Therefore, significant investment in electrical infrastructure upgrade on site or upstream at the electric utility level is not required. A summer peaking distributor’s (e.g., Toronto Hydro) overall system peak is not substantively impacted.”

### **Questions:**

- a) If the cost of natural gas increases, or the cost of electricity decreases, such that running a purely electrified heat pump heating solution in winter becomes more desirable for commercial buildings from a cost perspective, or if a future government mandates such a change, what are the considerations or obstacles facing a commercial building in migrating to such a solution?
- b) Please describe what upstream electrical capacity investment upgrades would be needed if a significant number of commercial buildings migrated to purely electric heat pump heating solutions for winter?