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Ms. Nancy Marconi
Registrar
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May 9, 2024

**EB-2023-0195 – Toronto Hydro-Electric System Limited (Toronto Hydro)
2025-2029 Custom Rate Application
Pollution Probe Interrogatories on M2 (BOMA/Enerlife) Evidence**

Dear Ms. Marconi:

In accordance with OEB direction for the above-noted proceeding, please find attached Pollution Probe Interrogatories on M2 evidence (BOMA/Enerlife).

Respectfully submitted on behalf of Pollution Probe.

A handwritten signature in black ink, appearing to read "Michael Brophy", written over a horizontal line.

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ONTARIO ENERGY BOARD

**Toronto Hydro-Electric System Limited
2025-2029 Custom Rate Application**

**POLLUTION PROBE INTERROGATORIES
For M2: BOMA/ENERLIFE EVIDENCE**

April 9, 2024

**Submitted by: Michael Brophy
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Consultant for Pollution Probe

M2-PP-1

Toronto Hydro noted large data centres as a future significant incremental demand and Enerlife recognized the relevance of data centres over 1MW.

- a) What is the magnitude of opportunity for Toronto Hydro (or in partnership with others such as IESO, City of Toronto, BOMA, etc.) to mitigate net demand and net energy from future data centres?
- b) What metrics and targets or requirements would make sense for the OEB to include for Toronto Hydro to ensure that future data centres are built in the most efficient manner and that peak load (including DER options) and waste heat (locally or through district heating) are optimized within the Toronto Hydro service territory?
- c) What responsibility does Toronto Hydro have to support the energy transition proactively rather than responding to energy transition demands (such as data centres and CDM opportunities in general) reactively?
- d) Based on BOMA/Enerlife experience what are the areas where Toronto Hydro is providing high customer value and areas lacking (requiring increased effort) in relation to supporting energy transition needs, net zero objectives and customer conservation and demand side management?

M2-PP-2

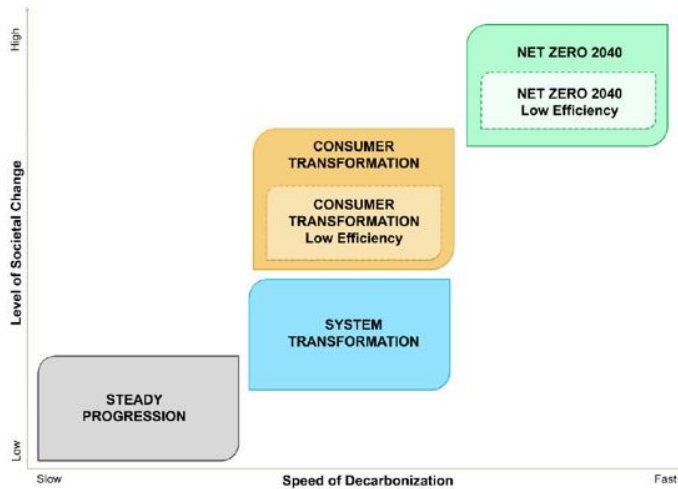
Reference: “Toronto Hydro indicated that the potential load impacts of electrification in commercial buildings, such as heat pumps, installation of heat recovery chillers and connection to district energy, are not incorporated in its 2025 – 2029 load forecast. [Enerlife Evidence, Page 5]

Toronto Hydro confirmed that their plan and system is flexible to handle electrification and energy transition activities under any of the scenarios (as summarized in Exhibit 2B/D4 Appendix A, Figure 1 which includes Net Zero by 2040) over the 2025-2029 period and that it provides the foundation to deliver on any of the scenarios beyond 2029.

This appears to contradict Enerlife’s statement above. Please reconcile and explain what would be impacted in Enerlife’s evidence if the Toronto Hydro Plan and system can already meet the most aggressive scenario (Net Zero by 2040).

M2-PP-3

Please explain how to calibrate and compare Enerlife’s Alternative Load Forecast Scenario One and Alternative Load Forecast Scenario Two against the four scenarios Toronto Hydro identifies in the Future Energy Scenarios (as summarized in Toronto Hydro evidence Exhibit 2B/D4 Appendix A, Figure 1 replicated below for convenience).



M2-PP-4

Enerlife identifies operational savings as one of the most important and best practice areas to save energy.

- a) Please confirm that the Independent Electricity System Operator’s (IESO) 2019 Achievable Potential Study (2019 APS), its subsequent 2022 APS Refresh and the 2024 Annual Planning Outlook do not include the full potential to reduce electricity through best practice operational practices.
- b) Please provide an estimate of the annual savings that could be achieved if education, programs and incentives were implemented for best practice operational programs.

M2-PP-5

Reference: M2 Figure 2-1 2020 – 2021 Electricity use (kWh/sqft/year) for Toronto K-12 Schools

Please estimate the total kWh/year and relative (percent of total energy) that would be achieved if the average K-12 school in the sample for the Figure was reduced to equal:

- Top Quartile performance
- Top Decile performance

M2-PP-6

Toronto Hydro indicates that the provincial grid intensity continues to increase based on greater use of natural gas generation in what was traditionally a clean grid [1B-PP-15b]. What impact does this have on leveraging electrification in support of Net Zero goals and what mitigation options are available to decrease emissions.

M2-PP-7

Reference: M2 Figure 2-3 Impact of CDM, Heat Recovery, and ASHPs on Electricity Winter and Summer Peak Demands

Toronto Hydro confirmed that they have no concern during the 2025-2029 term with electrification of heating loads and that the Toronto Hydro system will continue to be summer peaking over that period. Please explain the relevance of Figure 2-3 given this confirmation by Toronto Hydro (i.e. is it just to illustrate the emission reductions).

M2-PP-8

Enerlife identifies some of the benefits of a hybrid heating system where natural gas use is decreased or only used as back-up. Enerlife is likely aware that as consumers exit the natural gas system the costs to remain connected will increase for those that remain or where natural gas infrastructure will need to be systematically dismantled, natural gas may not longer be a viable option in the decades ahead.

- a) Please explain if that would simply result in customers leveraging their non-gas heating solutions or if a different hybrid options would take the place of natural gas.
- b) What provisions should be taken in the 2025-2029 period to ensure that customer investments are future proof and do not become stranded assets?

M2-PP-9

Toronto Hydro is using a Gross demand forecast that does not include net benefits of DERs including CDM, storage or other options to peak shave or reduce customer bills. Toronto Hydro also confirmed that its definition of DER includes all the elements listed under the NSPM definition of DER [per 1A-PP-3].

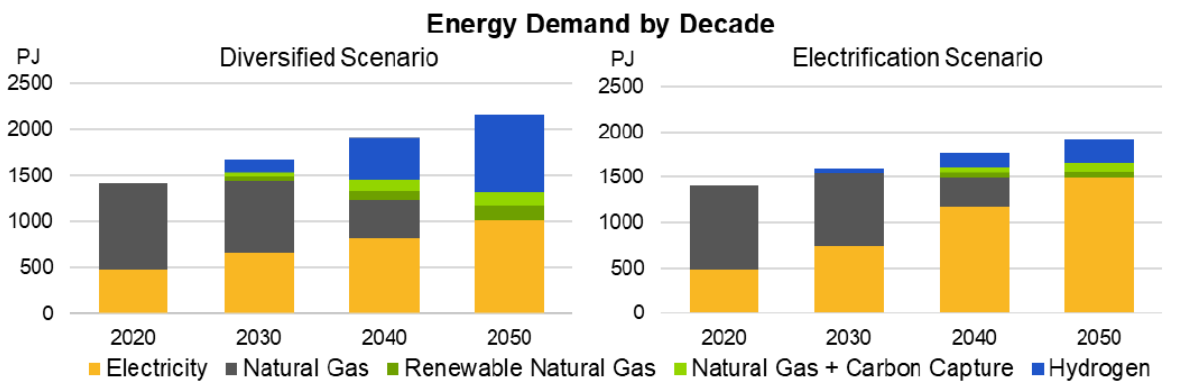
- a) Please explain what the impact/benefits would be if Toronto Hydro were to use a Net Demand forecast instead of the Gross forecast.
- b) Please provide Enerlife's assessment on whether the Net Demand forecast Toronto Hydro modelled in the Future Energy Model [per JT2.1] is reasonable. If not, please indicate what is DER or other elements are missing and the related impacts.
- c) Does Enerlife/BOMA see additional opportunity to leverage DERs beyond what Toronto Hydro has identified?

M2-PP-10

The OEB has endorsed unlocking the benefits of DERs that are not owned by LDCs. Toronto Hydro does not track DERs that are not load controlled by Toronto Hydro. This provides a large resource of customer funded DERs that are not being fully leveraged for the benefit of the grid. Please provide Enerlife’s advice on how to resolve this lost opportunity over the 2025-2029 rate term.

M2-PP-11

Reference: Figure 1: Pathways to Net Zero Emissions for Ontario [EB-2022-0200 Exhibit 1.10.5.2_Pathways to Net-Zero Emissions for Ontario_BLACKLINE_20230421]



The Enbridge Net Zero Emissions for Ontario Report included the above figure summarizing the Diversified (natural gas bullish) and Electrification (electricity bullish) scenarios. Both these scenarios show natural gas use in Ontario going to zero prior to 2050, except for a small number of large industrial customers that would be able to use carbon capture and storage to mitigate residual emissions.

- a) What additional actions are required by Toronto Hydro and customers under the scenarios of decreasing natural gas access and use noted above?
- b) How do the Net Zero scenarios above affect customer choices over the 2025-2029 rate term?
- c) Which of these scenarios does Enerlife believe is more credible to occur?