ONTARIO CLEAN AIR ALLIANCE

February 2, 2021

Ms. Marilyn Toft
Clerk, City of Toronto
100 Queen Street West
Toronto M5H 2N2

Dear Ms. Toft:

Re: MM28.21 – Calling on the Province to Phase-Out Gas-Fired Electricity Generation
Responses to February 1, 2021 submissions by Atura Power and Enbridge

I am writing to respond to the submissions that City Council has received from Atura Power and Enbridge with respect to Councillors McKelvie's and Layton's motion that the City request the Government of Ontario to develop and implement a plan to phase-out all gas-fired electricity generation as soon as possible to ensure that Toronto has a clear path to achieve our climate action goals.

Atura Power Submission

Atura Power is a wholly owned subsidiary of Ontario Power Generation (OPG). Atura owns four of OPG's five large gas-fired power plants.

According to Autura's submission:

"Further reductions in electricity sector emissions would be expensive and difficult to achieve, largely because it would require a sizable overbuild of intermittent renewables and significant battery storage to account for intermittency. As well, replacing natural gas in Ontario Power System with a combination of wind, solar and energy storage would raise the commodity cost of electricity by about 50%."

Ontario Clean Air Alliance Response:

While we understand OPG's interest in defending its recent $2.8 billion investment in fossil fuel generation, we cannot let the company's commercial interests stand in the way of achieving our vital climate targets.

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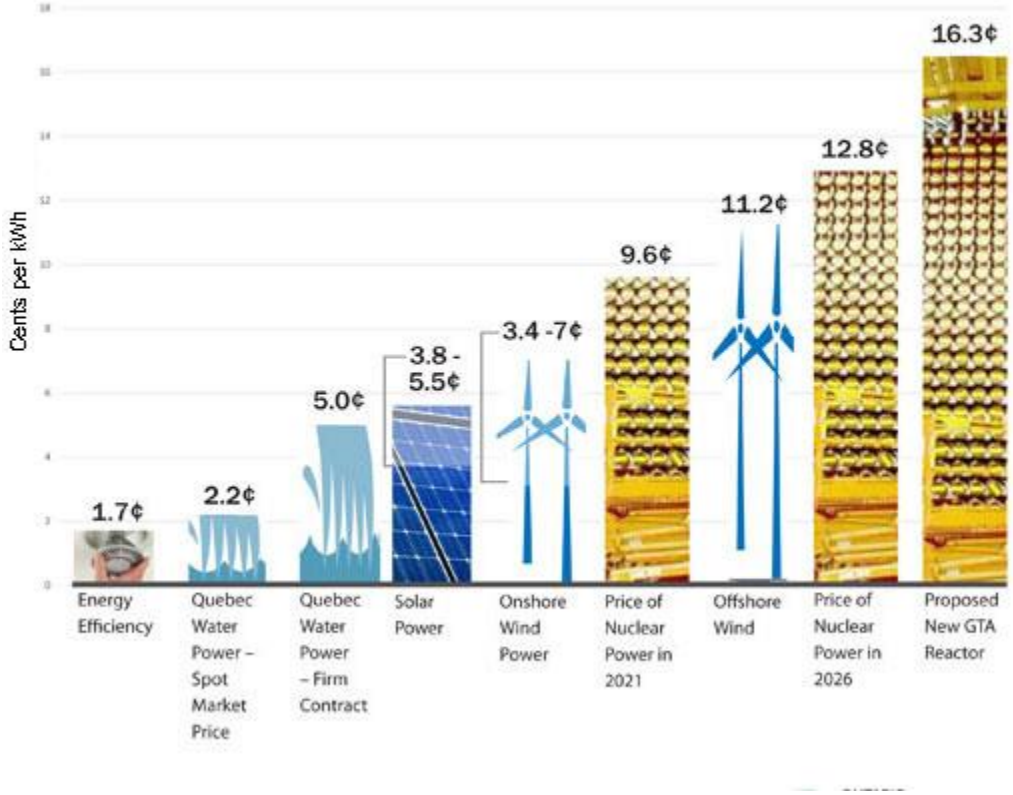
A combination of energy efficiency, wind and solar energy and low-cost Quebec water power would actually lower electricity costs for Ontario consumers by allowing us to simultaneously phase out gas generation and avoid expensive nuclear rebuild projects. This is a far more sustainable and climate responsible way to meet our electricity needs than OPG's planned nuclear-gas mix.

According to the International Energy Agency, renewables will account for 95% of the growth in global power capacity during the next five years. OPG has chosen to back the wrong horse in this race.



According to Atura's submission:

"Finally, some have suggested the need to increase the amount of hydroelectricity Ontario imports from Quebec. There are a number of limitations with this proposal including the existing transfer capability limitations, the transmission infrastructure updates that would be required, and the ability of Quebec to provide year-round capacity without building additional resources given their winter peaking pattern."

Ontario Clean Air Alliance Response:

With our existing transmission system, Ontario can import 16.5 to 18.5 billion kWh per year from Quebec.

In 2020, Ontario's net electricity imports from Quebec were only 4.1 million kWh. As a result, in 2020, Ontario could have increased its electricity imports from Quebec by up to 14.4 billion kWh. That is, our ability to import more power from Quebec in 2020 (14.4 billion kWh) was 1.5 times greater than Ontario's total gas-fired generation in 2020 (9.7 billion kWh).

Furthermore, Hydro One is upgrading its transmission system to enable us to import up to 1,650 megawatts (MW) of firm power from Quebec by December 2023. According to Hydro One, this upgrade will cost $21.3 million.

Additionally, according to the Independent Electricity System Operator (IESO), we could increase our import capability by an additional 2,000 MW by building a new 20 km transmission line in an existing Hydro One transmission corridor in Ottawa. We estimate, based on IESO reports, that the cost of this new line would be approximately $80 million.

Quebec's demand for electricity spikes sharply upwards on a very few cold winter days. When these needle peaks occur, Quebec may not have power available for export. But these needle peaks last for less than 1% of the hours of the year. As a result, during at least 99% of the hours of the year Quebec has surplus power available for export.

By ramping up its energy conservation and efficiency programs, Hydro Quebec can also ensure that it will be able to export power to Ontario during 100% of the hours of the year.

In this context, it is important to remember that nuclear generating stations are not available for 100% of the hours of the year. In fact, the Darlington Nuclear Station's average annual capacity factor is only 83%.

According to Enbridge's submission:

"Natural gas…is the only energy source with the flexibility to ramp up and down quickly to meet changing electricity use on demand. Further, natural gas enables intermittent renewable electricity in times when the wind doesn't blow, the sun doesn't shine…"

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Ontario Clean Air Alliance response:

The above assertion is not true. Quebec's water power system can ramp up and down very quickly to meet changing electricity use on demand.

According to Enbridge's submission:

"Today, and for the foreseeable future, electricity can't be efficiently stored. Emerging storage technologies are more expensive, can only provide energy for a set amount of time…"

Again, the above assertion is not true. According to a MIT report, *Two-Way Trade in Green Electrons: Deep Decarbonization of the Northeastern U.S. and the Role of Canadian Hydropower*, Quebec's hydro-electric reservoirs can act like a giant battery for wind and solar energy. That is, by integrating our wind and solar energy with Quebec's reservoirs we can convert our intermittent wind and solar energy into a firm 24/7 source of electricity supply for Ontario.

According to Hydro Quebec's 2019 *Annual Report:*

"To step up our exports and help decarbonize northeastern North America, we need to . . . promote the load balancing capability of our hydroelectric generating fleet as a means of supporting the growth of intermittent renewables such as wind and solar power."

According to Enbridge:

"Even if Ontario imported 100% of Quebec's power, we could still not meet our peak needs….To replace the current energy provided by natural gas in Canada, would require roughly three more electric generation systems the size of Canada's current system….and cost over $580 billion."

Ontario Clean Air Alliance response:

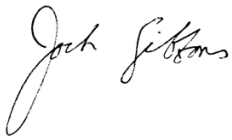
This is a red herring. Councillors McKelvie and Layton are not proposing the phase-out of all Canadian uses of natural gas (e.g, residential and commercial space heating, industrial production processes and electric power generation). Rather, they are simply proposing that gas-fired electricity generation in Ontario should be phased-out as soon as possible "to ensure that Toronto has a clear path to achieve our climate action goals."

Conclusion

Ontario does not need to increase its gas-fired generation by more than 300% by 2030 and by more than 400% by 2040 to keep its lights on. Ontario can phase-out its gas-fired power plants by 2030 and lower its electricity costs by investing in energy efficiency, wind and solar energy and by buying low-cost Quebec water power.

Please support Councillor McKelvie's and Layton's motion to help Toronto, Ontario and Canada achieve their climate targets.

Yours truly,



Jack Gibbons
Chair

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