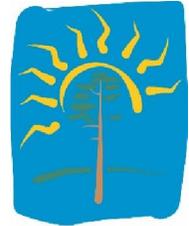




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ONTARIO
CLEAN AIR
ALLIANCE

February 17, 2016

The Honourable William Morneau
Minister of Finance
90 Elgin Street
Ottawa K1A 0G5

And

The Honourable Amarjeet Sohi
Minister of Infrastructure and Communities
180 Kent Street, Suite 1100
Ottawa K1P 0B6

Dear Minister Morneau and Minister Sohi:

Re: Increasing the Electricity Transfer Capacity Between Ontario and Quebec

We are writing to bring to your attention an infrastructure project that can help to create a greener and more prosperous Canada.

Specifically, investments by Hydro One and Hydro Quebec to increase the electricity transfer capacity between Ontario and Quebec can provide the following economic and environmental benefits:

- Lower electricity rates and lower greenhouse gas emissions for Ontario;
- “Firming” of intermittent renewable power supplied by wind and solar;
- Reducing Ontario’s and Quebec’s need for new peaking electricity generation capacity; and
- Higher electricity export revenues for Hydro Quebec and therefore higher revenues for the Government of Quebec.

The Opportunity

Quebec is the fourth largest producer of water power in the world and it has a large and growing surplus of power available for export.

However, according to the Quebec Energy Commission, Hydro Quebec can only obtain high prices for its exports during the 300 peak demand hour of each year. But as a result of transmission constraints, Quebec can export only 10 billion kilowatt-hours (kWh) per year during these high price periods. As a consequence, approximately two-thirds of Hydro Quebec's electricity exports are sold at an average price of only 3 cents per kWh. According to the Quebec Energy Commission, Hydro Quebec's low-price electricity exports will grow by 50% between 2014 and 2022 from 20.1 billion kWh to 31.1 billion kWh.

In addition, Quebec has an opportunity to produce even more low-cost power by investing in energy efficiency to reduce its domestic customers' electricity bills, which would free up more of its existing heritage water power capacity for export. According to Professor Pierre-Olivier Pineau of the University of Montreal, cost-effective energy efficiency investments could increase Quebec's export potential by approximately 30 billion kWh per year.

Ontario, on the other hand, needs new electricity supply since most of its aging nuclear reactors will come to the end of their lives during the next ten years. According to Ontario Power Generation (OPG), the cost of power from rebuilt reactors at the Darlington Nuclear Station will be up to 8 cents per kWh. However, every nuclear project in Ontario's history has gone massively over budget – on average by 2.5 times. If history repeats itself, electricity from a re-built Darlington Nuclear Station could cost 15 cents per kWh or more.

Clearly, there is excellent potential for increased mutually beneficial electricity trade between Ontario and Quebec.

Required Infrastructure Investment

In order to take advantage of these opportunities, we need to increase the transmission system capacity between Ontario and Quebec. Currently, the electricity transfer intertie capacity between Ontario and Quebec is 2,788 megawatts (MW). But, as a result of transmission constraints on the Hydro One system, Ontario is unable to take full advantage of this capacity.

At cost of approximately \$2 billion, the existing transmission constraints can be eliminated and Hydro One and Hydro Quebec can increase their inter-provincial transfer capacity to 4,288 MW (by building a new 1500 MW intertie near Cornwall). These investments will permit Ontario to import up to 37.6 billion kWh per year from Quebec, which is equivalent to 27% of its annual electricity consumption.

An Infrastructure Investment with Multiple Returns

Firming Ontario's Intermittent Solar and Wind Energy

In addition, enhancing the inter-provincial electricity transfer capacity can allow Hydro Quebec's huge water power reservoirs to be used like a giant battery to convert Ontario's intermittent solar and wind power into a firm, 24/7 source of base-load electricity. When Ontario's solar or wind power production is above average, the surplus generation can be exported to Quebec to help keep the lights on in Montreal. As a result, Hydro Quebec can store more water in its reservoirs. This stored water can be used to generate renewable electricity to be exported back to Ontario when its solar or wind production is below average.

Seasonal Capacity Exchange

Quebec's demand for electricity peaks in the winter and Ontario's peak occurs on hot summer days when our air-conditioners are running full-out. In 2014 Ontario and Quebec signed an agreement whereby Ontario will make 500 MW of electricity capacity available to Quebec in the winter, and Quebec will make 500 MW available to Ontario in the summer. This agreement will provide cost savings for both provinces.

The seasonal exchange was capped at 500 MW due to constraints on Hydro One's transmission system. Our proposed infrastructure investment would allow both provinces to exchange up to 4,288 MW of power.

Lower Greenhouse Gas Emissions

Water power imports from Quebec can lower Ontario's greenhouse gas emissions by reducing the need for gas-fired generation to supply peak day demands and to provide back-up for nuclear reactors when they are shut down for repairs. The Darlington Nuclear Station, for example, has been off line for repairs one hour in every six since it came into service in the early 1990s.

Conclusion

Clearly, there are large economic and environmental benefits that can be achieved by increasing electricity trade between Ontario and Quebec. Enhancing the electricity transfer capacity between the two provinces is the key to unlocking this potential.

We urge the Government of Canada to use its infrastructure funds to invest in electricity transmission capacity that will enable increased electricity trade between Ontario and Quebec.

All federally supported infrastructure should, of course, meet the constitutional requirements for First Nations consultation, undergo rigorous environmental assessment and whenever possible conserve, or enhance, biodiversity and natural systems.

Yours sincerely,



Ian Bruce
Director of Science and Policy
David Suzuki Foundation



Steven Guilbeault
Cofounder & Senior Director
Equiterre



Jack Gibbons
Chair
Ontario Clean Air Alliance

cc. The Honourable Jim Carr
The Honourable Stéphane Dion
The Honourable Catherine McKenna