Electricity Trade Agreement

An Assessment of the Ontario-Quebec Electricity Trade Agreement

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Background

- In November 2016, Ontario and Quebec executed a series of agreements to facilitate electricity trade (collectively, the Electricity Trade Agreement).
- Province's rationale for signing the ETA is to:
  - provide value to ratepayers;
  - displace domestic natural gas generation; and
  - reduce electricity sector emissions in Ontario.
- This report:
  - explains the agreement;
  - analyzes the effect on ratepayers; and
  - analyzes the effect on natural gas generation and electricity sector emissions.

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Analysis of the Electricity Trade Agreement

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Components of the ETA

1. Electricity Purchases
   - Ontario is entitled to import 2 TWh annually (14 TWh total) from Quebec from 2017 to 2023.
   - Ontario will pay a set contract price for the electricity.
   - Imports will occur during "on peak" Ontario demand to displace natural gas.
   - FAO estimates that the contract price will be higher than the cost of domestic natural gas generation or market imports.
   - FAO estimates that the difference between the ETA contract price and the market price will cost ratepayers $187 million.

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Components of the ETA

2. Electricity Cycling
   - Ontario can export or "cycle" and import or "recall" fixed volumes of electricity to and from Quebec.
   - Exports targeted to occur during periods of surplus baseload generation when market prices and demand are low.
   - Imports will occur during periods of high Ontario demand to displace natural gas generation.
   - FAO estimates cycling secures 0.3 TWh per year (2.1 TWh total) from 2017 to 2023.
   - Ratepayer saves difference between market price of cycled and recalled electricity, estimated to be $99 million.

Components of the ETA

3. Capacity Sales
   - In each winter period (December – March) from 2016-17 to 2022-23, Ontario will provide Quebec with 500 MW of reserve generating capacity.
   - Quebec will make payments to Ontario for the capacity.
   - Capacity revenue will be used to off-set ratepayer costs in Ontario.
   - FAO estimates that capacity sales will provide $126 million of incremental value.

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Overall Value

ETA Element	Value to Ratepayers
Electricity Purchases	Cost of $187 million
Electricity Cycling	Savings of $99 million
Capacity Sales	Savings of $126 million
Total	**Savings of $38 million**

- In total, the agreement secures 2.3 TWh of imports per year or 16.1 TWh total from 2017 to 2023.
- Total Ontario ratepayer savings of $38 million over seven years.
- Cost of electricity purchases offset by electricity cycling and capacity sales.

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Impact on Natural Gas Generation and GHG Emissions

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Impact on Natural Gas Generation and GHG emissions

- Imports are targeted to occur during "on peak" Ontario demand.
- 2.3 TWh is maximum amount of on peak natural gas that can be replaced with Quebec imports with current transmission infrastructure.
- Ontario is already displacing close to the maximum amount of on peak natural gas with Quebec imports.

Year	On Peak Imports (TWh)	Per cent of 2.3 TWh	Average Price ($/MWh)
2013	1.4	62%	32
2014	1.5	67%	47
2015	1.7	76%	29
2016	2.2	96%	25

Impact on natural gas and GHG emissions

- Agreement is a secure arrangement so that Quebec imports will continue to displace 2.3 TWh of on peak natural gas and 0.92 Mt of GHG emissions.
- Imports will not be incremental to what Ontario purchased from Quebec in 2016.
- Looking ahead:
  - Quebec is projecting continuing surpluses.
  - Carbon pricing will provide an added incentive for imports to displace natural gas.
- FAO concludes that ETA will not result in significant incremental imports or emissions reduction.

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Thank you

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