Ontario's Rising Electricity Rates: The Role of Nuclear Power

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As Figure 1 reveals, between 2002 (market opening) and 2019, Ontario's wholesale cost of electricity has risen by 76% from 7.95 cents to 13.96 cents per kWh.[1]

Figure 1: Ontario's Wholesale Cost of Electricity: 2002 vs. 2019[2]

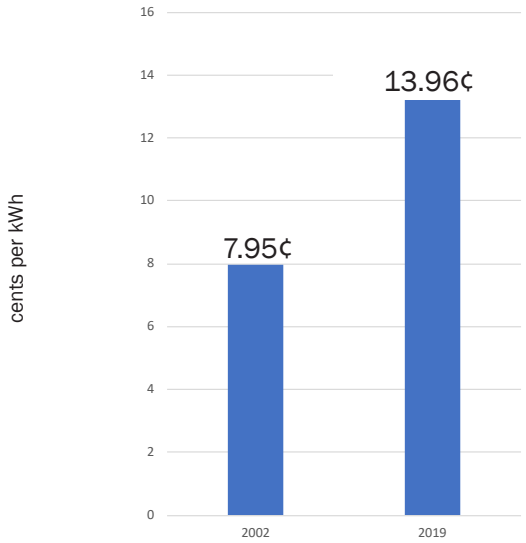
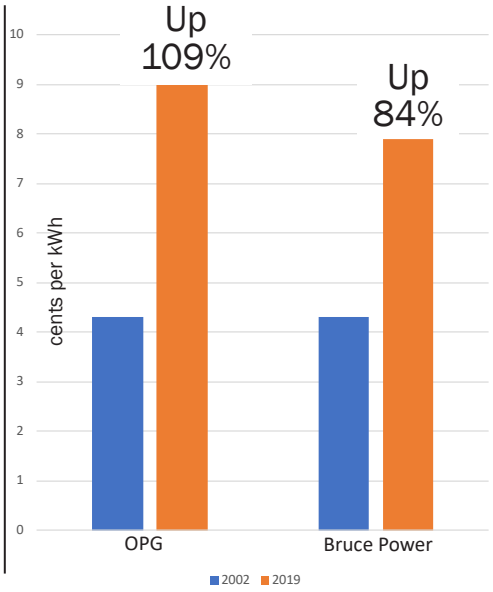


Figure 2: Nuclear Prices: 2002 vs. 2019



Ontario has two companies that generate nuclear electricity: Ontario Power Generation (OPG) and Bruce Power. Their rising costs are the single largest contributor to our rising wholesale electricity costs.

Specifically, between 2002 and 2019, OPG's price of nuclear power increased by 109% from 4.3 to 9.0 cents per kWh.[3] During the same time period, Bruce Power's rates rose by 84% from 4.3 to 7.9 cents per kWh pursuant to contracts that it signed with the Government of Ontario.[4]

As a result of Ontario's large electricity surplus, Ontario's wholesale *market* price of electricity generation is now dramatically lower than our actual cost of electricity generation. Specifically, during first eight months of 2019, Ontario's average wholesale *market* price of electricity was only 1.9 cents per kWh.

The Independent Electricity System Operator (IESO - an agency of the Government of Ontario) provides payments to Ontario's electricity generators to compensate them for the difference between their costs and the *market* price of electricity. Declining market prices have led to a growing gap between the rates guaranteed to these electricity generators and the actual market price of electricity. The IESO has therefore had to increase out-of-market payments to electricity generators, which, in turn, has driven up the cost of the Global Adjustment fee added to wholesale electricity bills and passed on to consumers.

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According to the Ontario Energy Board, Global Adjustment payments for nuclear power are

responsible for 45% of the rise in the cost of electricity generation in Ontario. Similar payments for wind and solar generators are responsible for 15% and 13% respectively of the rise in cost of electricity generation.[5]

OPG's proposal to increase its nuclear rate by an additional 100%

It doesn't make sense to pay 16.5 cents per kWh for nuclear power when we can import Quebec water power at less than one-third the cost

OPG has announced that it needs to raise its price of nuclear power to 16.5 cents per kWh by 2025.[6] According to OPG, the price increase is needed to finance the continued operation of its high-cost Pickering Nuclear Station and the re-building of the Darlington Nuclear Station.

OPG's proposed price increase is based on the assumption that its $12.8 billion Darlington Re-Build Project[7] will be completed on time and on budget despite the fact that every nuclear project in Ontario's history has been late and has gone massively over budget — on average by 2.5 times.[8] If history repeats itself, OPG's rates will rise well above 16.5 cents per kWh.

A lower cost alternative

In June 2017, Hydro Quebec offered to sell Ontario 8 billion kWh per year, for 20 years, at a price of 6.12 cents per kWh. In August 2017 Hydro Quebec lowered its proposed price to 5 cents per kWh, but the Government of Ontario still refused to accept the offer.[9] This proposed contract demonstrates that Ontario's electricity needs can be met at a much lower cost by importing water power from Quebec while closing the Pickering Nuclear Station and cancelling the Darlington Re-Build Project. It simply doesn't make sense to pay 16.5 cents for nuclear power when Quebec water power can keep our lights on at less than one-third the cost.

Today, with our existing transmission lines we can import sufficient power from Quebec to displace all of Pickering's production that is consumed in Ontario (half of Pickering's output is exported at a large financial loss since it is surplus to our domestic needs).[10]

In addition, Hydro One is investing $24.4 million to increase its ability to import power from Quebec by 1,650 megawatts (MW) at the time of Ontario's annual peak demand. This upgrade will be completed by December 2022. According to the IESO, Hydro One could increase its ability to import power from Quebec by an additional 2,000 MW by building a new 20 km transmission line in the Ottawa area.[11]

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Endnotes

1 According to the Independent Electricity System Operator, local distribution costs are responsible for 18% of the total cost of electricity service. Independent Electricity System Operator, *Module 1: State of the Electricity System: 10-Year Review*, (August 2016), page 42.

2 Independent Electricity System Operator, *Monthly Market Report: December 2002*, page 16; and Independent Electricity Market Operator, *Monthly Market Report: September 2019,* page 22.

3 Ontario Power Generation, *Ontario Power Generation Reports 2002 Earnings*, (March 31, 2003), pages 7 & 8; and Ontario Power Generation*, Management's Discussion and Analysis: 2019 First Quarter Report,* page 15.

4 Bruce Power, *2004 Year In Review*, page 34; and TC Energy, *Quarterly Report to Shareholders: Second Quarter 2019*, page 19.

5 Ontario Energy Board, *Regulated Price Plan Price Report: November 1, 2019 to October 31, 2020, (October 22, 2019), page 17.*

6 Ontario Energy Board Docket No. EB-2016-0152, Exhibit N3, Tab 1, Schedule 1, Attachment 2, Table 14.

7 Ontario Energy Board Docket No. EB-2016-0152, Exhibit D2, Tab 2, Schedule 8, Attachment 1, Page 2.

8 Ontario Clean Air Alliance Research Inc., *The Darlington Re-Build Consumer Protection Plan*, (September 23, 2010), Appendix A.

9 Letter from Steve Demers, Vice President, Hydro Quebec to Peter Gregg, CEO, Independent Electricity System Operator, (June 22, 2017); and Pierre Couture, "Hydro Quebec l'Ontario en ligne de mire", *Journal de Montreal*, (August 16, 2017)

10 Ontario Clean Air Alliance Research Inc., *How we can close the Pickering Nuclear Station and lower bills*, (September 27, 2016).

11 Ontario Clean Air Alliance Research, *Three Options to Reduce Ontario's Electricity Costs*, (October 2019), page 3.