Ontario's Electricity Options:
A Cost Comparison

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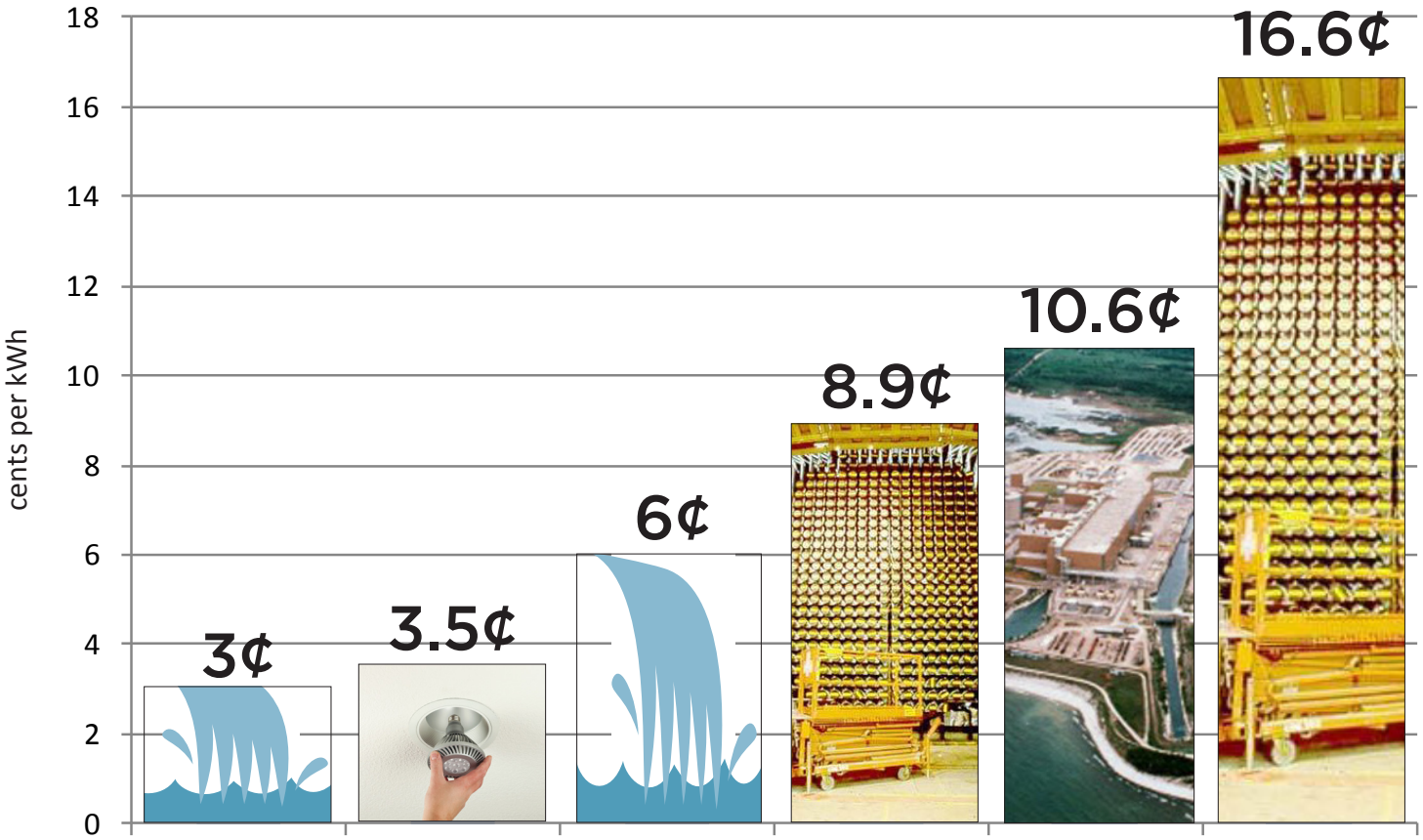

Quebec Water Power - Spot market price

Energy Efficiency

Quebec Water Power - Long term contract

Darlington Re-Build Project (OPG's "High-Confidence" Estimate)

Bruce Nuclear Generating Station, Units 1 & 2

Darlington Re-Build Project (Assuming actual capital cost is 2.5 times greater than OPG's "High-Confidence" Estimate)

See over for references

Notes

Energy efficiency: Ontario Power Authority, *Conservation First Framework Update: Presentation to SAC*, (June 24, 2014), pages 7 & 8.

Quebec water imports - spot market pricing: According to the Commission sur les enjeux energetiques du Quebec, Hydro-Quebec can only obtain high prices for its exports during the 300 peak demand hours of each year. And, as a result of transmission constraints, Quebec can export a maximum of 10 billion kWh per year during this window or less than one-third of its current total export supply. Its remaining export power is sold on the spot market at an average price of just 3 cents per kWh. Commission sur les enjeux energetiques du Quebec, *Maitriser Notre Avenir Energetique*, (2 fevrier 2014), pages 177, 181 & 183.

Quebec water imports - long term contract pricing: Assuming that the long-term import price is the mid-point between the price of spot market sales (3 cents per kWh) and Ontario Power Generatio's (OPG's) "high-confidence" estimate of the cost of the Darlington Re-Build Project (8.9 cents per kWh). In 2010, Hydro-Quebec signed a 26-year export contract with Vermont at an initial price of 5.8 cents per kWh. Hydro-Quebec, "Vermont and Quebec reach a new energy agreement" (press release – August 12, 2010) and State of Vermont, Public Service Board Docket No. 7670, *Order entered: 4/15/2011*, page 11.

Bruce Nuclear Station pricing: In 2013 Bruce Power was paid 8.5 cents per kWh by the Ontario Power Authority for the output of the Bruce Nuclear Station's Units 1 and 2 reactors according to an estimate filed by Ontario Power Generation at an Ontario Energy Board hearing. In addition, the Ontario Electricity Financial Corporation (OEFC) collects nuclear debt retirement charges from electricity consumers and taxpayers to pay-off the stranded nuclear debt which was incurred to build Ontario's nuclear reactors. In 2012 the OEFC collected $1.814 billion in nuclear debt retirement charges from consumers and taxpayers and the total output of Ontario's nuclear generating stations was 85.6 billion kWh. Therefore the total nuclear debt retirement charge per kWh of nuclear electricity generated was 2.1 cents per kWh. 8.5 cents per kWh plus 2.1 cents per kWh = 10.6 cents per kWh. Ontario Energy Board Docket No. EB-2013-0321, Exhibit L, Tab 4.7, Schedule 1 Staff-031; Ontario Electricity Financial Corporation, *Annual Report 2012*, page 12; and Independent Electricity System Operator, News Release, "Ontario's Independent Electricity System Operator Releases 2012 Electricity Production, Consumption and Price Data", (January 11, 2013).

Darlington Re-Build - OPG "high confidence" estimate: This estimate is based on the assumption that a re-built Darlington Nuclear Station will have an 82% annual capacity utilization rate. Darlington's actual average annual capacity utilization rate since it commenced operations in the 1990s has been 83%. Ontario Energy Board Docket No. EB-2013-0321, Exhibit L, Tab 4.7, Schedule 6, ED-005; Undertaking JT2.1, Undertaking J14.3 and Undertaking J14.4.

Darlington Re-Build - 2.5 increase in capital cost: Every major nuclear project in Ontario's history has gone massively over budget – on average by 2.5 times. Ontario Clean Air Alliance, *The Darlington Re-Build Consumer Protection Plan*, (September, 2010), Appendix A; and Ontario Energy Board Docket No. EB-2013-0321, Undertaking J14.2.

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