

Intelligence MEMOS



From: A.J. Goulding
To: Provincial Ministers of Energy
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Re: **SUNK COSTS ARE DRAGGING CANADIAN ELECTRICITY RATEPAYERS UNDERWATER**

Cost-overruns at several large-scale hydro projects in Canada raise questions about the economic viability of continuing construction to completion. As discussed in the C.D. Howe Institute [Commentary](#), government decisions to make such large investments in hydroelectric generating capacity must be scrutinized for economic soundness – particularly relative to the costs of alternatives for producing the power.

Three projects currently under construction stand out for their ever-increasing estimates of projected total cost: Site C on the Peace River in northern British Columbia at \$10.7 billion, Keeyask on the Nelson River in Manitoba at \$8.7 billion, and Muskrat Falls on the Churchill River in Labrador at \$12.7 billion.

The study examines the cost-effectiveness of these hydro projects by comparing the costs of equivalent generation from carbon cost adjusted combined cycle natural gas turbines (CCGT). This analysis demonstrates that the levelized costs from the Site C and Keeyask projects may exceed the costs of alternative CCGT generation. Even after considering the estimated costs of cancellation, the present economics would still favour cancelling Site C and replacement with equivalent dispatchable CCGT generation capacity, supplemented by offsets to meet environmental goals. (For updated numbers about the three projects using data as of October 2018, [click here](#).)

While an emphasis on renewables generation has motivated these major hydroelectric projects, the analysis shows that Site C exceeds the levelized cost of a CCGT alternative that faces a \$50/tonne carbon price. Moreover, drawing from results in recent renewable energy procurements, the study observes that wind generation, albeit intermittent, can provide a much lower levelized cost of zero-emission electricity than such large-scale hydro projects.

Recognizing the risks of building large generation capacity in anticipation of uncertain future demand for electricity, the study underscores the point that a combination of dispatchable (on demand) and non-dispatchable energy sources procured in smaller sizes closer to the period of demonstrated need, would be more cost effective.

Provinces should re-examine the economics of these projects and consider cancelling projects that have more cost-effective alternatives. To avoid uneconomic projects in the future, strengthening institutional independence is needed, in particular by ensuring independent regulatory review for mega-projects and leveraging greater private-sector discipline for the design and delivery of major electricity projects.

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