

BACKGROUNDER:
Report: Reconsidering the need for the Site C project
EMBARGOED UNTIL APRIL 19, 2017, 6 A.M. PT

Source: Program on Water Governance, University of British Columbia (www.watergovernance.ca)

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Sources: The Report relies primarily on information made public by BC Hydro, including its 2013 Integrated Resource Plan (IRP) and its 2016 Revenue Requirements Application (RRA) currently under review by the BC Utilities Commission.¹

Key points:

- ✓ A weak business case
 - Dramatic decline in projected electricity needs since 2012.
 - Significant decline in the cost of alternative sources of electricity.
- ✓ Site C surplus will create significant losses for ratepayers and taxpayers
 - Site C energy will be 100% surplus upon commissioning, and will not be fully required until nearly a decade after commissioning.
 - Export market prices are low, and so Site C electricity will need to be sold at a loss.
 - Losses anticipated on the order of several hundred million, and potentially well over \$1 billion if the surplus period is longer (in addition to construction cost of the project).
- ✓ Not past the point of no return
 - Analysis includes sunk construction costs as well as estimated cancellation costs.
 - Cancelling Site C would save between \$500 million and \$1.65 billion.
- ✓ Recommendation: Suspend Site C Project and refer to the BC Utilities Commission

About Site C

- Site C is an \$8+ billion hydroelectric dam in the early stages of construction on the Peace River in northeastern British Columbia.
- It is designed to produce about 1100 MW of capacity and 5100 GWh of energy per year, starting in 2024.
- Supporters argue that Site C is a cost-efficient way of meeting forecasted increases in electricity demands while being the best way of contributing to meeting BC's climate change objectives.

Site C: A weak business case

- There are three key factors in the weak business case for Site C:
 1. The significant decline since 2012 in forecasted electricity needs, and;
 2. Continued low power prices in US markets, forecasted to remain low indefinitely; and
 3. The significant decline in the cost of alternative sources of electricity.
 - The cost of electricity from wind power has dropped by 20 per cent since 2012.
 - Bloomberg and the International Renewable Energy Agency are expecting wind power cost to drop by another 20 per cent—at least — by 2030.

Overestimation of future demand

- BC Hydro's forecast of future electricity demand has dropped significantly since 2012.

¹ As part of the regulatory review process for setting rates, BC Hydro released new information to the BC Utilities Commission in 2016 and 2017. Many of the documents are available on the BCUC website (Under "British Columbia Hydro and Power Authority ~ F2017 to F2019 Revenue Requirements Application ~ Project No. 3698869" at: <http://www.bcuc.com/ApplicationView.aspx?ApplicationId=533>).

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- Site C electricity will be 100 per cent surplus upon commissioning, and will not be fully required for nearly a decade after commissioning, and potentially much later depending on actual future electricity requirements.
- Our research demonstrates that BC Hydro has consistently overestimated future electricity demand for more than 30 years.
 - The report analyzes BC Hydro's load forecasting history over the past three decades, and finds that 85% of the load forecasts prepared by BC Hydro since Site C was first proposed (in the 1980s) have been overestimates.
 - In 1981, BC Hydro forecasted that electricity demand would almost double in just ten years, and proposed Site C on that basis. Yet 35 years later, demand still has not doubled.
- Some researchers suggest that decarbonizing the economy using electricity to replace fossil fuels (e.g. electric cars) will create enough demand to justify Site C.
 - Our research shows that this "electrification" of the economy will not produce enough demand to justify Site C on the current timeline. BC Hydro's forecasts indicate that demand from electrification will be relatively modest into the 2030s, when other cheaper, less environmentally damaging renewables could be developed.
 - Nonetheless, increased demand due to electrification is addressed in the report through the "high load growth" scenario.

Energy conservation abandoned:

- In response to reductions in future demand, BC Hydro is significantly curtailing energy conservation.
- Energy conservation costs one-third as much as Site C energy, and could meet demands for several years until cheaper alternatives can be constructed.

Exports will be at a significant loss

- Innovation in the energy market and low natural gas prices have pushed prices in other jurisdictions much lower than the cost of energy from Site C.
- As a result, the surplus produced by Site C will have to be sold at a loss; under some of the most likely forecasts, losses from these exports will total \$1 billion or more.

Our findings: Not past the Point of No Return

- Our modeling of 10 different scenarios indicates that Site C is not past the point of no return. To conduct this analysis, we use BC Hydro's own numbers (where available) and take into account estimated contract penalties, demobilization/remobilization costs and site maintenance costs.
- Despite the fact that construction has already started, it would still be cheaper to cancel the project.
- Our analysis indicates that cancelling the Site C Project as of June 30, 2017 would save between \$500 million and \$1.65 billion, depending on future conditions, despite the fact that BC Hydro will have incurred on the order of \$1.87 billion in costs. Suspending the Site C Project is preferable to cancelling the Project by up to \$350 million. Both cancelling and suspending are preferable to continuing with the Site C Project.

Our recommendation: Hit pause and refer to the BC Utilities Commission

- ✓ We are not past the economic point of no return.
- ✓ The economics risks of Site C appear to be significant, and growing.
- ✓ Our recommendation is to suspend Site C and refer the Project to the BC Utilities Commission.
- ✓ This is a non-partisan, common sense, sober second thought analysis.

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Additional Information on Environmental Issues

Greenhouse gas emissions high

- The Site C reservoir, like all reservoirs, will have significant greenhouse gas emissions, equivalent to operating a 800 MW simple-cycle natural gas plant for peaking needs.
- Analysis shows that Site C's emissions would actually be larger than those from an updated version of an alternative plan previously considered by BC Hydro (consisting of a combination of additional conservation, wind and some natural gas to help meet winter peak requirements).

Unprecedented level of environmental impacts

- Site C will also have more significant adverse environmental impacts than any other project ever approved under the history of the *Canadian Environmental Assessment Act*.
- The unprecedented scale of these impacts is due to the vital role that the Peace River Valley plays in the ecology of the region.
- The updated version of BC Hydro's alternative plan would have far fewer environmental impacts.

Additional information on Site C and Indigenous Peoples

- Indigenous communities have repeatedly pointed to the fact that Site C would flood most of the remaining Peace River Valley and severely impact Treaty rights.
- Site C is proceeding without any meaningful assessment of whether the project infringes on First Nations' Treaty rights.
- The question of Treaty rights infringement was excluded from the environmental review panel's mandate by the provincial and federal governments, who thereby forced the affected Treaty 8 First Nations to pursue the matter in court.
- But the B.C. Court of Appeal and the Federal Court of Appeal both recently ruled that the Crown has the ability to proceed without being forced to assess whether or not the project infringes on Treaty rights. Appeals to the Supreme Court of Canada remain a possibility.
- The government's "build first, litigate during and compensate after" approach to development has been condemned by Indigenous leaders across Canada.
- In essence, this is a double standard: First Nations are forced to engage in lengthy and expensive litigation in order to require the government to fulfill its Constitutional obligation to assess and protect the full scope of their Treaty rights, while the Crown is placed under no similar requirement.

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Information about the authors and the production of the report

Dr. Karen Bakker is Professor, Canada Research Chair, and Founding Director of the Program on Water Governance at the University of British Columbia (www.watergovernance.ca). The author of over 100 academic publications on water-related issues, Dr. Bakker has acted as an advisor and consultant to national and international organizations in North America, Europe, and Southeast Asia for the past two decades.

Rick Hendriks is the director of Camerado Energy Consulting, an Ontario-based firm providing environmental assessment, energy planning, policy analysis, and research services to clients across Canada. For the past two decades, he has been engaged in the planning and assessment of several large-scale hydroelectric developments, and provided testimony before regulatory bodies concerning their economic viability, environmental effects, socio-economic impacts and implications for Indigenous rights.

Philip Raphals is cofounder and executive director of the Helios Centre, a non-profit energy research and consulting group based in Montreal. Over the last 25 years, he has written extensively on issues related to hydropower and competitive energy markets, and has appeared many times as an expert witness before energy and environmental regulators in several provinces.

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