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**2012 Integrated Resource Plan**

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**Appendix**

**3B-2**

**Site C Clean Energy Project  
Information Sheet: About Site C**

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## INFORMATION SHEET

### ABOUT SITE C

The Site C Clean Energy Project (Site C) is being proposed as part of BC Hydro's overall regeneration program to invest in and renew the province's electricity system.

Site C is a proposed third dam and hydroelectric generating station on the Peace River in northeast B.C. It would provide up to 1,100 megawatts (MW) of capacity, and produce about 5,100 gigawatt hours (GWh) of electricity each year — enough energy to power the equivalent of 450,000 homes per year in B.C.

As the third project on one river system, Site C would gain significant efficiencies by taking advantage of water already stored in the Williston Reservoir. This means that Site C would generate approximately 35 per cent of the energy produced at the W.A.C. Bennett Dam with five per cent of the reservoir area.

The Site C reservoir would be approximately 83 kilometres long and would be, on average, two to three times the width of the current river. The Site C reservoir would be one of the most stable in the BC Hydro system with relatively little fluctuation in water levels during typical operations.

The Site C project requires environmental certification and other regulatory permits and approvals before it can proceed to construction. In addition, the Crown has a duty to consult and, where appropriate, accommodate Aboriginal groups.

If approved, Site C would be a source of clean and renewable electricity in B.C. for over 100 years. It would be a publicly owned heritage asset for the benefit of all British Columbians.



ARTIST RENDERING OF THE PROPOSED SITE C CLEAN ENERGY PROJECT

## SITE C CLEAN ENERGY PROJECT

-2-

### PROJECT ATTRIBUTES

BC Hydro is proposing to build the Site C Clean Energy Project as a long-term source of clean, reliable and cost-effective electricity for customers.

#### Future Electricity Needs

B.C. is growing and so is our need for electricity. B.C.'s electricity needs are forecast to increase by as much as 40 per cent in the next 20 years. As extensive as BC Hydro's hydroelectric assets are, they will not be enough to meet this future demand. With Site C, BC Hydro is planning now so that British Columbians will continue to enjoy the benefits of safe, clean and reliable electricity in the future.

#### Greenhouse Gas Emissions

Site C will produce among the lowest greenhouse gas emissions (GHGs), per gigawatt hour, when compared to other forms of electricity generation. Preliminary study results indicate that Site C would produce significantly less GHGs per gigawatt hour than fossil fuel sources such as natural gas, diesel or coal. Emissions from Site C would fall within the ranges expected for wind, geothermal and solar energy sources.

#### Integrating Renewable Energy

Site C would help facilitate the development of intermittent renewables — such as wind and run-of-river hydro — as a dependable and flexible resource. With its reliable capacity, Site C would be able to quickly increase or decrease generation to match the availability of intermittent resources. For example, Site C generation could be increased when intermittent resources are not available (e.g., when the wind is not blowing). When intermittent resources are available, the generation from Site C could be decreased and the water could be stored for later use.

#### Cost-Effective Electricity

Site C would have a significant upfront capital cost, low operating costs, and a long life of more than 100 years. Site C would produce electricity at a cost range between \$87 and \$95 per megawatt hour. This would make Site C among the most cost-effective resource options to help meet B.C.'s future electricity needs. In addition, Site C provides significant additional benefits such as reliable capacity and flexibility.

#### Regional Economic Development

BC Hydro seeks to foster economic development opportunities across B.C. through its projects. The Site C project is estimated to create 7,000 person-years of direct construction employment through the seven-year construction period. The project is estimated to create approximately 35,000 direct and indirect jobs through all stages of development and construction. BC Hydro and the Province will continue to consult and work with communities and Aboriginal groups about regional benefits from Site C.

## SITE C CLEAN ENERGY PROJECT

-3-

### ABOUT BC HYDRO

Fifty years ago, British Columbians turned to BC Hydro to build the clean electricity system they count on to power B.C.'s economy, create jobs in every region, and keep the lights on. Now, BC Hydro is building again for the next 50 years.

B.C. continues to grow and so has the need for more electricity. That's why BC Hydro is building, renewing, and encouraging conservation to meet today's needs and those of future generations. In 2011, BC Hydro is celebrating 50 years of providing power for British Columbians, and inviting them to help prepare for the next 50 years.

More information on Site C can be found at: [www.bchydro.com/sitec](http://www.bchydro.com/sitec).