

## BACKGROUND

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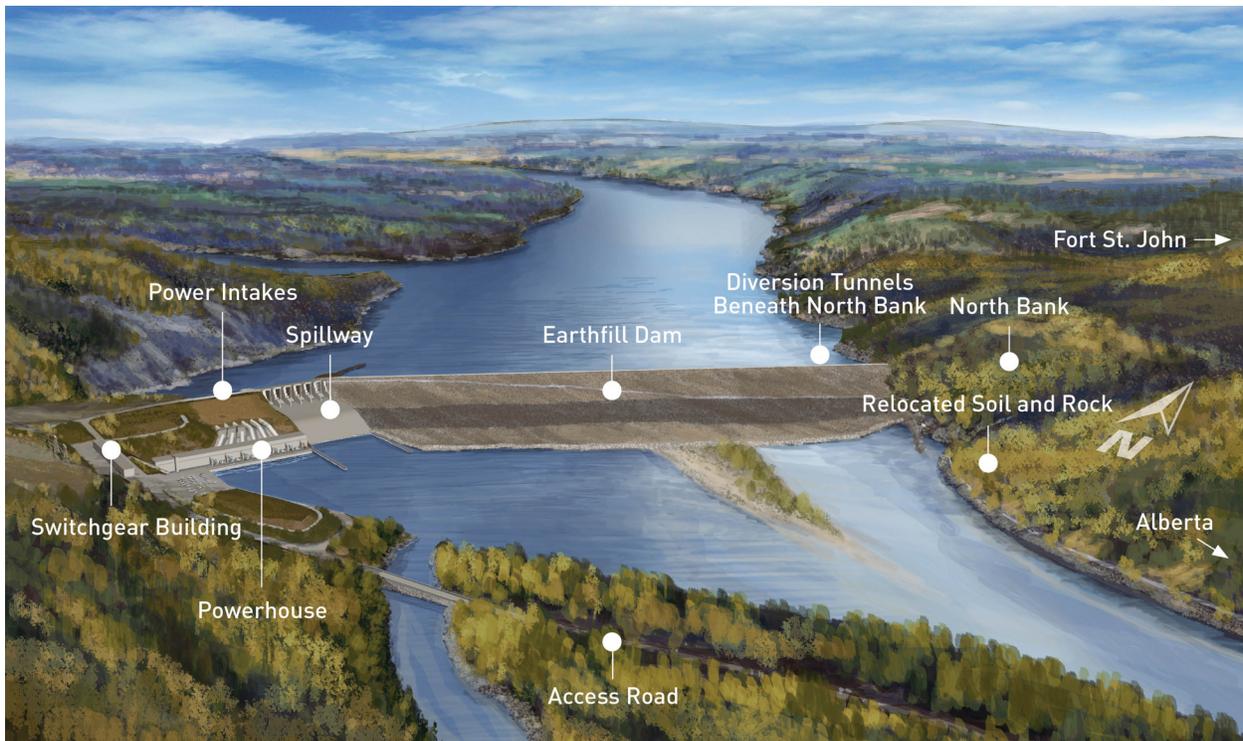
### ABOUT SITE C

The Site C Clean Energy Project (Site C) will be a third dam and hydroelectric generating station on the Peace River in northeast B.C. It will be an earthfill dam, approximately 1,100 metres in length, and 60 metres high above the river bed. The reservoir will be approximately 83 kilometres long and will be, on average, two to three times the width of the current river.

Once built, Site C will be a source of clean and renewable electricity for over 100 years. It will provide approximately 900 megawatts (MW) of capacity, and produce about 4,600 gigawatt hours (GWh) of electricity each year — enough electricity to power more than 400,000 homes.

As the third project on one river system, Site C will gain significant efficiencies by taking advantage of water already stored in the Williston Reservoir. This means that Site C would generate about 30 per cent of the energy produced at W.A.C. Bennett Dam, with only five per cent of the reservoir area.

Once built, Site C will be a publicly owned facility, providing a new heritage asset for the benefit of all British Columbians.



HISTORICAL CONCEPTUAL DESIGN OF THE SITE C CLEAN ENERGY PROJECT

- 2 -

### **Meeting B.C.'s Future Electricity Needs**

B.C.'s electricity needs are forecast to increase by 20 to 40 per cent in the next 20 years, as the province's population is estimated to grow by more than one million people. As extensive as BC Hydro's hydroelectric assets are, they will not be enough to meet this future demand. With Site C, the Province and BC Hydro are planning now so that British Columbians will continue to enjoy the benefits of clean, reliable and affordable electricity in the future.

### **Preparing for a Changing World**

Site C is also helping B.C. prepare for a changing world. The emerging electrification of the transportation sector — including rail, ports and electric plug-in vehicles — and other technologies aimed at reducing fossil fuel dependency will eventually place new demands on our electricity system. For example, early forecasts suggest that between 10 per cent and 60 per cent of vehicles purchased by 2025 will be plug-in hybrid electric or all electric.

### **Considering Environmental and Socio-Economic Effects**

Today's approach to Site C will consider potential environmental and socio-economic effects, impacts to land and water — including fish and wildlife — and opportunities for regional benefits. Where impacts cannot be avoided, BC Hydro will identify and evaluate potential options for mitigation.

### **Meeting our Obligations to First Nations**

Consultation with Aboriginal groups will continue with a greater focus on impact assessment, mitigation and accommodation. Construction of Site C will be subject to required regulatory approvals, and ensuring that the Crown's constitutional duties to First Nations are met.

### **Mapping Properties in the Site C Project Area**

Mapping work indicates that there are approximately 9,310 hectares in the Site C reservoir surface area, comprising 5,340 hectares of flooded land. Of this flooded land area, approximately 81 per cent is Crown land (4,318 hectares), a further 12 per cent is owned by BC Hydro (662 hectares) and seven per cent is privately owned land (360 hectares comprising 20 land holdings).

- 3 -

## PROJECT BENEFITS

The Site C Clean Energy Project will provide lasting economic and social benefits for northern communities, Aboriginal groups and the province.

- **Providing Clean and Renewable Power for Generations**

Site C will have an upfront capital cost followed by low long-term operating costs. Once operational, it will be a source of clean and renewable electricity for over 100 years.

- **Creating Jobs and Business Opportunities**

Site C will provide economic benefits for northern B.C., First Nations and the entire province. The project is estimated to create 7,650 person-years of direct construction employment during the construction period and up to 35,000 direct and indirect jobs through all stages of the project.

- **Reducing our Carbon Footprint**

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 will 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.

- **Supporting the Development of Clean Energy Projects**

Site C will help facilitate the development of clean energy projects in B.C. by providing additional reliable backup to those renewable resources that are intermittent, such as wind, run-of-river hydro and solar. An advantage of a large hydro project like Site C is that generation can be reduced when intermittent resources are available and the water can be stored in the reservoir for later use. When intermittent resources are not available, the generation from large hydro can be increased to meet our electricity needs.

- **Lasting Benefits for Northern Communities and Aboriginal groups**

Site C provides an opportunity to benefit northern communities and Aboriginal groups. Regional benefits of interest may include new lake-based recreational opportunities and upgrades to infrastructure. There is also an opportunity for skills training, jobs and economic development. BC Hydro and the Province will continue to consult and work with Aboriginal groups and regional communities about lasting economic and social benefits from the project.