



Canada: BC Seeks Alternative Energy Sources

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In order to counter British Columbia's rising reliance on imported electricity BC Hydro, the public utility, called for proposals for new private-run power plants in BC. With the express goal of BC becoming a net exporter of electricity by 2016, BC Hydro signed 38 fixed-term Electricity Purchase Agreements (EPAs) with Independent Power Producers (IPPs) to build and operate electric power plants for BC Hydro's grid. Many of these projects are completing their extensive approvals process, which involves wildlife, fish, hydrology, archaeology and benefits studies before construction can start. The sum value of all projects is projected to be roughly US\$3.5 billion.

A caveat of these new power plants is that they are all required to follow the provincial government's [BC Energy Plan](#), which puts forth stringent rules for permissible electrical production in BC, stipulating zero greenhouse gas emissions from coal power plants and strongly emphasizing renewable sources such as hydro, wind, geothermal, and biomass. The more ecologically sound run-of-river hydro technology is preferred over traditional hydro, which often requires flooding of large tracts of land.

Following is a sampling of shovel-ready projects, those nearing completion, or those with excellent opportunities for US companies.

Hydroelectric Projects in British Columbia Projects Commencing in 2009					
Project Title	Location	Capacity	Start Time	Cost	Details
English Creek Project	Revelstoke	5 MW	Spring 2009	\$10M	Proximity to other hydro projects allows for reduction of infrastructure and transmission costs.
Kwoiek Power Project	Kwoiek	50MW	Spring 2009	\$100M	Construction starting in the spring.
Songhees Creek Project	Port Hardy	15MW	Spring 2009	\$30M	Construction starting in the spring.
Glacier/Howser Creek Project	East Kootenay	125MW	Summer 2009	\$270M	Includes 92KM of transmission lines.
Cascade Heritage Power Project	Christina Lake	25 MW	Late 2009	\$50M	Uses pre-existing infrastructure and transmission lines to reduce costs.
Upper Toba Valley Project	Toba Inlet	166.3MW	Late 2009	\$340M	Nearing end of approvals process.

Hydroelectric Projects in British Columbia Projects Commencing after 2009					
Project Title	Location	Capacity	Start Time	Cost	Details
Bute Inlet Project	Bute Inlet	1027 MW	2010	\$2B	Consists of 17 facilities at the headwaters of Bute Inlet.

Europa Creek Project	Kemano	81 MW	2010	\$175M	Progressing through approvals process.
Freda Creek Project	Powell River	35MW	2010	\$70M	Progressing through approvals process.
Knight Inlet Project	Knight Inlet	247MW	2010	\$500M	Consists of six facilities at the headwaters of the Bute Inlet.
Forest Kerr Project	Smithers	195 MW	2011	\$400M	Redesign has lengthened approvals process.

Wind Projects in British Columbia

Project Title	Location	Capacity	Start Time	Cost	Details
Banks Island North Wind Project	Banks Island	700MW	2010	\$1.5B	350 turbines, 118KM of transmission lines. In planning stages.
Knob Hill Wind Farm	Knob Hill	99MW	Summer 2009	\$200M	Receives final approval in June.

Biomass Projects in British Columbia

Project Title	Location	Capacity	Start Time	Cost	Details
Gold River Power Project Phase I	Gold River	45MW	Spring 2009	\$90M	Phase I consists of 45 MW boiler to process wood waste.
Gold River Power Project Phase II	Gold River	45MW	Winter 2009	\$90M	Phase II consists of 45 MW modified boiler to process organic waste.
Princeton Power Project	Princeton	56MW	2010	\$112M	Completing approvals process.

Opportunities for US Firms:

The large number of IPP projects present extensive opportunities for US manufacturers. Hydroelectric, wind, and biomass plants each require turbines, and a common theme in discussions with project managers is the difficulty in finding reliable suppliers of quality turbines, particularly for power plants located in the more remote areas of BC. Wind projects, in particular, require a large number of turbines, with the Banks Island plant needing 350 when construction begins.

The construction of these projects will require tremendous amounts of construction material. Run-of-river hydro projects require high-quality pen stock steel and pipeline which will be able to last decades with constant use. All projects require long-lasting iron, steel, rebar, concrete, and construction material for generators, powerhouses, and infrastructure. Some of the more remote projects will require dozens of miles of roads and reinforced steel in order to build bridges. Powerhouses require sophisticated electrical equipment, wiring, converters, transformers, and other material.

While some projects will require as little as one mile of transmission lines, some will require up to 75 miles in order to hook up with the BC Hydro network.

Useful Links:

[BC Energy Plan](#) : The provincial government's Energy Plan.

[IPPBC](#) : Independent Power Producers BC Association website. Contains information on IPP projects and events in British Columbia.

[BC Hydro](#) : BC's public utility.

For More Information

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