



## Quick IPP Facts List

### Industry Facts:

1. There are 48 IPPs operating in BC, equally distributed between; Vancouver Island, Southwest Mainland, Southeastern Interior and north of Williams Lake.
2. BC IPPs currently generate 5,000 GWh of electricity - enough to supply 500,000 homes in BC.
3. BC IPPs provide approximately 1,000 MW – 9% of BC's 11,000 MW total system capacity.
4. IPPs are **independent** from government and are **power producers** rather than self-generators (like pulp mills and mines).
5. Self-generators (like pulp mills) produce electricity largely for their own consumption rather than for the BC grid.
6. BC IPPs current generation of 5,000 GWh is 9% of BC's domestic electricity load, up from 7% in 2001.
7. There has never been an IPP built for export in the province. BC Hydro has been exporting power to the U.S. for decades.
8. More than 1,100 workers currently employed on 48 operating projects and another 15 projects under construction. These projects represent an estimated \$5.4 billion in capital investments (at 2008 values).
9. BC Hydro's current Calls for Power - based on 2008 cost levels per megawatt and net of estimated attrition - are estimated to result in an additional \$3.8 billion in new capital investment.
10. The impact on B.C.'s Gross Domestic Product including direct, indirect and induced effects is estimated at \$3 billion with 40,000 person-years of construction employment for all IPP projects including 2008 Calls.
11. BC's currently operating green IPP projects have already enabled an annual reduction of 4 million tonnes of greenhouse gases (GHG) that would otherwise have resulted from BC importing more power from coal-fired plants.
12. If GHG reduction laws arrive that require BC Hydro to mitigate all GHGs from imported coal-fired power (to the extent predicted by BC Hydro), then BC's currently operating green IPP projects would save BC ratepayers \$200

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million per year, by their generation of GHG-free energy.

### Technology/Fuel Sector Facts:

1. BC Hydro's 2002 study revealed BC's potential small hydro capacity was 2,454 MW.
2. BC Hydro's 2005 IEP declared there are nearly 900 small hydro sites that have the hydrological potential to be developed.
3. Hydro IPPs in BC now generate 1,550 GWh of green energy each year offsetting the creation of 450,000 tonnes of CO<sub>2</sub> emissions by typical thermal power plants.
4. Landfill gas IPPs in Victoria and Vancouver generate 70 GWh of green energy each year offsetting 50,000 tonnes per year of CO<sub>2</sub> emissions.
5. There are no wind turbines producing electricity for BC's grid, but IPPs have filed Investigative Use Permits for over 135 potential sites since 2002.
6. Building 1000 GWh of run of river and wind IPP projects would enable BC Hydro to reduce the use of their 1960s-era Burrard Thermal plant located in Port Moody, thereby reducing CO<sub>2</sub> emissions by 520,000 tonnes/year - the equivalent of taking 192,565 cars off the road each year.
7. 11 wind IPP developers have registered Letters of Interest for NRCan's WPPI program for 28 projects in BC with an estimated total capacity of 3,072 MW.
8. Garrad Hassan, a leading international wind resource consultant, estimated, in 2005, that the potential for B.C. is 5,200 MW of installed capacity, producing 16,000 GWh/yr with a price range of approximately \$50 to \$150/MWh.

### Project Facts:

1. The construction of a recent 7 MW run of river hydro project required an investment of \$15 million, created 90 jobs, and paid \$ 639,000 in provincial taxes and \$537,000 in federal taxes (BC Stats econometric input/output, March, 2006).
2. Each year a typical 7 MW run-of-the-river project with a penstock that produces 35 GWh/yr will pay \$67,000 in water rentals and \$120,000 in property/school taxes (or \$200,000 if located in a municipality rather than a Regional District), plus First Nations/Community Benefits payments, plus Provincial and Federal Income Taxes.
3. 25% of the electricity revenues received by a run-of-river IPP is paid back as taxes and levies to local, provincial, and federal authorities.
4. A 10 MW run of river project built in 2003 will pay about \$20 million in direct taxes, fees, water rentals, and community benefits over the life of the project.
5. A run of river hydro project must obtain permits from more than 10 review agencies at both the federal and provincial levels, plus First Nations. [See attached List of 50+ Permits](#)
6. Of the over 400 creeks that IPPs have filed Water License Applications on

since 1990 - 34 have plants built.

7. The wood-waste fired Williams Lake Generating Station IPP shut down several beehive burners and reduced particulate emissions by over 95%.
8. The Vancouver Landfill Gas IPP draws off harmful methane gas and converts it to electricity and also to heat for a nearby greenhouse.
9. In April, 2007, the East Toba/Montrose Creek project received Environmental Certificate for its 196 MW run of river project. Its capital costs are approximately \$450 mil. It is expected to create 650 person-years of employment during construction and 20 permanent positions during operations. The proponent anticipates paying approximately \$1.4 mil. in local property taxes/yr, an average of \$3.2 mil./yr in water rental fees, as well as applicable federal and provincial income taxes.
10. The provincial environmental assessment certificate for East Toba/Montrose Creek contains 77 commitments that the proponent must implement throughout the various phases of the project. Some key commitments include:

● **Mitigation measures to protect:**

**Wildlife and wildlife habitat, including observation of construction time windows.**

**Fish and fish habitat, including maintenance of safe water temperature levels and streamflow requirements.**

● **Protection of areas of cultural significance to the Klahoose First Nation, Sliammon First Nation and Sechelt Indian Band.**

● **Development and implementation of compensation and monitoring programs.**

● **Appointment of an environmental co-ordinator responsible for implementing and monitoring all environmental programs.**

11. If completed, the East Toba/Montrose project will help reduce BC's reliance on imported electricity, without producing greenhouse gas emissions, by generating enough electricity in an average year to meet the needs of 70,000 homes. The proponent was offered an electricity purchase agreement to supply BC Hydro with electricity for 35 years as a result of the 2006 BC Hydro open call for power.

**12. The provincial environmental assessment certificate for the Bear Mountain Wind Farm contains 44 commitments that the proponent must implement throughout the various phases of the project.**

**13. More environmental assessment info on these and other projects can be found at**

[http://www.ippbc.com/environmental\\_assessment\\_info\\_for\\_36\\_ipp\\_projects/](http://www.ippbc.com/environmental_assessment_info_for_36_ipp_projects/)

## IPPBC Facts:

1. 300 companies now belong to IPPBC, up from 22 in May, 2001, and up from 175 when IPPBC was founded in 1992.
2. 90 IPP Development companies, 100 Technical Service Providers, 80 Commercial Service Providers, and 30 individuals and students are members.
3. 5 IPPBC Directors have previously worked for BC Hydro for a total of 50 years. ([see list](#))
4. 10 IPPBC Directors work in companies with less than 10 employees.
5. 10 IPPBC Directors work in companies with over \$100 million in assets.
6. 15 different fuels/technologies are represented by member companies. ([see list](#))
7. IPPBC has been a Registered Intervenor in over a dozen BCUC Hearings and Processes ([see list](#))
8. 75 recommendations were sent to BC Hydro on their F2006 Electricity Purchase Agreement.
9. Over a dozen industry reports have been prepared and circulated ([see list](#))
10. 13 public presentations were made by IPPBC Directors in past 12 months. ([see list](#))
11. 2 dozen helpful tools can be found in the [Members Toolbox](#).
12. 150 News Flashes, 25 Issue Flags, and 20 Event Alerts were sent to members last year.

## BC Hydro F2006 Contract Awards Facts:

13. December 2005: BC Hydro issued their F2006 Open Call for Tenders.
14. January 2006; 83 IPP projects registered and paid \$5000 to bid.
15. April 2006; 55 IPP projects submitted bid along with bid deposits.
16. July 2006: BC Hydro offered Electricity Purchase Agreements (EPAs) to 38 proponents.
17. September 2006: The BC Utilities Commission accepted the 38 EPAs.
18. The 38 projects are located around the province.
19. They will add more than 7,000 GWh/yr to BC Hydro's system – enough power to meet the needs of over 700,000 homes.
20. The contracts include 29 hydro, three wind, two biomass, two waste heat and two coal/biomass projects.
21. The contracts are long-term purchase agreements with an average term of 30 years.
22. Projects range in size from under 1 MW to 200 MW.
23. The projects are expected to generate \$3.6 billion in private sector investment.
24. There are 16 projects in the large project stream (over 10 MW).
25. The large project will deliver with an estimated 5700 GWh/yr of firm energy and 750 GWh/yr of non-firm energy.
26. The large projects have an average firm energy bid price of approximately \$74/MWh.
27. The 22 small stream projects (under 10MW) have an estimated 650 GWh.
28. The small projects have an approximate average price of \$70/MWh.
29. 73% of the energy to be generated from the Call represents "clean

energy" as defined in the BC Clean Electricity Guidelines.

## BC Hydro Facts

30. In fiscal 2005, BC Hydro imported 6,896 GWh which is 12.5% of BC's domestic load. (page 17 of BC Hydro's 2006-09 Service Plan, issued Feb. 24, 2006)
31. Powerex reported average sales prices increased 58 per cent to \$98/MWh from \$62/MWh, compared with the same 3rd quarter last year (page 12 of BC Hydro's Quarterly report ending Dec. 31, 2005).
32. Powerex reported 27 % increase in average sales prices (\$80/MWh compared with \$63/MWh), compared with the same 9 month period last year (page 12 of BC Hydro's Quarterly report ending Dec. 31, 2005).
33. In F2001 and F2002 BC Hydro/Powerex imported "Market electricity purchases" which cost \$764 million and \$762 million, for 4,271 and 6,352 GWh respectively which meant that average import prices were then \$178 and \$119 per MWh. (Source BCH Revenue Requirements Application 2004/05 and 2005/06, BCH response to BCUC IR 1.2.26)

### Miscellaneous:

**1. The value of major projects in BC has increased almost 150% from December 2001. At that time there were 315 projects planned or underway worth \$45.7 billion. As of April, 2007 that increased to 781 projects worth \$117 billion.**

**Major projects in the inventory includes all types of projects (roads, hospitals, office buildings, mines, IPPs, etc.) worth over \$15 billion. This booming market construction has driven up prices for all types of construction.**

**2. BC's unemployment rate reached a 30 year low in February, 2007 of 4%. That is a 6% drop since 2001 when it was over 10%. Construction workers wages have climbed as a result of that the competition for tradesmen has increased.**