

**Peace Energy Renewable Energy Cooperative**

Box 2567, Dawson Creek, British Columbia, Canada V1G 5A1

Office: 1204-103rd Ave., Dawson Creek, BC V1G 2G9

admin@peaceenergy.ca www.peaceenergy.ca

ph: 250-782-3882

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Commissioner David Morton, Chair
Site C Panel Review
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Dear Mr. Morton:

RE: Site C BCUC Review

As preamble, I will introduce **Peace Energy Renewable Energy Cooperative**. We were the first renewable energy cooperative in western Canada, incorporated in 2003. We were instrumental in the creation of BC's first commercial wind facility, **Bear Mountain Wind Park** near Dawson Creek, in N.E. BC (102 megawatts). We are currently designing, supplying and installing **BC's largest municipal grid-tied solar installation in Hudson's Hope** (500 kW). As a locally owned, grass roots organization with 486 members from across the province, and focused heavily on community engagement and education, we are in a unique position to understand the pulse of BC public opinion regarding the renewable energy technologies of water, wind and sun.

The following will address your terms of reference part D: "What portfolio of generating projects and demand-side management initiatives could provide similar benefits (to Site C)."

My comments will refer specifically to the BC Peace Region's renewable potential because this is our primary area of operation, but much of what I say can be applied across the province.

1) WIND AND WATER

Northeast BC is the source of the energy that powers much of this province, thanks to the existing hydroelectric facilities on the Peace River. We are also a region rich in very high quality wind and solar resources.

A total of approximately 600 MW of wind are presently operational in this region, with another 2000 MW waiting to be developed by Independent Power Producers (IPPs). Estimates suggest the Peace Region has some 10,000 MW of readily developable wind energy. This wind resource is some of the best in the world, featuring a **power capacity factor (PCF) of 40% +** (BC Hydro states that the Site C dam PCF will be approximately 60%, a standard figure for hydro power in the industry.) Distributing and expanding wind facilities across the region will improve this remarkable PCF for wind energy until it approaches the base-load reliability of hydro (some 15 years of wind monitoring across the region confirm this conclusion).



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The Canadian Wind Energy Association (CanWEA) has submitted a study to BC Hydro explaining how up to 3000 MW of wind power could be successfully integrated into existing hydro power, improving the efficiency and reliability of both, while conserving our precious water/energy resource. This proposal was ignored by the previous government, which at the same time reduced and then eliminated their calls for clean power from IPPs. As a result, the rapidly expanding BC wind industry ground to a virtual halt, and CanWEA summarily left the province.

Conclusion: if and when the province needs more energy, **allowing the wind industry to expand while integrating it with the existing hydro power** would supply us well into the future with excellent base-load reliability plus a new and expanding wind industry and related jobs. (Enercon, who supplied the turbines for Bear Mountain, promised to locate both tower and blade manufacturing facilities in the Peace if we installed 1000 MW of their turbines, something several developers were poised to do until the province slowed things to a halt. Enercon recently did exactly that in Quebec.) Allowing wind IPPs the opportunity they have been patiently waiting for in the Peace would accomplish this with little or no debt to taxpayers, and can be carefully ramped up under BC Hydro control creating a steady stream of new jobs in all job sectors, from construction to hi-tech engineering.

2) SOLAR

I am sure you are aware that BC is rich in solar energy too. Peace Energy Co-op has been engaging the public by conducting solar public information sessions and providing open house solar tours while installing dozens of roof-top grid-tied solar arrays for homeowners, small businesses and municipalities in the BC Peace. **We are literally astounded and overwhelmed by the response** we have been receiving. Interest in solar is growing exponentially in this province, following a world-wide trend that has placed solar in the lead as the fastest growing energy source on the planet, driven by the unprecedented economic benefits provided by this technology and fueled by its rapidly decreasing costs.

Although BC Hydro is to be congratulated on the simplicity and efficiency of their grid-tie, net metering system for small energy producers, beyond that, solar energy has been largely ignored. Since self-produced power is power that BC Hydro does not have to create, this seems a strange oversight. Next to conservation and efficiency, solar self-generation is the least expensive, greenest and most efficient source of power that anyone can make. Like wind, solar can also be integrated with existing hydro, storing unneeded energy behind the dams and releasing it when needed.

Conclusions: There are two simple and low-cost, low-risk actions (and one higher cost, higher risk action) that the provincial government can take to allow the BC solar industry to expand as it is poised to do:

1) **Reassure the public** that the grid-tie, net meter system presently in place (or its equivalent) will be secure into the future. Insecurity around this causes a reluctance to invest in new solar infrastructure;

2) **Increase funding for BC Hydro's grid-tie department** so that it can keep up with the expanding demand to process grid-tie applications. This is presently a bottle neck that is retarding the industry's natural tendency to grow;



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3) To really jump start the BC solar industry the province should **provide grants and incentives** to encourage home owners, small businesses, aboriginal communities, municipalities, farms and ranches to invest in solar. If this seems too much too fast, begin by just offering it to homeowners.

This would be money well spent: giving a say 25% grant to those wishing to install grid-tied solar to a maximum of perhaps \$5000, would result in a **great amplification of the dollars invested**. With a \$5000 grant, a large number of homeowners and small businesses would invest another \$15,000 to create a \$20,000 home power system, for instance. Your \$5000 investment has just created \$20,000 worth of solar infrastructure, while benefiting real people, real businesses and real communities by reducing their costs of operation and helping to create valuable, long-lived energy assets and jobs.

3) SUMMARY

Integrating our rich wind and solar resources into our existing hydro capacity will more than meet future energy needs by enhancing our existing hydro electric infrastructure while eliminating the need for future dams like Site C. Rather than one huge, costly mega project, allowing wind and solar to naturally expand rather than holding them back will provide long-term growth and permanent jobs rather than the boom and bust cycles of big projects.

Working in the renewable energy field for the last 14 years in this province has been like getting stuck in the 20th century while the 21st century leaves us behind. Yet the people of BC are ready for change. It's time for BC to catch up. **It's time for this province to enter the 21st century.**

I trust these "grass-roots" insights from people actually working in the renewable energy field in British Columbia are valuable for your Site C deliberations.

Yours truly,

Don Pettit

Vice-president, Peace Energy Renewable Energy Cooperative



Bear Mountain Wind Park, 102 MW



Hudson's Hope Arena: 132 kW grid-tied solar, part of their 500 kW solar initiative