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News Release by *Energy Solutions for Vancouver Island*

Duke Point Power Plant in Trouble: Options

Today a decision was released by the BC Court of Appeal, permitting an appeal of the Duke Point power plant decision. This decision will result in a delay in the start-up or cancellation of the very plant chosen by BC Hydro to increase the on-island generation of power.

Opposed by both industrial users and environmental groups because of the generator's high cost of producing power and green house gas/air quality concerns, BC Hydro claims that the plant is necessary in order to "keep the lights on."

Such concerns are related to the expected loss of dependable power transmitted from the mainland through an ageing sub-sea cable, as well as increasing energy demands on the Island.

Other solutions have been touted as being excellent bridges until new sub-sea cables are installed in 2008 or 2009, including the offer by Norske Canada to shed loads as needed (highly unlikely, at worst one or two days a year during the coldest winter weather), buying power from the already approved Sea Breeze wind farm on northern Vancouver Island, and reducing the demand on the grid.

While the third option of reducing our power requirements is the least talked-about, it is the cheapest by far, the most likely to maximise job creation, stabilise electricity prices, and save consumers on their Hydro bills.

BC Hydro recognises the benefit of lowering demand, and has been actively pursuing this option through various programs that work with industrial users, businesses and homeowners to find ways to reduce power usage.

Of those three, Hydro has been finding it the most difficult to target homeowners because of the number of individual homes that are on the grid.

Encouraging owners to use more compact florescent lights, low-flow shower-heads and to replace ageing refrigerators have all helped. Despite these measures, it is estimated that at least half of the power generated is still wasted. This is particularly true on Vancouver Island, where most homes and apartments are still heated electrically, many of which are very poorly insulated.

Other utility companies have found greater success in reducing demand. For example, Pacific Northwest Power and Conservation Council achieved a 30% participation rate using Compact Fluorescent Lamps in a few months during the 2001 California energy crisis, by bringing the price of energy saving lamps to \$1

each. BC Hydro calculates that they achieved a 2% participation rate (called "uptake") by relying on education. While we don't have an energy crisis (even without the Duke Point plant), incentives such as this would go a long way toward a sustainable future.

In 1993 the largest US utility, Pacific Gas & Electric, closed their construction department because greater profits were available by meeting load growth: 75% from energy savings and from 25% renewable energy. The Pacific North West has similar plans, conservation and wind, with fossil fuel only as a back up measure. Even BC Hydro estimates the cost of saving power to be less than half the cost of buying from new sources.

Reducing the peak power demand is especially crucial, as it is during the peaks (when people are waking up and coming home after work) that the demand is highest. Gabriola Islanders recently demonstrated that if the rest of the islands followed suit, just a small percentage of the population can reduce its peak demand sufficiently to cancel the need for any extra generation of power.

BC Hydro is being encouraged to diversify its sources of renewable power so as to increase the stability and availability of power, as well as work with local non-profits in promoting energy conservation. Given that the Duke Point power plant may never be built these options will help to keep the price of power down, ultimately create more jobs, and bridge us to the development of exciting new sources of power.

Energy Solutions for Vancouver Island

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Some stats of interest:

A recent report, commissioned by BC Hydro and others, determined that 5,000 MW of developable wind energy resources are immediately available from three easily accessible areas of B.C., including northern Vancouver Island. Wind blows during the time of the year of the greatest demand on power: the winter. The cost of wind power is now as low as gas-fired generation, and is dropping (gas generated power is increasing in price).

In 1993 California's 4 largest utilities determined that the cheapest future was one based 75% on efficiency (reducing the demand) and 25% on renewables (small hydro, wind, geothermal, biomass, solar, wave, and tidal power).

Other energy-reducing strategies:

1. front load washers that utilise a high spin rate use less energy but reduce the residual moisture in clothes to such an extent that only minimal dryer time is required. Such can reduce demand by 100KWh per month.
2. Super-efficient Refrigerators and freezers are now available (SunFrost, Sun Danzer and Crosley) which drop the energy demand for each unit to 15 KWh per month or less (far less than a computer left running).
3. If only 25% of households, in the province, used a clothesline instead of a dryer we would avoid one Duke Point.

With a normal household load, using cold water washes and a dryer, uses about 300 kw-hr per month. This is about half of the North American average and it's really just the beginning.

Compact Fluorescent Lamps

(1) It costs BC Transmission Corporation \$57 per Kilowatt per year to transport power to customers. CFLs reduce demand at \$41/Kilowatt, ie: save \$17/KW installed.

(2) A 100W incandescent is replaced by a 25W CFL reducing energy use by 750 kWh over its 10,000 life - that saves about \$45 each bulb!

With the help of non-profits and others BC Hydro could save 1.1 MW with CFLs for only \$27,000 in incentives. The equivalent fossil fuel capacity costs \$1,000,000 plus gas, and \$3,000,000 for the Site C Dam.

British Columbia has 65 million incandescent lamps using 1879 technology and most commercial buildings use T12 fluorescent lamps that are Second World War technology, and should be replaced with T8 or T5 lamps, which save 35%, or 50% with correct lighting design.

The Sea Breeze's 450-megawatt wind farm on the northern tip of Vancouver Island is expected to generate enough power for 135,000 homes.

BC Hydro's own report on conservation:

<http://www.bchydro.com/info/reports/reports856.html>

Dr. Mark Jaccard, former head of BC Utilities Commission, chair of a couple of high profile electricity and economic commissions in the 1990s, has written a study demonstrating that the potential exists for as much power as Hydro claims we need, with

virtually no greenhouse impact, and at the same cost as Hydro's gas fired solution. His study and its postscript, are at:

<http://www.erg.sfu.ca/articles/BCElectricityOptions.pdf>

<http://www.erg.sfu.ca/articles/postscript-BCElectricityOptions.pdf>

Conservation investments produce on average, 37 person-years of employment per million dollar investment, compared to about 12 for "low-impact" supplies and 7 for conventional energy supplies.(Environment Canada. Comparative Analysis of Employment from Air Emission Reduction Measures. 1997. Printed in: Pembina Institute. Low Impact Renewable Energy in Canada: Strengths, Gaps, and a Path Forward, 2003.)

The cost of saving each kilowatt hour works out to only about 2.1 cents. That's a bargain in a province where electricity retails to residential customers for about 6.1 cents a kilowatt hour, and where it will cost B.C. Hydro about from 5.5 - 10 cents for each additional kilowatt hour that it has to buy over and above current levels of consumption.