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Exporting BC power to California is not simple, yet

Patrick Brown

California rules dictate that electricity distributors should obtain 20% of their power from renewable power sources (RPS) by 2010, but it is expected that, realistically, this target will not be reached until 2013 or 2014. Now, the latest legislative proposals call for 33% of power to be produced from renewables by 2020.

In order to meet their quotas, Californian electrical utilities are seeking increased flexibility to identify and contract with sources outside the state, including British Columbia. BC has been ramping up its power generation potential for just such an opportunity. This new legislation should be good news for BC's 'clean' energy but there are at least two snags.

Several groups in the state have demands of the new legislation: there is pressure to source a maximum amount of this power from within California, to capture maximum economic benefits (California Senate Bill 14 would limit imports of renewable power to 20% of the total); environmental advocates seek to ensure that power, wherever it is generated, and transmission lines, wherever they may run, have minimum environmental impacts; and, consumer groups are, as ever, interested in maintaining the lowest possible prices for electricity.

In view of California power crunch, state legislators are currently trying to sort out these conflicting objectives for 'renewable' power consumed in the state.

Export of BC Power Was Anticipated In 2007

It is apparent that BC has long been a favoured potential source for electricity for California. As early as May, 2007, Premier Gordon Campbell and Governor Schwarzenegger of California signed a Memorandum of Understanding that committed the province and the state to create more renewable energy development and transmission. Since that time, PG&E (Pacific Gas & Electric), the electrical utility for the San Francisco area, has been researching the possibility of importing electricity from BC.

A June, 2008 report for PG&E concluded that imports of renewable power from BC would be practical over a new high-voltage transmission line to be constructed from the

Canada/US border. (The PG&E report was produced at a time when the BC government was still insisting that additional power was needed just to make BC 'self-sufficient' and denying the possibility of exports to the US.)

Nonetheless, PG&E's initial conclusions were that BC could have a significant potential surplus of power by 2016. This prediction assumed extensive development of run-of-river, biomass, geothermal and wind generation by that time. The estimates took into account potential environmental and permitting delays.

Shaping & Firming

Additionally, power delivery from BC would have to be 'shaped and firmed' to meet patterns of Californian power demand. This means that power, such as run-of-river might have to be augmented from other sources in order to even-out peaks and troughs of generation. Shaping and firming might incur emissions permit costs if facilities that did not meet California's environmental standards had to be used to do this; driving up the price of BC power.

BC Not So Clean, Run-of-River Does Not Meet California's Standards

While wind and biomass generation in BC would meet California's definition of renewable power, BC's run-of-river generation would not. BC Hydro's 'Site-C' dam on the Peace River would also not count as 'renewable'.

The problem with BC's run-of-river power is that the California Energy Commission requires that power generation outside the state (and sold in California) must be 'as protective of the environment' as any similar facility in California. The California rules for run-of-river specify that:

- the installation must not alter the volume or timing of stream flow;
- the installation must not exceed 30MW; and
- there must be no adverse impact on 'instream beneficial uses' (this is an extremely strict criterion that essentially says the water must not be changed, chemically or physically).

In its report, PG&E's consultants said that BC's run-of-river power would not meet any of these three requirements.

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Transmission

As to the high voltage overland transmission line to California, the researchers concluded that it was 'technically and environmentally feasible', though they anticipated some land use problems. An alternative submarine cable, as proposed by Sea Breeze, was judged not feasible.

Contract Discussions Presumably Continue

The PG&E researchers also examined various contract possibilities for the purchase of BC renewable power. They

concluded that the most practical solution would be to purchase from the BC Hydro's exporting subsidiary Powerex at a border crossing point, although the question of where the 'firming and shaping' would take place appeared to be left open.

As California needs BC power, PG&E are presumably continuing discussions with Powerex.

In California, PG&E are seeking to relax the environmental rules affecting run-of-river generation outside the state, but resistance to changing these rules appears to have stiffened, given protectionist sentiments in California.

No, it's not simple. ☞