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BC ACCELERATES THE PUSH FOR GREEN ENERGY

The *Clean Energy Act* (the Act) was tabled in the British Columbia Legislature on April 28, 2010. The Act is based, in part, on the analysis and recommendations provided by the Green Energy Advisory Task Force which the provincial government appointed in November 2009. Composed of four advisory groups, the Green Energy Advisory Task Force delved into several topics relevant to developing BC's clean energy potential: procurement of new electricity by BC Hydro, the Crown Corporation that dominates the province's energy landscape; the scope for exporting "green energy"; ensuring that emerging North American carbon trading regimes treat BC-produced power in a favourable manner; improving community engagement and partnerships with First Nations in developing energy resources; and reducing impediments to planning and permitting of energy projects.¹

This issue of Energy and Environment Bulletin summarizes key elements of the *Clean Energy Act* and considers how the legislation addresses a number of issues highlighted in a Business Council submission to the provincial Cabinet Committee on Climate Action and Clean Energy in January of this year.²

Overview

The *Clean Energy Act* is intended to advance three over-arching government priorities: 1) ensuring electricity self-sufficiency at "low rates"; 2) tapping BC's clean potential to create jobs "in all regions of the province"; and 3) strengthening environmental stewardship.

Our reading of the Act indicates that the government has worked to balance a variety of interests, including those of residential ratepayers, independent power producers and large industrial power customers, while reiterating the core objectives laid down in its 2007 Energy Plan. The Energy Plan focused on ensuring "self-sufficiency" in electric energy, building BC's clean power potential, and bringing electricity policy in line with the government's aggressive climate policy targets.³ In broad terms, the *Clean Energy Act* builds on the 2007 Energy Plan. In addition, it modifies and limits the mandate of the British Columbia Utilities Commission; puts BC Hydro and the BC Transmission Corporation back together again as a single Crown entity; establishes a basis to pursue

¹A summary of the Task Force's report is available from the web site of the Ministry of Energy, Mines and Petroleum Resources at: www.empr.gov.bc.ca/EAED/Documents/GreenEnergyAdvisoryTaskForce.pdf

²Business Council of BC, "Submission to the Cabinet Committee on Climate Action Clean Energy," January 2010. Available at: www.bccbc.com

³British Columbia has adopted legislation mandating a 33% reduction in greenhouse gas emissions between 2007 and 2020.



clean energy export opportunities; and includes provisions to streamline and expedite development and strengthen the participation of First Nations in BC's energy economy.

The legislation outlines 16 specific objectives, which, once the *Act* is implemented, will become legally binding with respect to BC Hydro, regulatory bodies, and other public agencies involved in energy policy and planning in the province.

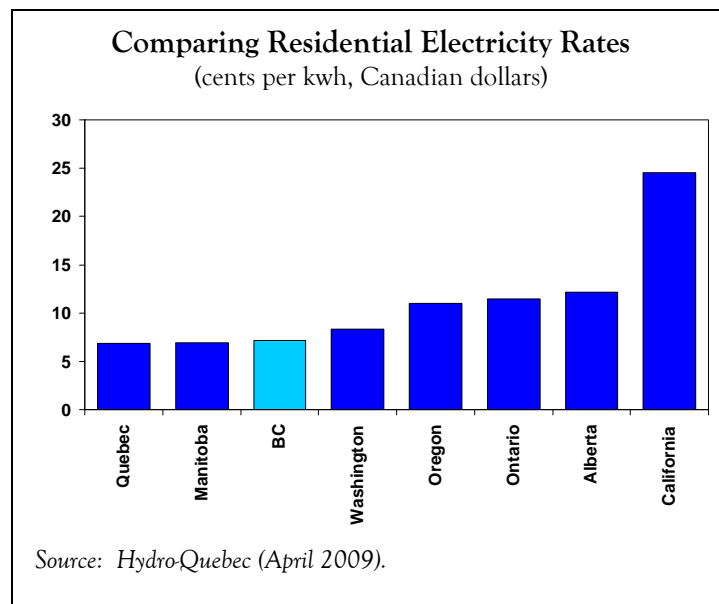
The *Clean Energy Act* is a broad enabling statute, albeit one with far-reaching implications; much of the detail remains to be elaborated by way of regulations, decisions by the Minister of Energy, Mines and Petroleum Resources and the Cabinet, and actions to be taken by BC Hydro.

Protecting Ratepayers

The Business Council and a number of other business organizations have publicly worried about the risks to taxpayers and ratepayers associated with the government's enthusiasm for developing new "green" energy resources (and related infrastructure) to achieve electricity "self-sufficiency" and to service anticipated export demand. In this connection, it is encouraging that the *Clean Energy Act* proposes to effect a separation of domestic and export power sales to ensure that BC ratepayers do not subsidize exports. This commitment is welcome. Exactly how it will be made operational, by way of future regulations and decisions by BC Hydro, remains to be seen.

Importantly, the *Clean Energy Act* acknowledges the need to maintain the advantages which British Columbia enjoys from its existing low-cost heritage electricity assets. For example, it contemplates that BC Hydro may enter into long-term price agreements with large industrial

customers. While few details are offered, this may provide industry with greater certainty over future power rates. The *Act* requires BC Hydro to ensure that the benefits of low-cost power from heritage assets continue to accrue to domestic ratepayers. BC Hydro is also required to report to Cabinet on how BC's rates compare to other jurisdictions.





Self-Sufficiency and Demand Side Management

With respect to electricity “self-sufficiency” the *Act* confirms in law (section 6) the government’s previously enunciated pledge to make the province self-sufficient in electricity by 2016, and to establish 3,000 GWh/year of “insurance” capacity by 2020. The details around self-sufficiency will be based on forecasts from BC Hydro, developed with public input and through an Integrated Resource Plan (IRP) that will be submitted to Cabinet. The first IRP is due within 18 months; thereafter, a new one is required every five years. Preparing the initial IRP will be a challenging assignment for BC Hydro – one of many which the Corporation will be responsible for under the legislation. It should be noted that the BC Utilities Commission, the province’s independent electricity regulator, will not have a direct role in reviewing the IRP.

Since 2007, the Liberal government has strongly promoted the development of additional renewable energy, and the *Act* indicates that more clean calls are likely in the future to meet the growth of domestic demand as well as for export purposes. The existing clean power call goal remains at 5,000 GWh/year.⁴ Looking ahead, the government believes that additional domestic generation capacity will be needed to handle based-load demand growth stemming from electrification of transportation and an expanding population and economy. More information will be provided through initial load growth forecasts due this fall.

Of interest, the *Clean Energy Act* stipulates that BC Hydro’s Demand Side Management (DMS) target will be increased from 50% to 66% – that is, two-thirds of future domestic demand growth is to be satisfied through conservation. By any measure this represents a very ambitious conservation goal. The *Act* envisages the roll-out of a large-scale Smart Meter program to assist in achieving the conservation targets, with significant action required by 2012. Cabinet will determine, via regulations, the nature and extent of the Smart Meter program (section 17). Installing hundreds of thousands of new meters and related equipment is likely to carry a steep price tag, and one wonders whether the program would pass a basic benefit-cost test.⁵

Together with the recent and planned clean power calls, the proposed development of the Site C hydro-electric project, and new turbines at BC Hydro’s existing generation facilities at Revelstoke and Mica, the revised DSM target should bring the province close to meeting the government’s self-sufficiency goal.

Exporting Power

The BC government is taking a sensible approach to pursuing what some believe is a major opportunity to export renewable energy to the United States. Some 30 American states have legislated renewable portfolio standards which require in-state utilities to procure and sell specified amounts of renewable electricity by certain dates. In addition, a growing

⁴ To date, BC Hydro has announced the selection of 23 projects representing 2,900 GWh/year of firm energy.

⁵ This somewhat complex issue is discussed in an Ontario context by Donald N. Dewees, “The Price Isn’t Right: The Need for Reform in Consumer Electricity Pricing,” C.D. Howe Institute Backgrounder (January 2010), pp. 5-7.



number of states, notably California, have adopted laws or policies aimed at reducing emissions of greenhouse gases. Both of these trends underscore the potential for Canadian jurisdictions with abundant low-carbon energy resources to increase energy exports to the United States. Quebec and Manitoba have made the growth of hydro-electricity electricity exports a key element of their economic development strategies. British Columbia is now embarking on a similar path.

The *Clean Energy Act* states that BC Hydro will pursue long-term export sales contracts with jurisdictions seeking to purchase renewable power. It will fill those contracts through clean power calls that produce additional renewable energy within the province. BC Hydro's unique capability to "firm" and "shape" power through its system of dams and reservoirs will be used to help secure export opportunities and to optimize the hydro-electric system. According to the *Act*, BC customers will not subsidize exports. While few details are provided, the basic structure of the legislation in this area is consistent with the Business Council's recommendations to the government in January 2010.

It is evident that policy-makers in BC view California as the primary export opportunity. In 2008, California met 68% of its power needs through in-state generation, with the rest satisfied by imports. Approximately three-quarters of its electricity imports were supplied by neighbouring southwest states, while one-quarter came from the Pacific Northwest (which does not include BC).⁶ California has set a goal for renewables to comprise 33% of in-state retail electricity sales by 2020. At first glance, this aggressive target would appear to support the belief that BC can become a significant exporter of renewable energy.

However, there are a number of unknowns which make it difficult to determine whether this is a realistic goal. One is the state's energy demand. Recently, the California Energy Commission downgraded its forecast for electricity demand growth, pointing to both the state's slumping economy and anticipated savings from current and planned energy efficiency programs.⁷ At the same time, falling natural gas prices are adversely affecting the relative cost-competitiveness of renewable energy sources across North America. Rich public subsidies for wind and solar power create strong incentives to produce energy from these sources within the United States – which may dampen any demand for imported renewable power. A 2009 report by the California Energy Commission noted that various technical, transmission, and reliability challenges are involved in integrating large amounts of new renewable energy into the state's electricity system, including energy produced in geographically distant locations.⁸ Finally, to date California regulators have declined to classify imported hydro-electric power as "renewable" under the state's RPS rules.

All of these considerations suggest that policy-makers in British Columbia need to be mindful of the risks and complexities which are likely attend the development of energy resources and infrastructure geared to serving export markets. As the Green Energy Advisory Task Force observed in its report, one way for BC to manage these risks is to

⁶ California Energy Commission, *Energy Almanac*.

⁷ Of interest, California is the lowest per capita consumer of electricity in the US.

⁸ California Energy Commission, *2009 Integrated Energy Policy Report*, pp. 5-7.



establish a long-term transmission and procurement partnership with a large California utility that has an interest in the province's renewable energy assets.

Total Electricity System Power, California, 2008 (in Gigawatt Hours)					
Fuel Type	In-State Generation ^[1]	Northwest Imports ^[2]	Southwest Imports ^[2]	Total System Power	% of Total System Power
Coal*	3,977	8,581	43,271	55,829	18.21%
Large Hydro	21,040	9,334	3,359	33,733	11.00%
Natural Gas	122,216	2,939	15,060	140,215	45.74%
Nuclear	32,482	747	11,039	44,268	14.44%
Renewables	28,804	2,344	1,384	32,532	10.61%
<i>Biomass</i>	5,720	654	3	6,377	2.08%
<i>Geothermal</i>	12,907	0	755	13,662	4.46%
<i>Small Hydro</i>	3,729	674	13	4,416	1.44%
<i>Solar</i>	724	0	22	746	0.24%
<i>Wind</i>	5,724	1,016	591	7,331	2.39%
Total	208,519	23,945	74,113	306,577	100.0%
<p>[1] In-state generation: Reported generation from units 1 MW and larger. [2] Net electricity imports are based on metered power flows between California and out-of-state balancing authorities. The resource mix is based on utility power source disclosure claims, contract information, and calculated estimates on the remaining balance of net imports.</p>					
<p>Source: 2008 Net System Power Report – Staff Report, Publication number CEC-200-2009-010.</p>					

BC Utilities Commission

As part of the *Clean Energy Act* the government has reinforced the role of the BC Utilities Commission to maintain competitive electricity rates while at the same time limiting the Commission's mandate and scaling back its scope for review. The Commission will be responsible for ensuring that BC Hydro continues to allocate the benefits of low-cost heritage assets to domestic ratepayers and for overseeing the financial separation of export costs from domestic supply costs according to regulations which are still to be developed.

The *Act* firmly places the responsibility for long term policy and planning in the hands of BC Hydro and the government, not the Commission. This will enhance the government's ability to proceed with initiatives in areas involving energy conservation, economic development and export promotion. Some may find the erosion of the Commission's mandate to protect the interests of ratepayers troublesome, but in the end the government clearly has the authority to set the province's energy policy.

The list of matters which the *Clean Energy Act* specifies as exempt from the Commission's oversight is extensive, and includes the following projects and proposed initiatives:

- (a) the Northwest Transmission Line;
- (b) Mica Units 5 and 6, a project to install two additional turbines and related works and equipment at Mica;
- (c) Revelstoke Unit 6, a project to install an additional turbine and related works and equipment at Revelstoke;
- (d) Site C;



- (e) a bio-energy phase 2 call to acquire up to 1,000 gigawatt hours per year of electricity;
- (f) agreements with pulp and paper customers eligible for funding under Canada's Green Transformation Program under which agreement or agreements the authority acquires, in aggregate, up to 1,200 gigawatt hours per year of electricity; and,
- (g) the clean power call request for proposals to acquire up to 5,000 gigawatt hours per year of electricity from clean or renewable resources.

Our understanding is that the Commission will still have cost oversight with respect to the above projects, but will not be deciding whether the projects are needed.

Other Provisions

The *Act* gives the province authority to implement a Feed-In Tariff program to stimulate the development of new renewable technologies. The details of such a program remain to be worked out and will be established by regulation.

BC Hydro will continue efforts to acquire up to 1,000 GWh/year of energy through phase two of the Bioenergy Call for Power. All forms of bio-mass will be eligible, including wood waste. In addition, BC Hydro has implemented a power offer for pulp and paper producers eligible for support under the federal government's Pulp and Paper Green Transformation Program.

Failure to Harness BC's Full Energy Resources

Our main disappointment with the *Clean Energy Act* is the failure to acknowledge and leverage the full spectrum of BC's diverse energy resources – the focus is exclusively on renewables, with no attention given to the province's vast reserves of natural gas. Other jurisdictions across North America recognize that natural gas has a critical role to play in meeting the need for low-carbon energy, across a variety of end uses. British Columbia stands out for its seeming reluctance to do the same, despite the province being a big producer of the commodity. One result of this policy lacuna is that the *Clean Energy Act* provides no basis for harnessing the province's rich energy resources in a way that will maximize overall economic returns to British Columbians. Instead, the government remains wedded to a policy of penalizing the use of natural gas as a domestic energy source, even as it simultaneously encourages exports of this commodity to jurisdictions that see natural gas as an important part of the shift to a less carbon-intensive economy. While there is room for policy discussion on the optimal relationship in the energy sector between renewables and natural gas, we continue to find the government's approach on this issue puzzling and contrary to sound economic principles.
