The Canada-U.S. Energy Relationship: Issues and Challenges - *A Canadian Perspective*

*By André Plourde**

By the end of the 1980s, deregulation initiatives directed at the oil and gas industry had reversed a decades-long approach to policy centered on direct government intervention in Canada's energy sector. Since then, Canadian energy policy has focused on the role of market forces in determining energy trade and development patterns. The pillars of this policy approach can be summarized as follows:

- open, competitive markets, with focused interventions when federal policy objectives are not being met;
- fair and efficient regulation;
- trade governed by the rules embodied in the North American Free Trade Agreement (NAFTA).

Such a policy framework fits in well, at least nominally, with the U.S. market-based approach to energy policy. Indeed, much of the growth in Canadian energy production (especially crude oil and natural gas) has been spurred by access to U.S. markets. Since the deregulation push of the mid-1980s, natural gas production in Canada has more than doubled, reaching 6.6 trillion cubic feet in 2001. Almost 60% of this production is exported to the United States, where it accounts for more than 98% of imports and is used to meet some 16% of domestic requirements.

During the same period, Canadian crude oil production has increased by approximately 25%, to 740 million barrels in 2001. This, despite the fact that the Western Sedimentary Basin – from which most of Canadian oil production is drawn – is gas-prone and relatively mature. Here, exports to the United States amount to some 65% of Canadian production, accounting for about 8% of U.S. crude oil consumption.

The situation is different for electricity as the structure of the relevant markets is much more regional in nature in both countries. A much smaller proportion of Canadian electricity production crosses at least one border (either provincial or international) on its way to market: about 15% against more than 80% for both crude oil and natural gas. All in all, less than 10% of Canadian electricity production is exported to the United States, where it is used to meet about 1% of end-use requirements.[1]

It goes without saying that there are regional differences to the patterns outlined above – exports are more important market destinations for Alberta's crude oil and natural gas producers than they are for Saskatchewan's, for instance. The same can be said about Québec's electricity production in comparison to Alberta's. Overall, however, export markets are of vital importance to Canadian energy producers, especially to those active in crude oil and natural gas. In a parallel fashion, Canada has become, over the last two decades, an increasingly important source of supply for energy consumers in the United States.

While this energy relationship is significant to both countries, it can be argued that it is of greater importance to Canada. The United States imports crude oil from a number of countries and sees liquefied natural gas (LNG) produced in countries like Australia and Algeria reach its shores. In addition, there are clear opportunities for expanding energy trade with Mexico. In the case of Canada, however, geography and the existing infrastructure have led to a situation where the United States is currently and for the foreseeable future the only commercially viable export market for Canadian energy production. Continued access to U.S. energy markets is thus of critical importance to the health of the Canadian energy sector. As a result, U.S. policy developments can have significant effects, not only within the United States, but also on energy-sector participants in Canada. With this in mind, what follows is a list (with no pretense of it being exhaustive) of issues that could affect Canada-U.S. energy trade in the coming years. Many of these, as one would expect, are reflections of possible consequences for Canadian producers of U.S. policy actions.

Basic Thrust of U.S. Energy Policy

The May 2001 National Energy Policy document emphasized the role of international linkages in securing energy supplies to meet U.S. requirements. While specific attention was paid to Mexico and other regions of the world (such as West Africa, Russia and other states of the former Soviet Union), very little was said about Canada-U.S. energy trade. This omission is rather surprising since Canada is *by far* the single most important foreign supplier of energy to the United States. From Canada's perspective, the omission is also worrisome since it could be interpreted as a shift in U.S. policy – a signal to U.S.-based companies to re-direct their investment dollars away from energy development and production projects in Canada in favor of other foreign destinations. However, U.S. investment will be needed if flows of energy exports from Canada are to be sustained, not to mention increased, to help meet growing energy end-use requirements in the United States. All in all, some clarification on the basic thrust of U.S. energy policy and, in particular, on the desired role of imports from Canada would appear to be in order.

Infrastructure Development

If continued export growth from Canada were deemed desirable, then there would be a need for additional investment in the expansion of the long-distance energy transmission and transportation infrastructure linking the two countries. Here, the capacity expansion projects, whether based in northern and western Canada or offshore from the east coast, would clearly benefit from the establishment of similar rules applicable to the approval, construction, and regulation processes in the different jurisdictions. This seems a propitious area for cooperation between Canada's National Energy Board (NEB) and the FERC.

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[1] See end of text for footnotes.

Prospects for Natural Gas Production

The NEB and Alberta's Energy Utilities Board, among others, forecast a decline in Alberta's conventional gas production within the next five years, which raises some questions about the feasibility of increased exports to the United States from Canada's major gas-producing area. Before firm conclusions can be drawn, it is clear that more work is needed to assess how likely and how significant such a decline could be. It does, however, highlight the role that could be played by production from the north and from Nova Scotia. It also brings the issue of coal-bed methane production to the forefront. In contrast to the situation prevailing in the United States, there is currently no coal-bed methane production in Canada. Since Alberta (and to a lesser extent Saskatchewan) possesses huge coal reserves, it may be that an expansion in this area would offer opportunities to counter any declining conventional natural gas production. Prospects for coal-bed methane production are also being assessed as the government of Alberta proceeds with the development and implementation of a water strategy for the province, which could lead to tight environmental standards applied to the disposition of water pumped out of coal-bearing formations.

Prospects for Crude Oil Production

The last ten years or so have witnessed important changes in Canada's oil production profile. Specifically, a shift to heavier crudes and to non-conventional production (bitumen and synthetic crude from oil sands) has occurred. Overall, conventional crude oil from Alberta has been falling since 1994 and any expansion in light-to-medium crude output will be generated by additional development and processing of that province's massive oil sands reserves. However, such operations are characterized by large economies of scale and are extremely capital intensive, especially in the development phase. Securing additional light crude oil production from Alberta will thus require huge inflows of investment in oil sands development projects. This raises again the issue of the basic thrust of U.S. energy policy as a signal for investment activities by U.S.-based companies.

These last two items have potentially significant consequences for Alberta's economic performance and for the state of the province's public finances. As things stand, there are now only two "have" provinces in the Canadian federation: Alberta and Ontario. Since the oil and gas industry is the main driving force of Alberta's economy and is an important revenue source for the provincial government, a significant downturn in activity in this industry would have deleterious consequences on Alberta and would also have negative effects on the Canadian economy as a whole.

Natural Gas from Alaska and Subsidies

Recent discussions and proposed legislation in the United States about restrictions on the choice of pipeline routes to transport natural gas produced in Alaska and on possible subsidies for the production of this gas have been met with dismay in Canada. For most of the 1970s and early 1980s, when Canadian energy policy was highly interventionist in nature, U.S. officials would regularly take Canada to task for subsidizing certain activities and for distorting market signals to energy producers and consumers. After many years of intervention, the government of Canada finally withdrew from the business of subsidizing energy megaprojects and from regulating upstream prices. But now we face the perplexing situation of having the U.S. government actively consider the possibility of adopting the kinds of policy initiatives to which it so strongly objected when these were part of the Canadian approach to energy policy. This frustrating state of affairs leads me to ask: what are the main objectives of U.S. energy policy? To what extent will the U.S. government allow market forces to affect producer and consumer decisions in energy markets?

Aboriginal / First Nations Issues

The possibility of oil and gas development activities in the northernmost regions of Canada and the United States has highlighted an issue of increasing relevance to energy industries in both countries, namely that of Aboriginal / First Nations rights. The Canadian government has implemented a process of direct negotiations with First Nations over land claims. The resulting settlements have typically involved the recognition of rights relating to the control by First Nations over activities taking place in areas covered by the settlements. One consequence of these actions has been to create a multiplicity of jurisdictions involved in energy project approval. Take for example the case of the proposed Mackenzie Valley natural gas pipeline. When a project of this type was first considered in the 1970s, there were two jurisdictions involved – the governments of Canada and Alberta (since the proposed pipeline was to extend into the province of Alberta). As things now stand, a dozen or so distinct jurisdictions would be involved in approving such a project – the two identified earlier, plus the government of the Northwest Territories and a number of First Nations.[2] This marks a fundamental change in the way that some proposed energy projects would be assessed and considered for approval. It results in a more costly and time-consuming process for proponents, but one that is also more inclusive and more respectful of the rights of First Nations.

The Future of LNG

The last few years have witnessed a heightened sense of optimism in the industry about the prospects of LNG emerging as a viable source of supply. Some of this optimism has been reflected in concrete actions: U.S. LNG imports, while still quite small, have grown sharply since 1999. I am at a bit of a loss to explain these developments. During the 2001-2002 academic year, some of my students undertook a financial analysis of the LNG project linked to the proposed natural gas development on Alaska's North Slope. The results were quite clear: under all reasonable (and some rather generous) configurations of underlying cost and market conditions, the Alaska LNG proposal was commercially a non-starter. To the extent that this exercise captured the key elements influencing LNG development, the results would suggest that additional work is needed to assess whether the prevailing optimism is justified. From Canada's perspective, the future of LNG gives rise to two sets of issues. First, the required infrastructure does not currently exist in Canada, and its construction would thus need significant injections of capital, which could potentially draw funds away from other energy-sector projects (oil sands development, for example). Second, were LNG to emerge as a cost-competitive source of natural gas, it could challenge Canadian-produced natural gas

in its traditional markets in the United States.

Is Large-Scale Hydro "Green/Renewable" Power?

Many U.S. states have recently introduced, or are considering introducing, a renewable portfolio standard (RPS) to their mix of electricity sources. Large-scale hydro is typically not considered eligible in meeting these RPSs. From Canada's perspective, these standards could be considered a significant barrier to electricity trade since almost all electricity exported to the United States is generated by large-scale hydro installations. The status of such standards under NAFTA is unclear, as pointed out in a recent paper.[3] The underlying concern revolves around the fact that RPSs lead to artifical product/service differentiation (since all electrons are the same) based on the generation technology, which here leads to discrimination against Canadian producers.

The Future of Electricity Restructuring

In the aftermath of the events in California and more recently in Ontario, there is a distinct "chill in the air" when it comes to electricity restructuring in Canada and the United States. While most previously announced plans for in-depth restructuring have recently been scaled back or abandoned – and certainly no new plans have been announced – the current situation is nonetheless unsustainable. New developments on the regulatory front are to be expected, and the FERC's recent proposals covering regional transmission organizations (RTOs) and standard market designs represent first steps in a renewed effort to adjust the structure of the electricity industry to reflect current economic and technological realities. These, however, are but first steps and much more will need to be done in both Canada and the United States if regionally integrated electricity markets are to emerge. To the extent that the last few years are any indication of what could be in store, this restructuring process is likely to be a politically charged issue and thus highly subject to direct political intervention.

The Fallout from Enron and California

The questionable business dealings allegedly undertaken by officials at Enron and other companies, and the perception that abuse of market power contributed to California's electricity debacle have cast the industry in an unfavorable light with elected officials and the public at large. A likely consequence is the imposition of additional regulation on various aspects of energy industry activities. If so, how does this increased regulatory oversight fit in with energy trading relationships based on contracts negotiated by buyers and sellers? The last chapter in this has certainly not be written, but it is difficult to imagine an outcome that would see increased regulation without accompanying higher costs of doing business and dampened market signals.

Greenhouse Gas Emissions and the Kyoto Protocol

The decision by the Bush Administration not to seek ratification of the Kyoto Protocol has left Canada – with its long-standing pledge to abide by its Kyoto commitments – in a very difficult position. Almost 90% of *all* Canadian merchandise exports (not just energy) are currently destined for U.S. markets.[4] As a result, when this trading partner adopts a radically different approach to addressing a common issue, such as the ratification and implementation of the Kyoto Protocol, concerns about potential negative competitiveness effects arise in Canada with respect to all industries, and not just those focused on energy production. Granted that both state and federal authorities will enact measures aimed at curbing the growth of U.S. greenhouse gas (GHG) emissions, but it seems reasonable to assume that these cuts will be less extensive than those originally agreed upon in December 1997. This difference in approach has also contributed to the creation of a more uncertain investment climate in Canada's energy sector. From this perspective, U.S. GHG policy may in effect prove counter-productive to that country's energy security goals. As noted earlier, Alberta's oil sands will be the key source of future crude oil production from western Canada. Significant expansion of oil sands production will require massive investments in additional production facilities and infrastructure. The U.S. failure to ratify the Kyoto Protocol could well create disincentives for U.S.-based firms to invest in Canada's oil sands, thus leaving the United States even more dependent on less secure sources of crude oil supply in the future.

The Role of Mexico

Since 1994 the North American economic partnership includes a third country – Mexico. But, with the exception of crude oil exports to the United States, Mexico has – for all intents and purposes – chosen to remain on the periphery of North American energy markets. Were the Mexican government to seek to strengthen its energy ties with the other two NAFTA countries, it would have important implications for Canadian energy companies. Take the case of natural gas, for example. Mexico has significant and under-developed reserves of this energy source. If production were increased and the necessary infrastructure built, Mexico could become an exporter of natural gas to the United States in the medium and longer term. The resulting situation would be quite different than for crude oil, where increased Canadian and Mexican production can both be accommodated in the US market by backing out production from other countries. In the case of natural gas, there are currently no other significant suppliers that can be pushed out of the U.S. market. Mexican production would thus be in direct competition with natural gas exports from Canada in the U.S. marketplace. If Mexico's energy sector were opened up to foreign participation, that country could also become a destination for Canadian energy-sector investment. To date, however, the opportunities for such activities have been relatively few and Canadian companies have had a limited, and not particularly successful, involvement in Mexico's energy sector. One thing is clear: were Mexico to seek closer energy ties with its NAFTA partners, our thinking about North American energy relationships would need to shift from a focus on Canada-U.S. energy trade to a conception of truly continental energy markets.

My overall message can be stated rather succinctly. The coming decades will bring many challenges and many opportunities in the development and production of energy resources in Canada, Mexico, and the United States. Let's work together to make sure that each country puts in place a policy framework that allows us to deal with the challenges and take advantage of the opportunities for the benefit of *all* participants in North America's energy sector.

(See footnotes on page 17)