

ENERGY: A REGIONAL OPPORTUNITY

A strong public interest

It is important for the public and public policy makers to re-establish the connection between our energy markets in New Brunswick and the public good. Energy is not the same as other products and services in the marketplace. First, it is an absolute requirement for the economic health of the province. For most consumer goods, there is a substitute. This is not the case with energy. High cost and/or limited access to energy drives out business investment, curtails new investment and places a significant hardship on residential consumers.

Electricity costs in New Brunswick are rising at more than double the national rate of growth (Figure 1). Since 2002, residential electricity costs in New Brunswick grew twice as fast as the national growth rate. The cost to heat and power the average New Brunswick home is now 50% higher, as a percentage of total household expenditures, than the national average.

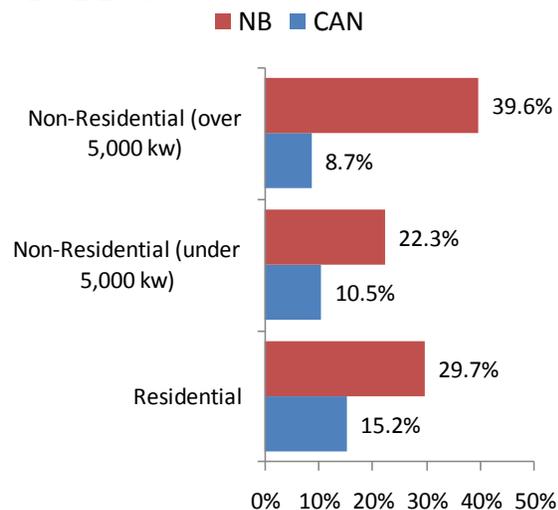
For business and industrial customers the cost increases have been even steeper. For non-residential customers under 5,000 kw, the cost index is up over 22% and for larger industrial users (over 5,000 kw), the increase has been close to 40% - over four times faster than the national growth rate for larger industrial users.

Energy is not disconnected from the economic growth and potential of the province. High energy costs will drive out investment and harm the economy. There is a strong public interest, therefore, in maintaining a competitive energy cost environment.

An increasing number of provincial and state level governments are recognizing this issue. The State of Maine has witnessed well above average growth in energy costs over the past 20 years and the government now realizes the correlation between this cost growth and the economy of the state. In Maine's new energy strategy, the first principle is that "Maine should strive to provide energy to all its citizens at the *lowest possible cost* to promote economic development and to retain jobs"¹. The new green energy strategy in the Province of British Columbia makes low electricity rates one of three main priorities².

This public interest can be addressed two main ways: 1) by legislation and regulation and 2) by direct involvement from government through tax incentives or other public investment.

Figure 1: Rise in Electricity Cost Indexes 2002-2009



Source: Non-residential electricity index increase Statistics Canada. Table 329-0050 - Electric power selling price indexes (non-residential). Residential - Statistics Canada. Table 326-0020 - Consumer Price Index (CPI), for residential electricity.

¹ State Of Maine Comprehensive Energy Plan (January 2009).

² British Columbia Clean Energy Act first of three priorities: "ensuring electricity self-sufficiency at low rates" (2010).

It is important to distinguish between the public interest and short term political considerations. With the natural gas system in New Brunswick, it could be argued that political interference has led to costly decisions. For example, some say the M&NP pipeline was built in the wrong place and that it should have gone directly to the load in Saint John, not through Fredericton. This would have eliminated the need for the 14" Saint John lateral, and also the Brunswick Pipeline.

This is not to minimize the complexity of differentiating between the public interest and short term politics. The public interest is always 'political' but good public policy is always based on clear objectives and a demonstrable impact on the overall public good.

In the example of the routing of the M&NP pipeline, if the government decided it was in the public interest to have natural gas in the Fredericton region, the better approach might have been to directly subsidize the building of the infrastructure rather than try to have these costs passed on which has contributed to the current challenges with the natural gas distribution model.

Competition & the role of the private sector

The strong public interest does not eliminate private sector involvement or competitive markets where there are the proper conditions in place. In fact, the private sector could be an important facilitator of the public interest by attracting investment, innovative techniques and cost effective management and operational models. The effective role of the private sector is established through a strong regulatory framework that reflects the public interest.

There may be potential to have more private ownership over electricity generation assets or the electricity transmission infrastructure. In January of this year, New Brunswick-based Fort Reliance created a new company with the objective of forming a regional electricity transmission system. The firm wants to improve the interties where power lines meet between New Brunswick, Quebec, Nova Scotia and Prince Edward Island, to reduce bottlenecks and support additional electricity exports to the United States.

The private sector and government can work hand in hand to develop the energy sector as long as the public interest is maintained as the top priority.

Direct government investment in energy systems

In addition to private sector investment, there is still a need for government to invest in energy generation or distribution where there is a public interest. Governments across North America are heavily involved in direct investment in energy generation, distribution and transmission infrastructure. According to Statistics Canada, from 1998 to 2007 there was \$100 billion worth of in public sector capital investment in the utilities sector - the bulk of which is public energy infrastructure.

In New Brunswick, governments spend millions of taxpayer dollars each year on water, telecommunications and other kinds of public infrastructure. There may be a need for similar investment in public natural gas distribution infrastructure. There are numerous examples across North America of governments investing in natural gas distribution infrastructure- particularly in areas where a new main pipe or lateral has been laid and communities are building the business case to attract natural gas distribution infrastructure.

For example, in the fall of 2009, the community of Tomslake in the Peace River region of British Columbia received a significant investment by the Peace River Regional District to build 140 kilometers of natural gas distribution mains and related service lines and facilities. In upstate New York, the state government recently allocated \$2.5 million to construct a natural gas distribution pipeline from St. Lawrence County to Franklin County. Up to 4,000 New Yorkers could benefit from the construction of the pipeline.

In a pre-budget submission to the federal government in the fall of 2009, the Canadian Gas Association asked the federal government to "extend and expand funding from the Clean Energy Fund to include integration of energy systems at the community level, including the enabling natural gas distribution system and downstream energy end use".

In mature natural gas markets, there may be not be a need for government to invest in natural gas distribution infrastructure but in many immature and developing markets across North America, public funds have been used to accelerate the rollout of the natural gas distribution system.

Impact of energy exports

New Brunswick is already a significant exporter of energy to the United States. The significant energy infrastructure investment made in the region over the past 20 years was predicated on the large market in the U.S. to be viable. This applies to the Sable natural gas project, the M&NP pipeline, Canaport LNG, the Irving Oil refinery, and even some of NB Power's generation investments.

However, once these investments have been made, the province and the region should have the ability to leverage these investments to local benefit in our own small internal market. For example, having Canaport LNG located in the province should benefit the natural gas market here.

Regional Cooperation: Working toward regional energy interdependence

The three Maritime Provinces all have a substantially different electricity generation capacity, distribution system and customer mix. There are also considerable differences in age of generation infrastructure, utility debt load and even customer pricing levels. As a result, it is difficult to develop comprehensive policy prescriptions that would be relevant in all three provinces. But there is clear evidence that greater cooperation between the three provinces on a number of initiatives could generate mutually-beneficial outcomes.

There are at least three different areas where greater collaboration would lead to benefits for the whole region:

- **Transmission infrastructure and systems**

There is general agreement that a Maritimes wide system operator would be beneficial to the region's electricity system. The region needs better interconnection infrastructure and more coordination in order to be more efficient within the region and to better facilitate electricity exports into New England.

- **Regional load balancing**

There is a pilot project underway among the three provinces to look at effective load balancing of wind-generated electricity. There could be opportunity to take a broader view of regional load balancing to take advantage of generation assets around the region.

- **Renewable energy development**

There would also be benefit to having a more regional view towards renewable energy. Optimizing wind energy, cooperating on load balancing renewable and traditional electricity generation and on transmission of renewable energy will be critical to all provinces maximizing the economic and environmental benefits.

The Maritime Provinces is a small and also relatively dispersed market. There are fewer than 1.8 million people living in the region and 45% of them are living in rural areas. The best solution for the energy consumer would be a single, fully interdependent electricity system and the objective should be to work towards this interdependence.

Finding a Win-Win Approach to Energy Interdependency

The regional energy sector in the Maritime Provinces is small scale in the North American context and yet there is a complex and disparate mix of system operators, regulators, tariff structures and public utilities leading to inefficiencies and stifling potential investment into the region. By being more efficient and coordinated in our efforts, we will realize benefits for the whole region.

Despite the political need to be seen to be cooperating, there is not much history of successful public policy coordination and collaboration within Atlantic Canada. There have been many reports over the past 20 years³ concluding that the region would benefit from far more coordination across a wide spectrum of public policy issues including health care, energy, education, taxation and immigration but with limited effect.

The fundamental problem historically has been that perceived 'success' in one province is viewed negatively in other provinces within Atlantic Canada. Because the region has faced economic under-performance for generations, politicians and bureaucrats have a heightened sensitivity to the 'beggar thy neighbour' effect. This economic expression describes policy that seeks benefits for one jurisdiction at the expense of others.

Decisions to act more cooperatively are always run through the filter of self-interest. In other words, cooperation on a regional issue that was demonstrably better for the region as a whole, would be blocked at the provincial level if one province was perceived to get a slightly greater benefit than another.

A good case in point is the December 2009 report entitled *Transmission and System: Operator Options for Nova Scotia* prepared for the Nova Scotia Department of Energy. This paper supports the notion of a regional system operator but is clear that it must be developed in Nova Scotia's best interest. From the report:

"While [combining system operators] has clearly been the objective of [the New Brunswick System Operator] and New Brunswick has adopted a strategic goal of becoming an energy hub, provincial representatives from New Brunswick have in effect defended the existing system of pancaked transmission tariffs, which undermines the value of [combining system operators]. The proposed merger raises further questions about the future of the energy hub objective and therefore the feasibility for [combining system operators] from Nova Scotia's perspective."

It concludes that:

"Nova Scotia also needs to play an active role in the discussions regarding new large-scale generation and transmission developments in the Maritime region, making sure that the interests of Nova Scotians are served in terms of pricing, reliability, security of supply and environmental sustainability."

Another example involved New Brunswick Energy Minister Jack Keir telling Prince Edward Island it would have to find another way to wield its wind energy to the New England market because New Brunswick's power lines were maxed out.

An effective win-win approach would see a dovetailing of the 'interests' of Nova Scotians with the interests of New Brunswickers and Prince Edward Islanders. As long as the overriding policy environment is pitting the interests of one province against the other, serious progress will be limited - to the detriment of the entire region.

On the bright side, the new *Customer Load Control for Wind Integration Project*⁴ is a good, if small scale, example of regional cooperation. NB Power, Nova Scotia Power and Maritime Electric Co. are all partnering on a project meant to better integrate wind energy effectively into the regional power grid.

³ Talk of better cooperation (up to full Maritime Union) have been raised off and on since Confederation.

⁴ Discussed in greater detail in another paper in this series.

The Time for Action is Now

It is clear the time is now for a bold new direction in energy policy in New Brunswick. The current path will lead to serious problems for the province. New Brunswick is a major exporter of energy to the United States. Natural gas is being exported from offshore Nova Scotia, from local sources and Canaport LNG. Refined oil products fuel a large percentage of the automobiles in the New England market. Electricity from Hydro-Quebec is passing through New Brunswick's transmission system into the United States.

But what good is it to be a major exporter of energy if local energy markets are dysfunctional and costly? Quebec is the largest exporter of electricity into the U.S. market. At the same time, the province has very low electricity rates for both residents and industrial users. Manitoba is also a large scale electricity exporter but also has very low rates at home. Natural gas costs for industrial use in Alberta are among the lowest in the world.

The following list shows a few of the main themes required to address current flaws in energy policy in New Brunswick. They are developed in greater detail in this series of papers.

- ⇒ **Lead the effort to create a common Maritimes System Operator and foster regional energy interdependence**
The Maritime Provinces will be better able to achieve its common objectives including rate stability, energy exports and environmental targets through increased cooperation where there are demonstrable benefits for each individual province (and the region as a whole). A common system operator would be a good first step.
- ⇒ **Take steps now to improve the utilization of natural gas in New Brunswick**
Revisit the current system in its entirety and look for changes that would accelerate usage and strengthen the business model. This would involve entering into negotiations between all the stakeholders with all elements on the table and look to develop a new model that could lead to more competitive industrial rates and encourage much faster adoption of natural gas among residential and commercial clients. It would also diversify the energy mix in New Brunswick and further encourage migration from electric baseboard heating. There could be an opportunity to reinvest local natural gas royalties into strengthening the natural gas distribution system.
- ⇒ **Make the changes required to ensure industrial electricity rates are competitive**
NB Power cannot afford to lose much more industrial load. It would shift costs onto other industrial users (as well as residential and general business users) leading to rising costs and forcing more firms to exit NB Power leading to higher rates and another potential death spiral. There are a number of ways that government can work with NB Power to address the industrial rate issue including taking stranded debt off NB Power's books, changing the cost of service rate setting methodology and/or establishing specific incentive rates.
- ⇒ **Make substantial investment into Efficiency NB**
Aggressive energy conservation and demand side management will strengthen the energy system in New Brunswick. There is direct benefit to NB Power from reducing winter peak demand for electricity and there is a direct, ongoing cost benefit to residents and businesses from being smarter with their energy choices and usage. There is also significant economic benefit to the province from making homes and businesses more energy efficient and from converting to natural gas or other more energy efficient systems. District heating systems, leveraging large industrial facilities, could be an important way to diversify and strengthen energy systems in specific markets. Efficiency NB should have bold new targets to achieve broader energy efficiency and conservation objectives.

⇒ **Continue to focus on building an energy cluster in the province and the region**

Efforts to attract energy investments such as nuclear and wind energy should continue and also efforts to build an energy corridor through Maine into the U.S. market. This should not be done, however, to the detriment of the local energy situation. An overriding objective should be to build the energy cluster to the direct benefit of not only New Brunswick but also the region.

⇒ **Engage the public**

It's time to more fully engage the public on the subject of energy and its role in our communities and in our economic development. The recent proposed sale of NB Power assets to Hydro-Quebec dramatically raised the public awareness of electricity and all of the various issues such as high industrial rates, the aging infrastructure, NB Power's debt load, etc. Given this heightened awareness, this is an excellent time to talk directly to the public about the energy-related challenges facing New Brunswick and implications of not addressing them.