Development of a National East-West Power Grid Plan

2010

In 2003, central Canada and the northeastern United States were badly hit by a blackout caused by the disruption in the U.S electricity system. Seven years later; there have been no substantial steps taken by Canada in order to alleviate the severity of a 2003 blackout in the future. Current statistics show that a 2003 blackout in the future is probably inevitable and will occur every 25 years. This incident does not only outline the vulnerability of our country's supply of electricity as a result of power failures south of the border, but it also serves as a reminder of the need to upgrade Canada's electricity infrastructure.

Power supply adequacy and reliability are increasingly important in Canada, with growing electricity demand, increasing prices of fossil fuel, and aging power system infrastructure. Yet, a substantial amount of Canada's power potential is stranded because there is no transmission grid to tap that power and ship it to market.

Canada has a strong stock of energy resources, including sources of clean power in various forms. Most of the more easily accessible oil, natural gas and hydro resources have been developed, meaning that much of the country's future energy potential is located in less accessible areas, such as the north and offshore. Optimizing the development of these to ensure a diverse supply mix should be a priority in Canada's energy plans.

In order to do this, Canada must take action to enhance its energy-related infrastructure. The Government of Canada is in a position to take steps to facilitate the creation and interconnection of critical electricity infrastructure, while producing a made-in-Canada response to greenhouse gases (GHG) emissions that assists in building a greener economy and maintains competitive electricity prices for average Canadians.

The Demand for Clean, Reliable Energy

The availability of reliable, clean, predictably priced electricity is rising in prominence as a veritable cornerstone for a stable economy and a key factor in the competitiveness of many industries in Canada.

In addition to lowering GHG and air emissions and enhancing the national economic landscape, cleaner energy, such as hydro, can reduce dependency on fossil fuel based generation, resulting in Canadians experiencing fewer increases in electricity prices as a direct impact of fuel supply shortages.

The Need for Interprovincial Cooperation in Providing Generation and Transmission Infrastructure

In terms of hydroelectric power, approximately 95% of the installed hydro capacity in Canada is situated in five provinces spanning the country from east to west: Newfoundland and Labrador, Quebec, Ontario, Manitoba and British Columbia. Combined, these provinces produce an estimated 97% of the hydroelectricity generated in Canada. Historically, north-south trade with the US has dominated, particularly for Quebec, British Columbia and Manitoba which export and import in order to optimize production to meet domestic demand and maximize profits from external sales through use of valuable reservoirs and transmission infrastructure. In its June 2005 Outlook for Electricity Markets, the National Energy Board (NEB) recognized that the conditions are ripening for investment in an east-west grid on a national scale.

Furthermore, there is a growing will to expand power networks across provincial jurisdictions. For example, the Province of Ontario has taken action in order to expand its power networks. After its announcements on the electrical transmission interconnect with Manitoba and Quebec, Ontario now reaps the benefits of clean hydroelectric power as well as assistance in its efforts to phase-out coal-fired generating stations thereby reducing carbon dioxide emissions. The benefits of an east-west power grid will also be felt by provinces like New Brunswick that have suffered tremendously as a result of the challenges they face with Point Lepreau and Mactaquac dam. The people within these areas should not be burdened with the costs of a rebuild or poor power system; rather they should be given an opportunity to reap from the benefits of an east-west power grid.

Clearly, it is to the benefit of all of Canada to put in place modern power-related infrastructure as valuable assets in the country's energy future. Better integration among all provinces and territories of power projects within a national electricity network would result in synergies and advantages – technical, economic, and environmental. Interprovincial trade of power will allow for:

- increased access to large- and small- scale renewable electricity sources across the country, reducing emissions and reliance on fuel generation;
- diversification of supply, by generation type and by geographic site;
- reduced capacity requirements resulting from increased regional coordination; planning; and
- increased security and reliability

Conclusion

The ongoing discussions between provinces are generating momentum toward the creation of a national east-west power grid.

Facilitating the development of an east-west grid would:

- unlock new clean and renewable power sources, and maximize the reach of Canada's energy supply by linking areas in demand with sources of surplus power across the country, including those in more remote, northern locations;
- increase reliability and security of power supply;
- enhance the country's electricity infrastructure and generate significant capital investment;
- foster exchanges of energy and enhance overall security of supply for future generations of Canadians;
- facilitate interprovincial trade and transmission of power; and
- contribute to nation-building.

Currently, access to electricity markets is a key barrier to developing clean, renewable resources in Canada. This country has more barriers to energy trade than does the United States. While some physical interconnections do exist, an open, transparent, effective interprovincial electricity market and policy has not yet emerged in Canada.

The development of robust interprovincial trade should be addressed nationally to meet energy supply needs in all of Canada, and allow the country to maintain its competitive advantage in North America and the world. The absence of an effective national regulatory market in Canada encourages a situation whereby its most environmentally-friendly, stable-cost electricity will continue to seek the path of least resistance – into a receptive U.S. market.

It is worth noting that Canada's interest in facilitating more east-west transmission would not be pursued with the aim of supplanting power transfer arrangements with the United States. Simply, expanding interprovincial connectivity is in the national interest in that it would contribute toward optimizing Canada's own energy resource potential and enhancing diversity and security of supply. Furthermore, development of transmission infrastructure and capability within Canada would improve the prospects of cross-border electricity trade with the U.S. as more generation and transmission capacity is created.

Recommendations

That the federal government:

1. Develop a clear, forward-looking national policy on Canada’s electricity energy infrastructure needs in as timely a manner as possible;
2. Work with the provinces, territories, private enterprise and First Nations to begin investing in the construction of a national east-west power grid where it is economically justified;
3. Work with the provinces, territories, private enterprise and First Nations to put in place the necessary regulatory and funding frameworks to facilitate the creation of an east-west grid; and
4. Remove barriers to and actively encourage and facilitate inter-provincial/territorial trade and transmission of power.