Canada-US Sub-National Electricity Relations: Interests, Institutions and Interactions

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Author's note: This paper is very much in draft form. Following the editors' suggestion, the target length of the paper was set at 6,000 words ('all in'). It is presently 6,374 words (not including this page). The author looks forward to discussion at the panel in order to explore what shape the next iteration of the paper should take.

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1) Introduction

Energy issues have risen up North American agendas – in a variety of local, regional and international ways. Changes in both supply side realities (in particular, the increased use of hydraulic fracking techniques to augment natural gas and other fossil fuel production) and demand side priorities (in particular, the continued urgency of climate change, not least of all as catalyzed by the recent reports of the Intergovernmental Panel on Climate Change) and possibilities (here, I am referring to the increased use of information and communications technologies to make the demand side more responsive and potentially 'smarter') have given the 'energy file' a greater sense of urgency and significance across the continent.

The purpose of this paper is to investigate a part of this agenda that perhaps does not get as much attention as issues of fossil fuel extraction and movement – namely, electricity transmission. More specifically, it investigates relationships between sub-national parts of Canada and the United States on electricity issues. It focuses upon two different parts of this transborder frontier: Québec /New England-New York; and Manitoba/mid-west. The investigation unfolds in five parts. Following this brief introduction, the context is set by reviewing electricity issues in Canada, in the United States, and between the two countries. The calls for greater interconnections between the two countries – and the barriers to the same – are then reviewed. Attention in the next section turns to three projects in particular: one linking Manitoba and Minnesota, and two linking Quebec and its southern neighbours. The issues raised by the experience to date on these issues lead to a discussion regarding the agenda more broadly, and how it could be advanced. Finally, a brief conclusion is at the end of the paper.

2) Setting the Context: Canada-US Electricity Relations

In this section, I aim to set the context for a more-focused investigation of the politics of transborder electricity cooperation by reviewing, briefly, the state of electricity systems in Canada and the United States, the extent to which they are currently connected, and the broader agenda associated with Canada-US electricity relations.

a) Electricity in Canada and the United States

Electricity systems in Canada and the United States are complex systems that operate at various scales. For the purposes of this brief overview, key supply, demand and governance characteristics of each country are presented.

Canada is the world's seventh largest generator of electricity, with approximately 63% of that country's electricity production coming from its vast hydropower resources. (Indeed, it is the world's third largest generator of hydropower.) Nuclear and fossil resources provide additional supply, with their shares each being 15% (2012 data from CEA, 2014). While these are the country's total supply figures, it is also important to recognize that – for reasons briefly identified below – there are stark variations across the provinces. A number are hydro-dominated (Quebec, Manitoba, Newfoundland and Labrador and British Columbia each have at least 95% of their supply portfolio sourced from hydropower), others are largely fossil-based (Alberta, Saskatchewan and Nova Scotia), while Ontario is a relatively-unique 'hybrid', with nuclear being the largest contributor, but with other 'fuels' (particularly hydropower and fossil fuels) also making critical contributions (Statistics Canada, 2014).

Turning to demand, one can similarly investigate national and provincial figures – and explore the differences across them. Country-wide, industrial players make the greatest demand upon the power sector (40%), followed by residential and commercial players (29% and 26%, respectively) (2011 data from CEA, 2014). Some provinces, however, have relatively inexpensive electricity, and they have used that not only to attract energy-intensive industries, but also to encourage multiple end-uses for electricity; accordingly, both their share of industrial demand is relatively high and their per capita consumption figure is quite high as well. Quebec is a prime example: the industrial share is 43%, which is relatively high, but per capita residential consumption is also quite high at 7,784 kWh/person (2012 data from Statistics Canada, 2014). Alternatively, other provinces make more extensive use of natural gas, particularly for heating, and their share of residential demand is thus relatively low and their per capita consumption figure is also quite low. Alberta is a prime example: their share of residential is 17% and their per capita consumption is quite low too, at 2,702 kWh/person (2012 data from Statistics Canada, 2014).

Finally, Canada's energy systems (and associated energy policies) are dominated by provincial/territorial resources and governance structures. The terms of the Canadian Constitution

provide provinces with lead authority regarding 'development, conservation and management of sites and facilities in the province for the generation and production of electrical energy' (Section 92A(1)), and they have historically played the lead role in determining electricity outcomes; they continue to do so. Of course, extra-provincial (and extra-territorial) entities exert influence (nationally and internationally), but the province/territory serves as the locus of decision-making.

Turning to the United States, one can also review the supply, demand and governance characteristics in turn – a country that is the world's second-largest generator and user of electricity. In terms of supply, in 2013, 39% of the country's electricity supply was sourced from coal; another fossil fuel – namely, natural gas – contributed another 27%. Other fuels that made at least a '5% contribution' were nuclear power (at 19%) and hydropower (7%) (EIA, 2014a). Again, there are important variations spatially across the country – coal is particularly important in places like the south-east and the mid-West, natural gas plays a leading role in states such as California and Texas (EIA, 2014b).

On the demand side, the shares – in 2012 – were as follows: residential, 37%; commercial, 36%; and industrial 27% (EIA, 2014c). Again, there are some jurisdictions in which prices are relatively low, so industrial activity has been attracted – southern states are the examples that immediately jump out. ('East South Centre' and 'West South Central' are the two US regions with the lowest industrial electricity prices – under six cents per kilowatt-hour – as compared with 11.23 cents in New England (EIA, 2014c).)

Finally, while state regulation is important in the United States (in the form of public utility commissions), and the federal government also has a regulatory role, particularly when international activities are involved, it is also important to note the role of ISO/RTOs in the United States. These are the independent system operators and the regional transmission organisations. With reliability councils, they exercise important influence in the development of the United States electricity grids.

b) Canada-US Electricity Exchanges to Date

Canada and the United States have had electricity interchanges for more than a century. Indeed, this transnational electricity interconnection was the first of its kind in the world (Bahar and Sauvage, 2013, p. 44). During the past one hundred years, they have grown in number and in capacity, and – currently – there are more than three dozen interconnections. Figure 1, below, notes the major interconnections

between the two countries, and Figure 2 provides data regarding how much electricity was exchanged in 2012.

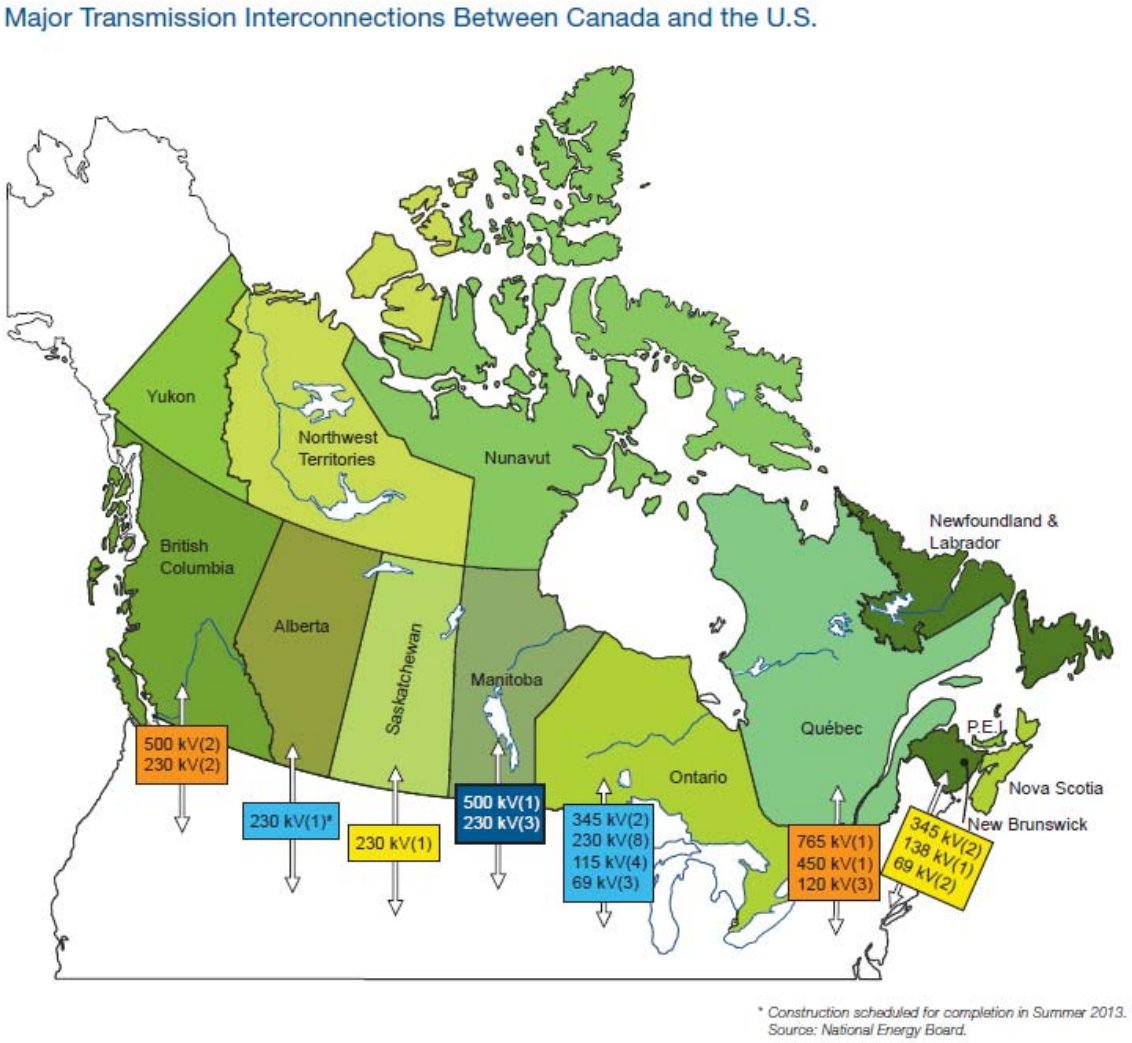

Figure 1. Source: CEA, 2013, p. 6.

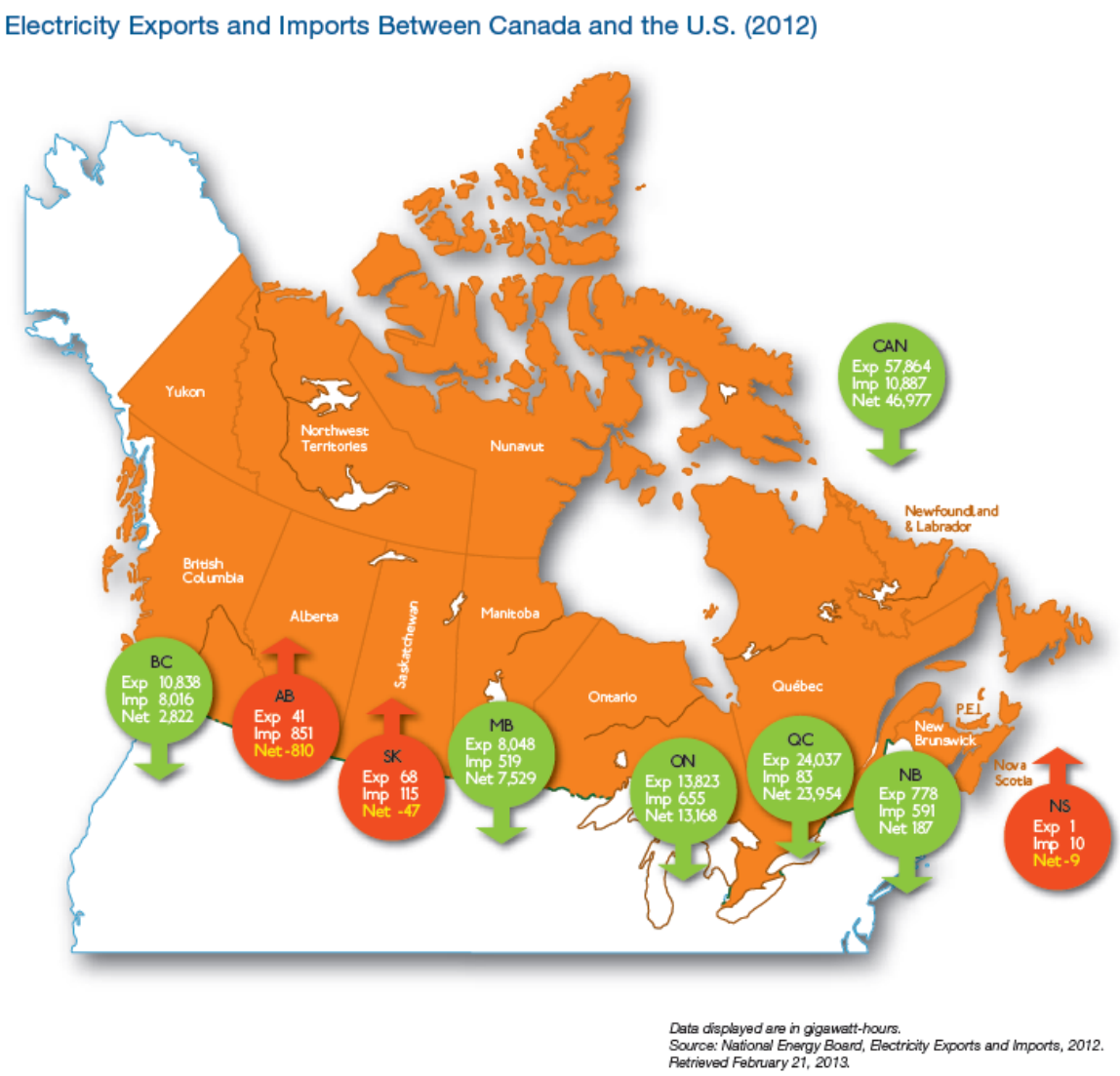

Figure 2. Source: CEA, 2013, p. 7.

Data in Figure 2 are complemented with the following information from 2013. In that year, Canada's National Energy Board reports that 62,647 GWh of electricity was exported by Canada to the United States (at a value of C$2.477 billion) and 10,677 GWh was imported (at a value of C$368 million). The largest exchanges were as follows:

Quebec to Vermont	11,574 GWh
Quebec to New York	11,162 GWh
Manitoba to Minnesota/North Dakota	9,843 GWh

Powerex (US trading company) to British Columbia	8,001 GWh
Ontario to New York	7,444 GWh
Ontario to Michigan	6,005 GWh
British Columbia to California	4,489 GWh
Quebec to Maine	2,845 GWh
New Brunswick to Maine	2,000 GWh

Source: National Energy Board (2014)

c) Calls for Greater Canada-US Electricity Exchanges

Currently, the discussion about greater interconnections between the two countries is receiving attention. (As an aside, note, as well, that attention to intra-Canada exchanges of electricity are also getting much attention: this is in a sense, generically (for example, Nathwani, 2013; and Pineau, 2012), at a 'smaller scale' (for instance, Quebec-Ontario, see Pineau and Winfield, 2014), and at a 'larger scale' (for instance, CAE, 2009). This is within a broader landscape that is paying a level of attention to a 'Canadian energy strategy' of the likes we have not seen for at least three decades. Similar sentiments – calling for a 're-think' of national energy strategy – are occurring within the United States.) This attention is emerging both from Canada and the United States.

On the Canadian side of the border, examples of such calls for greater Canada-United States electricity cooperation include McLaughlin (2010), Goodman (2010) (who calls for a 'Canada-US Energy Trade Council' to get a more formal mechanism to discuss North American energy security), the Canadian Electricity Association (2013) and Burn (2014) (who advocates for a 'North American Framework on Energy and the Environment'). While on the US side, voices include Biette and Finn (2013, 3), who argue that, 'Canada and the United States should work together to upgrade and replace our aging transmission lines while also modifying our grid to take advantage of the new ways in which we produce our electricity'. Ek and Fergusson (2014, 52), moreover, note some of the potential benefits for the United States: 'Canadian sources of renewable power may have the potential to reduce the need to build new, long-distance transmission projects (which can take up to a decade or more to permit and construct) in the United States. For example, imports of hydropower from Québec into New England and New York, using new but relatively short power lines, have been suggested by the transmission system authorities in those regions as an alternative to building power lines to Midwestern wind farms.' And former US energy secretary Steven Chu argues that the two countries 'should work together on

hydroelectric and wind energy and boost transmission infrastructure between the two countries' (noted in Canadian Business, 2013).

Indeed, turning to the arguments that are advanced more generally – irrespective of which side of the border from which they emerge – economics is often at the heart of the assertions. Baker et al (2011, 19), for instance, maintain that: 'The market is of significant importance to both countries, with many economic benefits achieved due to this trade market.' Expliciting noting price differentials in electricity across parts of the Canada-US border, EPIC (2012, 129) observes that 'this differential suggests there is significant potential economic benefit from increased electricity trade between provinces – in addition to the opportunity to increase exports to the American market'. Antweiler (2014, 1) extends that analysis, concluding that reciprocal 'load smoothing provides and economically significant rationale for integrating North America's fragmented interconnections into a continental "supergrid"'.

Security is also often talked about – that is, how greater interconnections could serve to enhance reliability, affordability, defensibility, and whatever other characteristics the particular proponent associates with the term, 'security'. For the United States, Canada is seen as a 'valued and trusted neighbor to the north' (Jacobson in Blanchard and Jacobson, 2011-12, 237), and thus one with whom it is (usually) acceptable to share an energy future. Terry (2012) also talks about 'security reliability' in a continental sense, noting how, though greater interconnections can give rise to increased exposure (to terrorists, etc.), it is nevertheless still the case that 'North American energy security will be better served by a policy of energy interdependence' (Terry, 2012, 51).

There could well also be environmental gains to be made. Amor et al (2011), for instance, do a detailed investigation of how increased electricity exchanges among those states and provinces in the north-eastern part of the continent (with a particular emphasis upon the potential offered by increased hydropower exports from Québec) reduce net greenhouse gas emissions. Using real data from the 2006 to 2008 period, they conclude that the net result was 20.6 Mt of avoided emissions over this three year period; this corresponds to more than 8% of Québec's annual emissions. Adding life-cycle emissions to the calculation increases, they argue, reductions by 35% to 27.9Mt.

There is also the prospect of liberating greater use of renewables. Bahar and Sauvage (2013, 7) argue that: 'Cross-border trade in electricity can thus enable countries to gain access to more flexible power plants (both conventional and renewable such as hydropower, geothermal, and biomass) located in a

wider geographical area, which can then reduce the costs of balancing power stemming from increasing [renewable energy] penetration. To the extent that it does help dampen variability, increased trade could therefore allow greater penetration of intermittent renewable-energy power plants.'

Less specifically, increased interactions on electricity issues across the border could support a range of other activities which would, in turn, generate their own benefits. As Globerman (2012) argues, for instance, more explicit efforts at bilateral cooperation in the area of scientific and technological innovation could help both countries substantially reduce 'the use of carbon-based fuels in favor of renewable and greener sources of energy' (Globerman, 2012, 475). It is important to think about how greater interconnections in one area could spawn innovation and increased productivity more broadly.

d) Barriers to Greater Canada-US Electricity Exchanges

But the literature on international energy governance generally, and Canada-US electricity relations in particular, highlight the fact that it is not always 'easy' to pursue international cooperative arrangement on energy issues. To set the context, Hughes and Lipscy (2013, 458) highlight the basic building blocks in 'analyzing the politics of energy' – namely, 'the interests of policy makers, business, and other socioeconomic actors; the role of domestic institutions in aggregating interests; and the goals and effectiveness of cooperation'. They also argue that, across various fuel types, there are important differences. With energy being such a crucial energy of societal (including economic) well-being, countries usually venture into international relations on energy, only when 'required', recognizing the inherent risks.

Turning to the Canada-US relationship more specifically, Hale (2013) is one who sets the broader context. He notes not only that Canada-US relations are characterized by a multitude of connections (not only intergovernmental, but transnational more generally), but that they are also nested within broader international policy streams. Looking at Canada-US energy relations more specifically, Hale (2012) notes that there are three dimensions to these transborder linkages: political-strategic dimensions, trade-commercial dimensions and psychological-cultural dimensions. Moreover, there are many different actors at work – ' … extensive (if asymmetrical) and overlapping jurisdictions of state and provincial governments on energy and environmental issues add yet another dimension, reflected in both the institutionalization of cross-border regional networks and the efforts of provincial governments

to project their interests and influence in the United States' (Hale, 2012, 305). In sum, it makes for a complex policy (and political) environment.

Gattinger (2012) is another who has focused upon the Canada-US relationship in terms of energy. She draws attention to four key dimensions of energy policy-making and reflects upon them in light of Canadian and US governments' efforts to advance policy both domestically and bilaterally. These are: markets, environment, security and social acceptability. To meet joint needs, attention must be paid to all of these.

Notwithstanding these kinds of challenges, there have been – as noted earlier – cooperative arrangements on electricity for more than a century. Moreover, formal institutional roots extend back decades. 'A non-governmental organization known as the North American Electrical Reliability Council (NERC) was originally formed in 1968 to manage the overlapping electrical grids in North America. The US National Energy Policy Act of 2005 called for the creation of a self-regulating Electric Reliability Organization, for which the NERC was ideally suited. Consequently, the Council was renamed the North American Electrical Reliability Corporation in 2006. The corporation has public and private representatives from the United States, Canada, and Mexico that consider continental issues.' (Terry, 2012, 12) Ek and Fergusson (2014) provide additional background on NERC.

Free-trade agreements during the past 30 years have also served as catalysts for greater transborder cooperation on electricity issues. 'The interdependencies between the United States and Canadian energy industries have developed because of economic forces and policy decisions. Integration was certainly fostered by the domestic deregulation of the American and Canadian energy industries. The United States-Canada free trade agreement, and its successor NAFTA, have also had some effect upon the integration of the energy industries. These agreements removed both tariff and nontariff barriers to trade in energy products.' (McKinney, 2008, 8)

NAFTA spurred other trilateral initiatives, for instance the North American Energy Working Group within the Security and Prosperity Partnership. Additionally, there have been bilateral efforts. The Clean Energy Dialogue, between Canada and the United States, has been active since 2009, and has had bilateral electricity relations as part of its broader agenda.

3) Three Current Projects

Against this background, I take a deeper dive into the issue by looking at three projects in particular. By focusing upon these three projects, that is not to suggest that there are no others that are worthy of attention – there certainly are. Indeed, some have been 'just completed', and thus, particularly those that take innovative approaches to infrastructure, may offer important learnings going forward -- the recently-completed Montana-Alberta Tie Line (operational as of 2013), a privately-financed transmission line which is also Alberta's first electricity connection with the United States (see, for example, Doucet et al, 2013), is a case in point. Others are those that are 'on someone's drawing board'; these projects may arise at some point, but at this time their future is unsure. One such example would be a proposal to lay a transmission line on the floor of Lake Erie to link Ontario and Pennsylvania, thus connecting Ontario's IESO system and this part of the United States's PJM system. One particular proposal is for a 1,000 MW line valued at $1 billion (Goldberg, 2013).

In this article, I focus upon three that occupy a middle ground between these aforementioned two 'states' – namely, those in which proponents have plans, opponents have concerns, regulators and other 'approvers' are reviewing, and the politics is most active. I now turn to each of the three in turn.

a) Manitoba-Minnesota

A proposed electricity linkage between Manitoba and Minnesota consists of projects on both sides of the Canada-US border. North of it, the so-called Manitoba-Minnesota Transmission Project would be 150km of a new 500 kV AC transmission line, running from Dorsey Converter Station (located near Rosser, northwest of Winnipeg), and running through southeastern Manitoba; upgrades to substations at Dorsey, Riel, and Glenboro would also occur. This project is being led by Manitoba Hydro. (For a more general reflection on Manitoba's resources, see, for instance, Molinski et al, 2012.)

South of it, the so-called Great Northern Transmission Line involves a 400km line, running from the Minnesota-Manitoba border to the Blackberry 500 kV Substation near Grand Rapids, Minnesota; upgrades to the Blackberry substation would occur as well. The project is being led by Minnesota Power.

The interconnection would be part of the MidWest Independent System Operator (MISO) system, and would help to stabilize the grid. It would also – most tangibly – be the facilitator of a power purchase

agreement that was reached between Manitoba Hydro and Minnesota Power in 2012. In that, Minnesota Power agreed to purchase 250 MW of electricity from Manitoba Hydro – for a period of 15 years beginning in 2020.

There are motivations for this project on both sides of the border. For Manitoba, it is an opportunity to exploit its hydropower resources for export, thus potentially keeping its provincial rates lower than would otherwise be the case. For Minnesota Power, it is not only a firm supply of electricity in the face of expected rising demand, but it is also a decarbonizing strategy. Minnesota Power's current fleet of power stations is dominated by thermal power (1,505MW of 1,939MW, or approximately 78%), with most of that (1,405 MW) being coal-powered. The new supply not only reduces their average carbon intensity, but the agreement also allows for the potential to 'store' wind during high production periods or low demand periods – Manitoba Hydro agrees to take wind power and gear back its hydropower production during such times.

While the two companies that are the respective proponents are in favour of the project, there is much opposition to it as well, at both local and regional scales. Locally, on both sides of the border there are those who oppose the particular route chosen (or being considered) – see, for instance, Ladhani (2014) and Myers (2014). While regionally, there are those who wonder whether a project of this scale is really needed, and are fearful of the 'lock-in' that it will create, particularly for Manitoba's electricity (and economic) future (Pickford, 2014).

b) Quebec-Vermont/New York

The second of the three projects I investigate is considered, by some, to be made up of two distinct entities. Because, however, these two projects are related by the fact that they share a common core or spine (more below), as well as a common proponent, I investigate them together here.

The project's core or spine is a transmission line from the Canadian province of Quebec, down to and across the length of Lake Champlain (which provides some of the border between the states of Vermont and New York). From there, it potentially splits into two, with a southerly part (often referred to as the Champlain Hudson Power Express or the CHPE) travelling down to New York City and a westerly part (often referred to as the New England Clean Power Link or the CPL) making its way to a substation in Ludlow, Vermont to deliver power to the New England grid. I briefly consider each of these in turn.

The CHPE is a $2.2 billion project that would deliver 1,000 MW of power to the New York City area. Its developer – namely, Transmission Developers Inc. (backed by the Blackstone Group) – wants to see it in operation by 2017 or 2018. It has received state level approval, with the New York Public Service Commission finding that the line would help meet the electricity demands of New York City, that ratepayers would not be burdened with the cost of construction of the line, and that the environmental impacts of the project would be 'relatively modest'. Approvals now must be secured from the federal government (Department of Energy) and the Army Corps of Engineers. (See, generally, Transmission Developers Inc. (nd).)

Proponents tout its many potential benefits. It would provide power to a congested area – one that has a heavy load and it located at the 'end of the grid' – and bring with that power, many economic benefits (London Economics International, 2012). Moreover, much of the route is being submerged underwater (and, elsewhere, buried underground), which addresses some of the visual aesthetic challenges that are often raised by local landowners and others. And it also has some local supporters who favour the displacement of fossil fuels within their communities (or at least see this as a means to stop or to delay the construction of additional such facilities) (e.g., Trapasso, 2014). Finally, some believe that, in contrast with the approach of other developers, the proponent has generally had an open and engaged relationship with affected communities.

But there are critics. Initially, there were concerns that ratepayers would be stuck with the cost of the project, and would not necessarily benefit – that catalyzed the New York utility, ConEd, to oppose the project during its early stages. While this has been mitigated to a significant extent, there are still those along the route who do not appreciate the fact that the transmission line is travelling through their communities, but that they are not able to access it for power (Harris, 2013).

In addition to the CHPE, the New England Clean Power Link (CPL) is also a 1,000 MW transmission line, running – in addition to its common spine with the CHPE – 80 kilometres across the southern part of Vermont. It is a $1.2 billion project, and it is also being developed by the same company as the CHPE – namely, Transmission Developers Inc. Similar kinds of approval must be secured: the state level public service board (in this case, the Vermont Public Service Board), a Presidential Permit and successful review by the U.S. Army Corps of Engineers. This project is at a somewhat earlier stage, with the process being initiated by the May 2014 filing (by TDI New England) for a Presidential Permit (Brooks, 2014).

c) Quebec-New Hampshire

The Northern Pass Transmission Project consists of a 300 km transmission line that would travel from the Quebec-New Hampshire border to Sandy Pond, New Hampshire. It would be rated at 1,200 MW.[1]

Proponents point to a variety of benefits that would accrue from its construction and deployment. Economically, it would lessen New England's reliance upon natural gas for power generation; natural gas prices have been very volatile during the past 12 months, and their recent rise has contributed to the fact that New England has, as noted earlier, the most expensive electricity rates in the 48 states of the continental US.

Environmentally, New England's power system makes extensive use of fossil fuels -- indeed, with higher natural gas prices, there has been an increased use of oil, recently (as cheaper forms of power generation were sought). All of this means that the electricity system in New England is substantially based upon fossil fuels, and with that comes carbon dioxide emissions. Although hydropower does not necessarily have 'zero' greenhouse gas emissions, it is largely accepted that displacement of fossil fuel power by hydropower would, especially over the longer term, reduce net greenhouse gas emissions.

But opponents, especially those based in New Hampshire, have identified a number of problems with the proposed Northern Pass Transmission Project. Economically, it is argued that even if the modest economic benefits are forthcoming, many of them will accrue to the broader regional electricity market, particularly to those living and working in Massachusetts. Moreover, the employment benefits that some proponents often tout would be generated for New Hampshire could well be small.

There are also many concerns about the route of the transmission line – particularly its impact through northern New Hampshire's White Mountain National Forest. While a newer plan to bury part of the line has addressed some of the concerns, they nevertheless remain. Indeed, after the US Department of Energy released a scoping report on the project, more than 7,500 comments were received in response. Concerns included: that alternatives had not been sufficiently examined, that economic impacts would not be positive (in addition to the points above, there was broader concern about the impact on the tourism sector) and that there was no particular need for this project (as far as New Hampshire's energy needs were concerned).

[1] This section is based upon Adams et al (2014).

At present, the project has received approval from the New England Independent System Operator (ISO-NE) to connect to the regional grid. The US Department of Energy is currently completing an environmental impact statement; this should be available, in draft form, later in 2014.

4) Moving Forward

What should be done on this issue, moving forward? In this section, I lay out some suggestions as to possible next steps. There are four in total, and each subsequent one is, at least to some extent, dependent upon the successful completion of the previous one.

First, there should be 'better' assessment of these kinds of international transmission projects. To date, it has all too often been the fact that they have 'suffered' from incomplete and/or inadequate assessment approaches – in this way, of course, they are not necessarily that different from other assessment undertakings. More specifically, however, the following three areas should be given greater attention:

i) A broad swathe of factors should be taken into consideration – that is, a variety of environmental and social impacts. Any immediate inability to 'monetize' particular considerations should not dissuade analysts from investigating -- and from including – them in the analysis.

ii) There are multiple projects that are being considered, but – to date – each is usually investigated in isolation of any other. They (and they include not only transborder international proposals, but also larger 'within country' ones) should be examined collectively, so that more direct comparisons can be made, and so that the ways in which each potentially affects the other can be revealed.

iii) Attention – in (ii) – to a number of major transmission projects does not mean that smaller projects to achieve the same end goal (sustainable energy service provision) should be ignored. Indeed, greater consideration of how local approaches (conservation, distributed generation, etc.) could make contributions must be made. And any decision should not necessarily require an 'either-or' approach – that is, a potentially important direction could be a plan that recognized how larger-scale grid developments could co-exist with distributed energy projects. Indeed, this would provide important learning more broadly and could be potentially precedent-setting.

Second, should a particular project (or collection of projects, perhaps coupled with 'programmes') be determined to be worthwhile – after a rigorous and comprehensive assessment, as noted above – then careful attention should be paid to the resulting distribution of benefits and costs arising from the proposal chosen. Of course, a 'good' assessment process would have considered this in any case, but I highlight it on its own here, because there is the opportunity to draw upon analogous multi-actor issues in politics to learn lessons about ways in which strategies for distribution justice can be developed – these might include 'side-payments' or the like. In any case, efforts to advance transborder projects to date have revealed that attention to how these same projects create 'winners and losers' is critical to secure social acceptance.

Third, should not only be project (or suite of projects and/or programmes) be deemed positive, but should it also be the case that mechanisms for treating all players fairly be developed (as noted above), then attention should be paid to ways in which actors across scales can be involved. Studies into, for instance, multi-level governance and collaborative governance could be used to make suggestions as to how to create ways for meaningful participation. Sometimes individual jurisdictions (for instance, states and provinces) have their own procedures (which may or may not approach accepted 'gold standards' for the same), but when there is a proliferation of actors across territories (i.e., multiples states and/or provinces) and across scales (i.e., municipal, state/provincial, regional and national levels), new mechanisms may well be needed. Doing this well will increase the prospects for a successful project.

Finally, after these initial three steps have been completed (and they will not necessarily be nearly as 'linear' as suggested here), there should be reflection upon these same three steps – evaluation of their particular strengths and weaknesses – not only in order to improve these processes, but also so that other, analogous situations can benefit from this learning. This 'class' of opportunity is one that is widespread, worldwide.

Of course, suggestions of the kind above are not entirely new or original – Ek and Fergusson (2014, 53), for instance, note that many are calling for broader 'master plans' of transmission, 'on a wide geographic scope to facilitate renewable energy development and other purposes' (Ek and Fergusson, 2014, 53). Particular institutional fora – like the New England Governors and Eastern Canadian Premiers Conference (Adams et al, 2014) and NERC (Ek and Fergusson, 2014) – are also identified as being appropriate to play a leadership role in advancing such ideas. I do not mean to challenge that here; instead, I suggest that political scientists, policy analysts and others can contribute to efforts by

bringing their particular talents to bear in the areas identified above. Contributing to policy debates in this way would enrich discussions and potentially lead to more sustainable outcomes, achieved more quickly.

5) Summary and Conclusion

The purpose of this paper has been to investigate the prospects for increased electricity transmission connections between Canada and the United States. After the general debate was reviewed – which included an overview of the present state-of-play and the enablers and barriers currently in existence – the focus turned to three projects in particular along the Canada-United States border: a Manitoba-Minnesota connection, a Quebec-NewYork/Vermont one and a Quebec-New Hampshire one. For each, the factors encouraging and discouraging their respective development were highlighted. After this, suggestions as to how to move the agenda forward – focusing upon a more rigorous and holistic assessment, a recognition of the need to involve and to treat justly many actors across multiple scales, and the value of self-reflection across the entire process – were advanced. Such transborder projects show promise for advancing energy sustainability. Rigorous, transparent, participatory and evidence-based investigation could help to reveal whether such promise can actually be realized.

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