

Renewable Energy Politics Across Borders

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COMMENTS WELCOMED AND APPRECIATED!

1. Introduction

It is now widely accepted that the systems of generating electricity in place worldwide are unsustainable. In spite of helping to create unprecedented levels of economic wealth, a predominant reliance upon large, centralised power stations, largely ‘fueled’ by fossil fuels and uranium, connected to a web of transmission and distribution lines has a number of negative consequences. Across a variety of scales – from the local (smog) to the global (climate change), from the short-term (water pollution) to the long-term (nuclear waste disposal) – the system of electricity supply and use can have a variety of sustainability impacts.¹ Indeed, energy was prominent on the agenda of the 2002 World Summit on Sustainable Development, with the United Nations Secretary-General identifying it as one of five top priorities.² While an effective approach to increasing energy sustainability consists of numerous different strategies,³ it is widely agreed that the greater use of renewable resources in electricity supply should be part of the wider plan.

These sentiments have been reflected in North America, at the international, national and sub-national levels. The G8, for example (of which both Canada and the United States are members), declared in its 2005 communiqué from Gleneagles that its members ‘will promote the continued development and commercialisation of renewable energy’.⁴ With its Energy Policy Act of 2005, the White House maintained that it was promoting ‘the use of renewable energy sources ...’.⁵ And

¹ See, for example, Holdren, John P. and Kirk R. Smith (2000), ‘Energy, the Environment, and Health’, in World Energy Assessment: Energy and the Challenge of Sustainability, New York: United Nations Development Programme, pp. 61-110.

² Annan, Kofi A. (2002), ‘Toward a Sustainable Future’, Environment, 44 (7), 10-15.

³ Energy efficiency/conservation is also a critical part of the overall strategy.

⁴ G8, ‘The Gleneagles Communiqué: Climate Change, Energy and Sustainable Development’, July 2005.

⁵ The White House, ‘President Bush Signs Into Law a National Energy Plan’, News Release, Office of the Press Secretary, 8 August 2005.

though the new federal government has not described how its ‘Made In Canada’ approach to climate change might include support for renewable energy, the previous Canadian government saw it as central – not least of all as evidenced by the role of both the Wind Power Production Incentive and the Renewable Power Production Incentive in its 2005 Action Plan on Climate Change.⁶ The relative role of renewable resources in each country’s electricity supply system is provided in Table 1. As will be explored further on in this article, the significance depends, to a great extent, upon how you define ‘renewable’. What is clear following this Table is that the role of ‘new renewables’ – often focusing upon solar and wind, but also sometimes including low-emission (and sustainable) biomass and run-of-river hydropower – is extremely small.

Table 1 – Electricity generation by source, Canada (2002) and the United States (2004)

	Coal	Natural Gas	Other fossil fuels	Nuclear	Hydropower	Other renewables	Wood and other*	Total generation (GWhr)
Canada	18.5%	5.9%	3.0%	12.4%	58.9%		1.2%	568,028
United States	49.7%	17.8%	3.6%	19.8%	6.7%**	2.3%		3,970,555

* - includes wood waste and spent pulping liquor, manufactured gases, other petroleum products, other fuels and station service.

** - ‘Conventional’ hydropower only

Sources: EIA (2005), Electric Power Annual 2004, Washington, DC: Energy Information Administration, November; Statistics Canada, Report on Energy Supply-Demand in Canada, 1990–2003, Ottawa, September 2004 (CANSIM); and Statistics Canada, Report on Energy Supply-Demand in Canada, 2003 Revisions, Ottawa, January 2005 (CANSIM).

Against this background, this paper seeks to investigate the cross-border (Canada-United States) issues that are arising – and could arise – with respect to desires to increase the use of renewable electricity.

To do this, this paper is divided into five sections. Following this introduction, a brief review of Canada-US electricity exchanges, and relations more generally, is presented. This helps to provide the context by outlining the ways in which the two countries already interact on power issues. In the third section, issues that have already arisen with respect to renewable electricity between the two countries are examined – here, the key point of contention has been with respect to the southward movement of electricity generated by large-scale hydropower facilities. This

⁶ Government of Canada, Project Green: Moving Forward on Climate Change, 2005.

discussion leads into a subsequent exploration of additional issues that could arise between the two countries. The differing perspectives with respect to hydropower that already exist help us to anticipate further debates with regard to the way in which the definition of ‘renewable’ or ‘green’ could arise; issues related to cross-border investment, green procurement, subsidies and tradeable certificates are also identified. Finally, the last section summarises the argument, reiterates the potential significance of the subject and highlights some areas for further investigation.

2. Canada-US Electricity Exchanges and Relations

One might immediately wonder why a paper is focusing upon electricity exchanges across an international border. After all, electricity, by its very nature – economically unfeasible to store, physical (and economic) losses associated with its long-distance transmission – appears to be a commodity that is largely-contained within a local system. Little is usually made of the international trade in electricity, like it is for many other goods and services. Why then, should there be interest in cross-border issues between Canada and the United States?⁷

It certainly is the case that electricity has, traditionally in these two countries, been predominantly a ‘local’ concern. Just over 1 per cent of the electricity generated in either Canada or the United States is usually exported to the other country.⁸ This is, of course, an extremely small share of these two countries’ total electricity supply. Nevertheless, given the significant total value of the electricity supply industry in both Canada and the United States, this still represents more than C\$2 billion annually⁹ – a substantial figure in absolute terms. Table 2 highlights the key exchanges of electricity between the two countries, and Table 3 – at the back of this paper – provides additional detailed information.

⁷ This paragraph builds upon Ian H. Rowlands, ‘Canada-US Relations and Renewable Electricity’, in Peter Stoett and Philippe Le Prestre (eds), *Bi-lateral Ecopolitics* (forthcoming).

⁸ The figures for the individual countries are as follows: In 2003, 5.2 per cent of the electricity generated in Canada was exported to the United States, while, in 2004, 0.6 per cent of the electricity generated in the United States was exported to Canada.

⁹ ‘Backgrounder: Canada-U.S. Electricity Facts – 2003’ (Ottawa, ON: Natural Resources Canada, 27 November, http://www.nrcan-rncan.gc.ca/newsreleases/2003/2003106b_e.htm; viewed 10 February 2004).

Table 2 – Electricity trade between Canada and the United States (>1,000 GWhr for 2005)

5,094			2,806	4,380		2,489				
British Columbia	British Columbia	Manitoba	Ontario	Ontario	Ontario	Quebec	Quebec	Quebec	New Brunswick	
↓	↓	↓	↑	↓	↓	↓	↓	↓	↓	↓
Washington	Oregon	North Dakota / Minnesota	Minnesota	Michigan	New York	New York	Vermont	New England	Maine	
2,451	4,284	11,399		1,681	6,530	4,162	1,866	3,764	2,890	

Note: values are given in GWhr.

Source: National Energy Board, Electricity Exports and Imports, Monthly Statistics for December 2005.

Indeed, it is important to recognise that there are a variety of institutional and physical links – in terms of electricity – between Canada and the United States. For one, governance of different parts of these countries’ (interconnected) power systems is already international: the presence of organisations like the North American Electricity Reliability Council and its various committees (including the Western Electricity Coordinating Council, the Mid-Continent Area Power Pool and the Northeast Power Coordinating Council) are all evidence of existing institutional links in electricity between the two countries.

The 14 August 2003 blackout also revealed how closely these two countries’ electricity systems are linked, physically. Accidents and errors in the state of Ohio ‘cascaded’ out of control, so that eventually both countries – an estimated 50 million people in eight states and the province of Ontario – were affected.¹⁰ With ‘51 electricity grid connections that cross the Canada-US border’,¹¹ electricity is, every minute of every day, a transnational issue.

Moreover, various organisations on both sides of the border are calling for greater international cooperation on energy issues, electricity included. The United States, for example, produced its ‘National Energy Policy’ in March 2001. In that report, it was recommended – in a broad and general sense – that ‘a North American Energy Framework [be supported] to expand and

¹⁰ For more information about the blackout, see U.S.-Canada Power System Outage Task Force (2003), Interim Report: Causes of the August 14th Blackout in the United States and Canada (Ottawa, ON: Natural Resources Canada, November).

¹¹ NRCAN (2003b), ‘Backgrounder: Canada-U.S. Electricity Facts – 2003’ (Ottawa, ON: Natural Resources Canada, 27 November, http://www.nrcan-rncan.gc.ca/newsreleases/2003/2003106b_e.htm; viewed 10 February 2004).

accelerate cross-border energy investment, oil and gas pipelines, and electricity grid connections by streamlining and expediting permitting procedures with Mexico and Canada’.¹²

Focusing explicitly upon electricity, the report also noted that international interconnections between Canada and the United States ‘provide important trade and clean air benefits, while allowing both countries to benefit from load sharing and integration. The reliability of the North American electricity grid can be enhanced yet further through closer coordination and compatible regulatory and jurisdictional approaches.’¹³ Recommendations for closer electricity ties – both institutional and physical – thus followed.

In a similar vein, the Canadian Prime Minister and the US President (along with the Mexican President) agreed at the Summit of the Americas in Quebec City (22 April 2001) that their newly-created North American Energy Working Group ‘will be a valuable means of fostering communication and coordinating efforts in support of efficient North American energy markets ...’.¹⁴ This group issued its report the following year.¹⁵ Thus, not only are there substantial connections, in terms of electricity, between Canada and the United States already in place, but some are calling for these links to be strengthened and replicated. As such, the way in which the visibility and significance of cross-border issues related to renewable electricity could grow is evident. Indeed, just this past week (4 May 2006), the Energy Ministers from Canada and the United States (as well as Mexico) met to discuss, among other things, ‘the expanded use of alternative energy sources among the three countries’.¹⁶

¹² NEPDG (2001), *Reliable, Affordable, and Environmentally Sound Energy for America’s Future: Report of the National Energy Policy Development Group* (Washington, DC: U.S. Government Printing Office, May), p. xv.

¹³ NEPDG (2001), *Reliable, Affordable, and Environmentally Sound Energy for America’s Future: Report of the National Energy Policy Development Group* (Washington, DC: U.S. Government Printing Office, May), p. 8-8.

¹⁴ Quoted in CEC (2002), *Environmental Challenges and Opportunities of the Evolving North American Electricity Market: Secretariat Report to Council Under Article 13 of the North American Agreement on Environmental Cooperation* (Montreal, QC: Commission for Environmental Cooperation of North America, June). Emphasis added.

¹⁵ NAEWG (2002), *North America – The Energy Picture* (North American Energy Working Group, June).

¹⁶ United States Department of Energy, ‘Secretary Bodman Hosts Energy Ministers from Canada and Mexico’, Office of Public Affairs, 4 May 2006.

3. Current issues

Presently, the most contentious Canada-United States issue in the area of renewable electricity involves the appropriate role of hydropower in the pursuit of sustainable electricity goals. More specifically, there are disagreements regarding the role of large-scale hydropower. On the one hand, proponents of large-scale hydropower argue that it is a renewable resource, with low emissions. Hence, they continue, because it can contribute to a variety of clean air goals, it should not be ‘shut out’ of any market where renewable electricity is being encouraged. On the other hand, opponents argue that large-scale hydropower has a number of challenges associated with it – environmental problems include habitat destruction and associated biodiversity loss; social difficulties include the displacement of settlements. (For a review of many of these debates, see the report of the World Commission on Dams – an international group convened in 1998 in order to ‘review the development effectiveness of large dams and assess alternatives for water resources and energy development; and develop internationally accepted criteria, guidelines and standards, where appropriate, for the planning, design, appraisal, construction, operation, monitoring and decommission of dams.’¹⁷)

Moving from the general to the specific, debates have emerged between Hydro Quebec and those in the northeastern United States (markets in which Hydro Quebec is active) and Manitoba Hydro and Minnesota (similarly, a market in which Manitoba Hydro is active). In the case of the former, a number of states have explicitly excluded large-scale hydropower from their policy tools that serve to encourage increased use of renewable electricity. In Rhode Island, for example, only hydropower under 30 MW can qualify for its Renewable Portfolio Standard.¹⁸ For its part, Hydro Quebec has responded vigorously, advancing its case in state-level deliberations (for example, it intervened in New York State discussions about renewable policy options¹⁹) and continental-level fora (for example, it prepared a submission to the NAFTA body investigating ‘Environmental Challenges and Opportunities of the Evolving North American Electricity

¹⁷ World Commission on Dams, *Dams and Development*, London: Earthscan, 2000.

¹⁸ <http://www.dsireusa.org/documents/Incentives/RI08Ra.htm>

¹⁹ Letter to Honorable Janet Hand Deixler, New York State Public Service Commission, from Gilles Favreau, H.Q. Energy Services (U.S.) Inc. regarding ‘Case 03-E-0188 – Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard’, dated 28 March 2003.

Market'²⁰); the Quebec government has similarly contributed to the debates, arguing that the development of its hydroelectric potential should, once again, be a top priority.²¹ Nevertheless, the use of large-scale hydropower continues to be opposed by many 'on the ground' in this part of the United States.²²

In the case of the latter, a citizens' group entitled 'Just Energy' (part of a larger organization entitled 'Minnesotans for an Energy-Efficient Economy') has been active in challenging the social and environmental attributes of electricity imports generated by large-scale hydropower in Manitoba. A representative sentence follows: 'Because Manitoba Hydro doesn't have to take into account the full environmental and human rights costs of its dam projects, its electricity is artificially cheap, and unfairly competes with truly renewable Minnesota energy sources, like wind'.²³ For its part, Manitoba Hydro has responded vigorously, disputing – claim for claim – the accusations put forward by the group.²⁴

The debate has also played out between national governments. The Canadian federal government has continued to note its unease about the way in which hydropower was being defined in US legislation. In 2003, for example, Canada expressed concern 'over proposals in recent U.S. federal and state legislation to exclude Canadian-origin renewable energy resources and hydroelectric power from U.S. renewable energy programs. Canadian advocacy in this sector has raised U.S. awareness of a North American electricity market and the impact that discriminatory measures could have on this market. Canada continues to monitor developments in U.S.

²⁰ 'Environment and Electricity Restructuring in North America: Paper presented to the North American Commission for Environmental Cooperation', HydroQuebec, External Regulatory Affairs, June 2000.

²¹ See, for example, the Quebec Government's 'Using Energy To Build the Québec of Tomorrow: Québec Energy Strategy 2006-2015, Summary'.

²² One example comes from Vermont, which has a soon-to-expire long-term contract with Hydro Quebec. Some groups are using that as the basis to encourage state-developed wind power (and other renewables) in its place. (See, for example, the campaigns of the Vermont Public Interest Research Group at <http://www.vpirg.org/pubs/12.2004energybrochure.pdf>.) Of course, during the debates for the construction of new facilities in the 1980s and early 1990s, there was also extensive opposition (often with interesting transnational links between US activist organisations and Canadian First Nations groups) (e.g., Glenn McRae, 'Grassroots Transnationalism and Life Projects of Vermonters in the Great Whale Campaign', in Mario Blaser, Harvey A. Feit, and Glenn McRae (eds), *In the Way of Development: Indigenous Peoples, Life Projects and Globalization* (Zed/IDRC 2004).

²³ JustEnergy, 'The Minnesota Connection', no date given, www.justenergy.org. Similar sentiments have been voiced by the Minnesota Environmental Action Network ('Support Fair Trade for MN Wind!', www.mnaction.org) and www.cleanwater.org.

²⁴ Manitoba Hydro, "'Just Facts": Correcting Misinformation in ME3's "Just Energy" Campaign' (www.mhhydro.com).

renewable energy standards.’²⁵ In 2003, the Canadian Ambassador to the United States told American legislators that ‘Canada notes the Senate proposal to mandate a renewable portfolio standard (RPS) for electricity generation. All hydroelectricity, not just incremental hydroelectric generation, is renewable energy. Should an RPS emerge in your legislation, we would request that hydroelectricity not be disadvantaged. We wish to point out that given NAFTA and WTO obligations, any RPS must be non-discriminatory vis-à-vis Canadian and U.S. generated electricity.’²⁶ Last year, his successor took the same tack, when he argued: ‘We should note that hydroelectricity is clearly a renewable energy. As it represents 57% of the electricity generated in Canada, there is no need for Canada to establish a five to ten percent renewable portfolio standard as many states in New England and elsewhere in the United States have done. ... However, to Canada, hydro-generated electricity, whether produced or purchased, should count for any RPS.’²⁷

For its part, the United States government is continuing to develop its own policies, federally, that involve definitions of renewable electricity. Similarly, it appears supportive of those being developed at the state-level as well. In 2002, in response to NAFTA work on this issue, the Assistant Administrator of the US EPA commented: ‘... the [NAFTA] report suggests that U.S. state renewable energy programs may be viewed as possible barriers to international trade. ... We have not encountered any trade disputes related to differing renewable energy standards or definitions, and we see no indication of any trade barrier arising from differing definitions.’²⁸ It remains, however, a point of debate between the two countries.

²⁵ International Trade Canada, ‘Opening Doors to the World: Canada’s International Market Access Priorities 2003’, <http://www.dfait-maeci.gc.ca/tna-nac/2003/4-en.asp?format=print>

²⁶ Letter to The Honorable W.J. "Billy" Tauzin, United States House of Representatives, Chairman, House Committee on Energy and Commerce (and others) from Michael Kergin, Ambassador, September 12, 2003, <http://www.canadianembassy.org/ambassador/030912-en.asp>

²⁷ Frank McKenna, Canadian Ambassador to the United States, Speech to the New England-Canada Business Council Energy Conference, Boston, Massachusetts, 4 November 2005, http://www.dfait-maeci.gc.ca/can-am/washington/ambassador/051104_55-en.asp.

²⁸ Letter to Janine Ferretti, Executive Director, Commission for Environmental Cooperation, from Judith E. Ayres, Assistant Administrator, United States Environmental Protection Agency, no date given, included in CEC, ‘Appendix: Government Comments on *Environmental Challenges and Opportunities of the Evolving North American Electricity Market: Secretariat Report to Council under Article 13 of the North American Agreement on Environmental Cooperation*’, June 2002.

4. Potential issues

As already suggested by the section above, there exist different views across North America with respect to how ‘renewables’ (or, alternatively, ‘green power’ or ‘green energy’) should be defined. Indeed, a report from Commission on Environmental Cooperation in 2003 revealed a variety of perspectives across the continent. While there was ‘the most unanimous and unqualified support’ for solar energy (thermal or photovoltaic) and wind, others received more varied reaction: in particular, ‘biomass and hydropower [were] both important sources that are widely considered as renewable but which are generally included with other restrictions that vary widely from jurisdiction to jurisdiction’.²⁹ There is little reason to doubt that that continues today: the Database of State Incentives for Renewable Energy identifies, in the United States, 299 different ‘rules, regulations and policies for renewable energy’.³⁰

Why might this be problematic? By introducing legislation that effectively restricts part of an electricity market only to renewable forms of electricity, critics could maintain that a particular government has introduced an unjustifiable restriction on trade. After all, they might continue, it is largely accepted that electricity is a ‘good’, and that all electrons, after all, ‘look the same’. They could well demand similar treatment for their (non-renewable) form of electricity. Indeed, Horlick et al put forth this argument, which suggests that all kinds of renewable portfolio standards could be challengeable under trade law.³¹

That argument, however, has been challenged by others who argue that non-renewable and renewable electricity are, in fact, different. Hempling and Radar maintain that because there is a much-higher public appetite for renewable electricity, as compared to conventional forms of electricity, it is effectively shown that the two ‘kinds’ of electricity are different (because people feel different about them).³² Howes, meanwhile, argues that electricity can not be viewed in isolation from the way in which it is generated: physics teaches us that electricity is not

²⁹ What is Renewable?: A Summary of Eligibility Criteria Across 27 Renewable Portfolio Standards.

³⁰ <http://www.dsireusa.org> [accessed on 4 May 2006]

³¹ G. Horlick, C. Schuchhardt and H. Mann (2002), NAFTA Provisions and the Electricity Sector, Background Paper 4, Environmental Challenges and Opportunities of the Evolving North American Electricity Market (Montreal, QC: North American Commission for Environmental Cooperation. June).

³² S. Hempling and N. Rader (2002), Comments of the Union of Concerned Scientists to the Commission for Environmental Cooperation (Cambridge, MA: Union of Concerned Scientists. 31 January).

‘produced’, but instead is simply another form of energy that has been ‘transformed’. As such, it cannot be divorced from its generation process. As Howse states: ‘Put simply, energy is a process. Thus, in considering “physical characteristics” in the context of determining whether renewable energy is like or unlike non-renewable energy, the WTO adjudicator would almost necessarily, on the basis of sound science, be required to consider the physical nature of a *process*.’³³ Finally, recent case-law – for example, judgements in the cases of Turtle/Shrimp, EC-Asbestos and Japan-Alcohol – is opening the door, many argue, for looking at the production and process methods ‘behind’ the good itself. This provides, proponents maintain, additional support for the argument that renewable electricity is ‘different’.

Does the discussion change when we restrict attention to renewable electricity itself, and consider different ‘kinds’ within this more restricted subset? As noted above, there is already such a discussion surrounding hydropower (large-scale versus ‘low-impact’, for example). Additionally, there are debates regarding whether restrictions should be based upon the geographical location of renewable electricity generating facilities (particularly whether they are inside or outside of the particular jurisdiction enacting the legislation) or based upon the age of renewable electricity generating facilities (with some programs favouring ‘new renewables’, with ‘new’ defined differently in different places). Some RPS programs currently in place in the United States limit renewable electricity on the basis of one or both of these characteristics. Some have problems with this, for they maintain that the RPS policy therefore has little to do with the environmental goals that may be laid out in the preamble of the relevant piece of legislation, but instead is about protecting and/or developing local industries.

In these cases, it would seem that the particular goal of the legislation – and the extent to which the goal is defensible – would be key. If the aim of the renewable electricity legislation is to meet the challenges of global climate change, then it might be that even nuclear power could be included – certainly the location of the generating facility would not seem to matter. Alternatively, if it is about local air quality, then the proximity of the generators would seem to be particularly important. In cases such as this, the goal of the legislation – and how it could

³³ P. 7 of Robert Howse, ‘Post-Hearing Submission to the International Trade Commission: World Trade Law and Renewable Energy: The Case of Non-Tariff Measures’, 5 May 2005. Put another way: ‘... energy is inherently dynamic – it is a process of transformation. The product is the process.’ (*Ibid.*, p. 10)

potentially be protected by General Exceptions in international trade law (GATT's Article XX and NAFTA's Article 2101) – would be potentially critical.

In a similar vein, investment disputes could also lead to cross-border discussions and/or conflicts.³⁴ It is possible that certain provisions of NAFTA's Chapter 11 (the investment chapter) could apply even in the absence of 'true deprivations of property' (that is, one's traditional view of corporate expropriation by host governments – 'nationalising' foreign companies and taking over their assets). Instead, there might need to be 'compensation for any government action which has a significant impact on the profit-making ability of an investment'.³⁵ Horlick and colleagues go on to argue that: 'If the approach set out there [in the Metalclad case] is maintained, then any post-investment environmental measure applied in the electricity generation and distribution sectors that impact on the profitability of a foreign investor will require compensation to be paid.'³⁶

An example of such a challenge, involving renewable electricity in Canada and the United States, can be envisaged. Consider fictional jurisdiction A. Its government had traditionally taken a 'laissez-faire' attitude towards renewable electricity. As a result, a company from jurisdiction B sets up a landfill gas recovery-to-electricity unit in jurisdiction A, and markets the resulting power using 'green power' language and images. Further imagine that the leadership in jurisdiction A then has a change of heart, and decides to actively advance renewable electricity by introducing its own support scheme (rather than having the 'default' national one – the emerging norm as developed by industry's practices – be the only one in existence). Legislators there decide to introduce an RPS. Following the results of local polling, these legislators decide that 'renewable' consists exclusively of solar and wind. As a result, the company from

³⁴ These two paragraphs build upon Rowlands (forthcoming).

³⁵ G. Horlick, C. Schuchhardt and H. Mann (2002), NAFTA Provisions and the Electricity Sector, Background Paper 4, Environmental Challenges and Opportunities of the Evolving North American Electricity Market (Montreal, QC: North American Commission for Environmental Cooperation. June), p. 24.

³⁶ G. Horlick, C. Schuchhardt and H. Mann (2002), NAFTA Provisions and the Electricity Sector, Background Paper 4, Environmental Challenges and Opportunities of the Evolving North American Electricity Market (Montreal, QC: North American Commission for Environmental Cooperation. June), pp. 24-25. In the Metalclad case, a US waste management company challenged 'decisions by Mexican local government to refuse it a permit to operate a hazardous waste landfill ... and by state government to create an ecological preserve in the area' (CCPA (2004), 'NAFTA Chapter 11 Investor-State Disputes' (Ottawa, ON: Canadian Centre for Policy Alternatives; <http://www.policyalternatives.ca/publications/chapter11-table.pdf>; viewed 11 February 2004). A NAFTA tribunal found in favour of the US company, following Chapter 11 of the NAFTA.

jurisdiction B can no longer market its biomass-sourced electricity as a premium (environmental) product. That company's officials may then argue that because biomass is just as 'renewable' as the privileged sources (solar and wind), the legislation is unfair. They then proceed to argue that the introduction of the RPS amounts to 'de facto expropriation of assets' and they demand compensation for lost revenues. Although it is hard to anticipate the outcome of such a case, it is certainly reasonable to state that the case put forward by the company from jurisdiction B could be viewed sympathetically by a NAFTA panel.³⁷

Staying with the point about varying definitions of 'renewable energy' (or 'green power', or whatever term is being used), issues related to government procurement have the potential to become prominent. The government purchase of a green product in a systematic manner has been a relatively popular form of encouraging uptake of renewable electricity – to encourage 'learning by doing' and to stimulate the market for these kinds of electricity. Key examples include Natural Resources Canada, which began purchasing green power for some of its facilities in 1997.³⁸

In North America, green procurement is affected by the terms of NAFTA's Chapter 10, which applies to listed federal government entities and enterprises of NAFTA Parties, obliges relevant bodies to follow particular rules, ensuring transparency and a 'national treatment' obligation. Given that last point, there is – as we have seen above – the potential to generate conflict in a variety of ways. For one, opponents could argue that the electrons are providing government services (lighting, heat and ventilation, etc.) and that it does not matter how they were created. This would – again, as we have seen above – open discussion related to the 'production and process methods' of electricity generation. Perhaps more significantly, were any such program to favour 'in-jurisdiction' green power, then a challenge on 'national treatment' grounds might achieve greater traction. Reviewing the Pennsylvania 'Request for Quote for Electric Generation Attributes', it is interesting to note the following: 'Attributes of the generation sources that are of

³⁷ What makes the potential Chapter 11 challenge all the more intriguing is that it would not need to be instituted by (or even supported by) the government in jurisdiction B; private companies have standing in such cases under NAFTA.

³⁸ For a wider list of such activities, see 'Existing Green Procurement Initiatives'.

interest include: the generating technology utilized, the generating capacity, the age of the source, and the location of the generating source.’³⁹ Thus, challenges are certainly conceivable.

While not pursued here, the way in which different definitions of green power could affect discussions about international standards for renewable electricity technologies (for example, the use, or not, of hazardous products in photovoltaic cells, or the ‘noise performance’ of wind turbines, as but two examples) and labelling (not only differing perspectives with respect to what qualifies as ‘green power’, but also whether ‘goods made with green power’ can qualify for an environmental label or not) are also worth noting.

A third area where politics across the border could arise is with respect to subsidies. Generally, the global trade and investment regime frowns upon subsidies. Historically, however, subsidies have been central to energy activities, with fossil fuels and nuclear power, in particular, receiving millions of dollars in support in many countries – Canada and the United States included. While challenges to these subsidies, in order to promote the increased use of renewable energy, could conceivably arise, the well-entrenched (and universal) nature of these subsidies may mean that they do not attract such attention. Instead, subsidies (or, at least, ‘claimed-subsidies’) to encourage renewable electricity may be the ones that come under scrutiny.

In Europe, there is an oft-cited debate about ‘prices versus quantities’ with respect to supporting renewable electricity – in other words, should there be explicit prices for renewable electricity (with the market determining the quantity provided) or explicit quantities for renewable electricity (with the market determining the price). While North America has conventionally favoured the latter (usually in the form of a ‘renewable portfolio standard’), Europe has been much more eclectic in its approach, with both attracting attention. Relevant to the issue in this paper, however, is the fact that this European trend appears to be moving to North America. In March 2006, some observers claimed that Ontario took the lead with respect to an approach representative of the former – feed-in tariffs (or what is increasingly being called ‘standard offer contracts’ in North America). At that time, the Government announced that ‘the Ontario Power

³⁹ P. 4 of ‘Request for Quote for Electric Generation Attributes’, Contract 9120-08, 13 August 2004, RFQ Number: DGS-04-1.

Authority will purchase electricity produced by wind, biomass or small hydroelectric at a base price of 11 [Canadian] cents per kilowatt-hour. The fixed price for solar will be 42 [Canadian] cents per kilowatt-hour.⁴⁰ Other jurisdictions in North America seem set to follow suit.⁴¹

A key precedent for determining the relationship between a ‘feed-in tariff’ and international economic law comes from Germany in the so-called ‘PreussenElektra versus Schleswig’ case. In this instance, PreussenElektra, one of Germany’s electricity suppliers, complained that it was paying too much for renewable electricity under the German ‘feed-in tariff’ law (which requires suppliers to purchase renewable electricity within their area of supply at a set – premium – price). PreussenElektra maintained that the law violated European rules on subsidies, because it was, in effect, state aid. The European Court, however, disagreed, and declared that this was not problematic, because it did not constitute aid granted directly or indirectly through state resources. Instead, it was the private grid operators that were obliged to make the payments. This last point appears to be particularly consequential. Turning to this side of the Atlantic Ocean, while the details in the case of Ontario have yet to be worked out by the Ontario Power Authority, it is generally expected that the payments will be made by the government. It will also be interesting to see the details with respect to how would it be handled if someone in Buffalo, NY put solar panels on their roof, and arranged for the electricity to be submitted to the Ontario grid, and demanded payment for it. How would the Ontario government react?

Finally, the emerging market for renewable electricity certificates poses another interesting issue for investigation. In different schemes around North America (and, indeed, around the world, with the European Union’s carbon trading system representing the most ambitious such undertaking, globally), systems of tradeable emission credits have been established as a means to address environmental concerns.

What is particularly interesting in the case of renewable electricity is that the use of renewable electricity in place of fossil-powered electricity can serve to meet environmental challenges at a

⁴⁰ Ontario Ministry of Energy, ‘Expanding Opportunities For Renewable Energy In Ontario’, www.energy.gov.on.ca, 21 March 2006.

⁴¹ Paul Gipe identifies California, Washington State, Minnesota and Wisconsin as being in the forefront in this regard (‘Renewable Tariffs and Standard Offer Contracts in the USA’, www.wind-works.org, 24 April 2006).

variety of different scales: reduced emissions of nitrogen oxides ameliorate smog challenges; fewer sulphur emissions lessen acid precipitation and lower carbon dioxide emissions serve to mitigate global climate change. Therefore, there might be a range of legislative obligations to which the act of encouraging renewable electricity is contributing; the fact that airsheds are often international simply adds another layer of complexity to this.

5. Summary, conclusions and recommendations

The purpose of this paper has been to examine the cross-border (Canada-United States) issues that are arising – and could arise – with respect to desires to increase the use of renewable electricity. Our review suggests that there are many more ‘could arise’ issues than those that are currently part of the political agenda (dominated by the debate about large-scale hydropower).

Of course, these debates could also interact with climate change politics to a greater extent. Both Canada and the United States use carbon-intensive resources to generate their electricity (at least in part, and to varying extents; see Table 1). Therefore, as efforts to develop climate change mitigation policies and programs continue – at national and sub-national levels – development of renewable electricity sources will no doubt continue to be part of the discussions. (This article has already suggested the links between the two: an additional example includes the work of the New England Governors and Eastern Canadian Premiers, where they see the promotion of renewable energy being part of their climate change goals⁴²). As such, the ways in which the kinds of potential debates could arise will, at least in part, be linked to the development of climate change developments both within Canada and the United States, as well as between the two countries.

The potential for international cooperation to assist the sustainable development of renewable energy is great.⁴³ As such, it is important to anticipate and respond to disputes that could arise

⁴² The Committee on the Environment and the Northeast International Committee on Energy of the Conference of New England Governors and Eastern Canadian Premiers, ‘Report to New England Governors and Eastern Canadian Premiers on Climate Change Projects’, August 2005.

⁴³ Ian H. Rowlands, ‘Renewable Energy and International Politics’, in Peter Dauvergne (ed), *Handbook of Global Environmental Politics* (Cheltenham, UK: Edward Elgar, 2005), pp. 78-94.

between countries (Canada and the United States included) as different players pursue the establishment of sustainable energy systems.

Table 3 - Electricity trade between Canada and the United States (in MWhr, 2005)

from Canada to US

	AB	BC	MN	NB	NS	ON	QC	SK	Total
Alaska		1,303							1,303
Arizona		97,635							97,635
California		168,192							168,192
Colorado		28,092							28,092
Idaho		89,112							89,112
Illinois						1,138			1,138
Indiana		1				11,767			11,768
Iowa		2							2
Maine				2,890,174	104,282		768,884		3,763,340
Massachusetts						59,125	4,032		63,157
Michigan						1,681,055			1,681,055
Minnesota			699,689			128,290			827,979
Missouri		27				12,281			12,308
Montana		109,021							109,021
ND/Minn			11,399,022						11,399,022
Nebraska		306							306
Nevada		404,302							404,302
New England				39,556	143	78,389	3,764,468		3,882,556
New Mexico				126,062					126,062
New York				25,143		6,530,288	4,161,662		10,717,093
North Dakota	925							691,397	692,322
Ohio						48,807			48,807
Oregon	3,403	4,283,748							4,287,151
Pennsylvania						30,410			30,410
Utah		41,801							41,801
Vermont							1,866,081		1,866,081
Washington	81,358	2,451,160							2,532,518
Wisconsin		68							68
Wyoming		47,611							47,611
Total	85,686	7,722,381	12,098,711	3,080,935	104,425	8,581,550	10,565,127	691,397	42,930,212

From US to Canada

	AB	BC	MN	NB	NS	ON	QC	SK	Total
Alaska									0
Arizona		106,049							106,049
California									0
Colorado		194							194
Idaho									0
Illinois						19,136			19,136
Indiana						887			887
Iowa		220				600			820
Kansas						253			253
Kentucky						250			250
Maine				56,504			97,295		153,799
Massachusetts		130				4,623			4,753
Michigan						4,380,166			4,380,166
Minnesota	7,266					2,805,791			2,813,057
Missouri						2,087			2,087
Montana	1,318	98,289							99,607
ND/Minn			230,676						230,676
Nebraska		4,443							4,443
Nevada		42,720							42,720
New England							686,036		686,036
New Mexico		97,762							97,762
New York						926,918	2,488,584		3,415,502
North Dakota						1,026		426,913	427,939
Ohio						396,514			396,514
Oklahoma						342			342
Oregon		445,386							445,386
Pennsylvania					69,297	247,241			316,538
South Dakota						150			150
Texas						3,379			3,379
Utah		824							824
Vermont									0
Washington	443,143	5,094,226							5,537,369
Wisconsin									0
Wyoming		145,487							145,487
Total	451,727	6,035,730	230,676	56,504	69,297	8,789,363	3,271,915	426,913	19,332,125

Source: National Energy Board, Electricity Exports and Imports, Monthly Statistics for December 2005.