Comparing the Provinces: The Nuclear Sector in New Brunswick, Ontario, Saskatchewan, and Alberta

By

Duane Bratt, Ph.D
Department of Policy Studies
Mount Royal University
Calgary, Alberta
dbratt@mtroyal.ca

Presented at the Annual Meeting of the
Canadian Political Science Association
Concordia University
Montreal, Quebec
June 1-3, 2010

Despite initial promises (by its supporters) or fears (from its opponents), so far the global nuclear revival in Canada has shown more smoke than fire. Domestically, there has been a raging public debate over the nuclear sector. Governments have responded, in Alberta and Saskatchewan, with commissioned studies and public consultations. Natural Resources Canada (NRCan) similarly produced reports on the restructuring of Atomic Energy of Canada Limited (AECL) and the production of medical isotopes. Yet, so far, the only action has been refurbishment projects of existing reactors in New Brunswick, Quebec, and Ontario. Initiatives for new builds in Ontario, New Brunswick, Saskatchewan, and Alberta have not transpired. Internationally, it has been more of the same. There was a significant nuclear cooperation agreement signed with India. However, once again, despite plenty of talk, there have been no new builds. Instead, there have been two refurbishment projects (South Korea and Argentina), and increases in uranium mining and fuel services. This paper compares the Canadian response to the global nuclear revival by measuring the activity in Ontario, New Brunswick, Saskatchewan, and Alberta. By measuring the global nuclear revival using multiple indicators, it shows that the record is mixed. This is followed by a multi-layered explanation for why the response to the global nuclear revival was different in each province.

Measuring the Nuclear Revival in Canada

Table 1 summarizes how New Brunswick, Ontario, Saskatchewan, and Alberta have participated in the global nuclear revival in the first decade of the 21st century. This activity can be measured in four ways. Two of the measurements are material

manifestations through restarts and refurbishments, and new reactor build projects. The other two are virtual manifestations through major studies by government, industry, and anti-nuclear groups, and the degree of public support through public consultations and public opinion polls.

[Attach Table 1 about here]

The first measurement, a virtual one, is the preparation stage which includes major studies by the members of the provincial nuclear communities. All provincial governments have conducted studies of the nuclear sector. Some, like the ones in Ontario[1] and New Brunswick[2], narrowly focused on the feasibility of refurbishing existing reactors or building new reactors. Others, like the ones in Saskatchewan[3] and Alberta[4], were comprehensive analyses across the entire nuclear fuel cycle. The different approaches of the four provincial governments can be explained based on the prior existence of nuclear energy in the province. Since both Ontario and New Brunswick already use nuclear energy, the question was on the maintenance and/or expansion of nuclear energy. For Saskatchewan and Alberta, the question was whether to introduce nuclear energy.

Governments were not the only actors studying nuclear energy, so were industry and anti-nuclear groups. Nuclear companies conducted feasibility studies for

---

[1] Ontario, Pickering Review Panel, *Report of the Pickering "A" Review Panel* (December 2003). Accessed on 12 January 2010 from http://www.mei.gov.on.ca/en/pdf/electricity/pickering_report_dec2003_en.pdf

[2] Jeffrey, Robin, *Point Lepreau Refurbishment Review* (April 2004). Accessed on 24 October 2009 at http://www.cna.ca/english/pdf/Studies/Lepreau_Refurbishment_04/completereport-e.pdf and MZ Consulting Inc., *Viability Study for New Nuclear Facilities in New Brunswick: Executive Summary* (February 2008). Accessed on 24 October 2009 at http://www.gnb.ca/0085/Documents/**Executive**%20**Summa**ryMZC.doc

[3] Saskatchewan, Uranium Development Partnership, *Capturing the full potential of the uranium value chain in Saskatchewan*, (31 March 2009). Accessed on 14 April 2009 at http://www.gov.sk.ca

[4] Government of Alberta, Department of Energy, *Nuclear Power Expert Panel: Report on Nuclear Power and Alberta* (February 2009). Accessed 15 March 2009 at http://www.energy.alberta.ca

refurbishment and new build projects in Ontario, New Brunswick, and Saskatchewan.[5] Meanwhile, there were counter-studies opposing nuclear energy prepared by groups in Ontario, Saskatchewan, and Alberta.[6] Beyond the provincial activity, there were national studies supporting nuclear energy prepared by the Canadian Nuclear Association, Canadian Nuclear Society, and the Organization of CANDU Industries[7], and parallel ones opposing nuclear energy prepared by the Pembina Institute, Sierra Club, and Greenpeace.[8]

The second measurement, a material one, was the restarting and refurbishment of existing nuclear reactors. Pickering A1 & A4 and Bruce A3 & A4 have been restarted. Bruce A1 & A2 and Point Lepreau are currently going through a full refurbishment to extend their life. In addition, Ontario Power Generation (OPG) plans on refurbishing its four Darlington reactors[9] and Bruce Power plans on refurbishing the rest of its reactors (Bruce A3 & A4, as well as the four Bruce B units).[10]

---

[5] Here is a sample of these reports: Bruce Power, *Saskatchewan 2020* (November 2008). Accessed on 12 January 2009 at http://www.brucepower.com/docs/reports/corporate/Saskatchewan%202020%20-%20Clean%20energy%20New%20opportunity.pdf; Bruce Power, *Bruce A Refurbishment for Life Extension and Continued Project: Project Description* (December 2004). Accessed on 28 December 2009 at http://www.brucepower.com/uc/GetDocument.aspx?docid=2161; Ontario Power Generation, "Pickering B Refurbishment Study," (2009). Accessed on 10 February 2010 at http://www.opg.com/power/nuclear/pickering/pickB_overview.asp; and SaskPower, *Nuclear Power: A Report Examining Scenarios, Options, and Issues for Implementation in Saskatchewan* (June 2007).

[6] Here is a sample of these reports: Citizens Advocating the Use of Sustainable Energy, *Nuclear Power in Alberta: An Alternative Perspective* (6 April 2009). Accessed 24 April 2009 at http://www.nuclearfreealberta.ca and Saskatchewan Environmental Society, *Position on Nuclear Energy* (2009). Accessed on 16 October 2009 at *http://www.environmentalsociety.ca/issues/energy/SES_Nuclear_Energy_Position.pdf*

[7] For example see Canadian Energy Research Institute, *Economic Impact of the Nuclear Industry in Canada* (June 2008). Accessed on 10 July 2008 at http://www.cna.ca/english/pdf/studies/ceri/CNAEconomicReport08.pdf

[8] For example see Bell, Jeff and Tim Weis, *Greening the Grid: Powering Alberta's Future with Renewable Energy* (Pembina Institute: Drayton Valley, Alberta, April 2009). Accessed on 28 April 2009 at http://pubs.pembina.org/reports/greeningthegrid-report.pdf

[9] Ontario Power Generation, "OPG Moves to Planning Phase of Darlington Refurbishment," *Press Release* (16 February 2010).

[10] Bruce Power, "Bruce Power to Focus on Additional Refurbishments at Bruce A and B," *News Release* (23 July 2009).

The third measurement, a material one, was building new nuclear power plants. While the first two measurements provide evidence of a nuclear revival in Canada, the third one does not. Based solely on new reactors, the "putative Canadian nuclear energy revival" has come to an "abrupt halt."[11] Ontario has suspended the new multi-reactor build project at Darlington,[12] the Point Lepreau 2 proposal in New Brunswick is being delayed,[13] Saskatchewan has also deferred the building of the province's first reactor until after 2020,[14] and a formal application for a reactor(s) in Alberta has yet to be sent to the Canadian Nuclear Safety Commission (CNSC).

The fourth measurement, a virtual one, is the level of public support for nuclear energy. The development/expansion of nuclear power requires public support. Public attitudes concerning nuclear power have been tracked since the 1970s.[15] Examining this data yields several conclusions. First, support for nuclear power across Canada has been slowly, but steadily, growing since the early part of the decade, although there has been a bit of a reversal since 2009. Second, the level of knowledge of nuclear energy by the public is quite low; opinions about nuclear energy tend to be more emotional than rational. Third, places that already have nuclear power are more supportive than where it is being proposed. This was very evident in perceptions of nuclear safety. For example, support for nuclear power is highest in Saint John (with the Point Lepreau reactor

---

[11] John Cadman, "The Canadian Nuclear Industry: Status and Prospects," *Nuclear Energy Futures Paper No. 8* (November 2009), 3.

[12] Shawn McCarthy and Karen Howlett, "AECL's future in doubt as Ontario suspends nuclear power plans," *The Globe and Mail* (30 June 2009).

[13] According to Howard Shearer, the President and CEO of Hitachi Canada, "the idea of a second reactor for Lepreau is still very much alive. We just to adjust to a new time frame because of the slow economic recovery and the ongoing refurbishment of Lepreau." Quoted in Brett Bundale, "Lepreau 2 'still alive'," *Saint John Telegraph-Journal* (21 April 2010).

[14] Government of Saskatchewan, *The Government's Strategic Direction on Uranium Development* (17 December 2009). Accessed on 17 December 2009 at http://www.gov.sk.ca/adx/aspx/adxGetMedia.aspx?mediaId=1029&PN=Shared

[15] For cross-provincial time sequence data, see Ipsos-Reid, "Annual Summer Tracking Report, September 2009," (29 September 2009).

nearby), Saskatchewan (with its uranium mines), and Durham county, Ontario (with their ten Pickering and Darlington reactors). The NIMBY syndrome means that it is easier to add another reactor to an existing plant than to build a new plant.

Public opinion polls, even asking similar questions over time, only give a snapshot. However, a systematic public consultation process, which two of the provinces conducted, gives more information about the level of support. In Alberta, the public consultation process showed cautious support, on a case by case basis, for nuclear energy in the province. This was consistent with most polls. However, in Saskatchewan, the public consultation process revealed strong opposition – contradicting most polls – against the introduction of nuclear power in the province. The public consultation processes in Alberta and Saskatchewan will be analyzed in more detail later on in this paper.

There are a number of similarities across the four provinces. First, all of the actors in the nuclear policy communities have been seriously investigating maintaining, expanding, or introducing nuclear power in their respective province. Second, in provinces with existing nuclear fleets, their reactors are being restarted and/or refurbished to maintain electricity generation from nuclear power. No phasing out is occurring. Third, despite significant preparation in all four provinces, construction has not started on any new nuclear reactor project.

The announced delays in new builds, whether temporary or permanent, have been due almost exclusively to the issue of cost. While critics have brought forward a number of arguments relating to radiation, nuclear safety, water usage, etc, it appears that governments across the country have, on balance, accepted the fact that nuclear energy

has more strengths than weaknesses. The exception is the issue of cost. In New Brunswick, the Point Lepreau 2 project was based on a merchant model[16] whereby the private sector (in this case Team CANDU) would be solely responsible for financing (including assuming the risk of any cost overruns), building, and owning the nuclear power plant. It would then have to find customers in Canada and the United States for its electricity. However, the project has been stalled due to a lack of financing credit and the inability to obtain a long-term purchasing agreement with NB Power. This scenario was repeated in the other three provinces. The government of Ontario suspended the bid process for two new reactors at the Darlington site due to a price that was "billions" too high.[17] The Saskatchewan government also referenced the cost of nuclear power when it decided to wait until after 2020 to consider a nuclear power project.[18] Finally, in Alberta, Bruce Power has been crunching the numbers to see if there is a business case for building nuclear reactors in the province.[19]

Access to capital due to the global economic recession has been a primary cause of the cost problem. It is for this reason, that United States President Barrack Obama in February 2010 provided a US$8.3 federal loan guarantee to help Southern Co. build two nuclear reactors in Georgia.[20] However, there are additional factors beyond access to capital. The global recession, in Ontario especially, has led to a drop in electricity demand. There are real questions in Ontario about whether the province's vital manufacturing sector, in particular automobiles, will rebound, or whether this drop in

[16] For an analysis of the merchant model see Cadman, "The Canadian Nuclear Industry," 12.
[17] Tyler Hamilton, "$26B cost killed nuclear bid," *Toronto Star* (14 July 2009).
[18] Government of Saskatchewan, "Government Announces Strategic Direction on Uranium Development," *News Release* (17 December 2009).
[19] Interview with Albert Cooper, Lead Alberta Affairs, Bruce Power (Calgary, 9 September 2009).
[20] Darlene Superville, "Obama to announce loan guarantee for nuclear plant," *Associated Press* (15 February 2010).

electricity demand will be permanent. Finally, there are still fears within government about the potential of cost overruns, like with Darlington, with nuclear power. The experience of the restarts (Pickering A1 & A4 and Bruce A3 &A4) and refurbishments (Point Lepreau and Bruce A1 & A2) which have been marred by significant delays and cost overruns that, combined, have totalled several billion dollars has heightened those fears.

There are also a number of differences across the four provinces. First, Saskatchewan and Alberta used deliberate consultation processes to gauge public support for nuclear power in their provinces, but New Brunswick and Ontario did not. Second, while three of the provinces focused exclusively on power generation, Saskatchewan looked at many different aspects of the nuclear sector. In particular, the Uranium Development Partnership (UDP) panel was commissioned by the government to consider opportunities in uranium mining, uranium upgrading, nuclear research and development, and nuclear waste disposal. As a result, the Saskatchewan government, in partnership with the University of Saskatchewan, has proposed to the federal government a multiuse research reactor that would produce medical isotopes, perform conduct nuclear research and development, and conduct neutron beam research.[21]

Explaining the Nuclear Revival in Canada

The similarities and differences whereby each province has responded to the global nuclear revival can be explained in a number of different ways. First, is the history of the nuclear sector in each province. Second, is the nature of the electricity market

[21] Government of Saskatchewan and the University of Saskatchewan, *The Canadian Neutron Source: Securing the Future of Medical Isotopes and Neutron Science in Canada.* Submission to the Natural Resources Canada Expert Review Panel on Medical Isotope Production. (31 July 2009).

(public, private, or mixed). Third, is the type of public consultation process that was used by the provincial governments. Fourth, is the relationship between the national and provincial nuclear policy communities.

Provincial Nuclear History

The existence of a previous nuclear history is a key variable that separates the provinces: Ontario has been the heart of the nuclear sector since the beginning, New Brunswick has had nuclear power since the early 1970s, Saskatchewan traces its uranium industry back to the late 1940s, and Alberta has very little nuclear history at all. These differences manifested themselves in many ways. First, Ontario and New Brunswick had to consider maintaining their existing nuclear fleets through restarting and refurbishment, and expanding their fleet through the building of new reactors, but Saskatchewan and Alberta only had to consider new builds. The subsequent technological problems and cost overruns with the restarts and refurbishments were contributing factors in the decisions not to pursue new build projects in both Ontario and New Brunswick.

Second, nuclear history has had a distinct impact on public support. In general, Ontario and New Brunswick - especially Bruce County and Durham Region in Ontario and Saint John, New Brunswick – have been the strongest supporters of nuclear power in the country. This is due for a number of reasons. There are thousands of jobs directly at risk if nuclear power is phased out in their province. This creates a pro-nuclear lobby that influences the government's decisions on maintaining and even expanding the nuclear sector. In addition, people are familiar with the technology. For example, hundreds of thousands of Ontarians drive by the Pickering reactor on the 401 highway every day and

rarely question its safety. This weakens a major constraint against the development of nuclear power.

Third, the provincial governments in Saskatchewan and Alberta, because there were no existing nuclear power plants in the province, commissioned comprehensive expert panels to investigate nuclear power. In addition, both provinces conducted public consultations on the introduction of nuclear power. However, because Saskatchewan had debated nuclear power in the past, there existed a coordinated anti-nuclear movement in the province that was able to mobilize opposition during the public hearings. In Alberta, the anti-nuclear groups were newer and weaker and have not been able, except in Peace River, to even put the issue of nuclear power on the province's political radar screen.

Electricity Market

Electricity generation and distribution is in provincial jurisdiction, and how each electricity market operates is a key explanatory variable when comparing the province's response to the global nuclear revival. In the first period of nuclear expansion in the 1970s, the electricity market, both globally and nationally, was heavily regulated and publicly owned utilities were the standard. Now, many developed countries, including Canada, have deregulated or partially deregulated their electricity system. This means that the provincially owned public utilities can no longer manipulate electricity prices as part of an overall economic development strategy. Private sector firms (and their shareholders) must now base investment decisions on the projected rate of return based on a levelized cost analysis. This is the same process regardless of whether the source is nuclear, coal, natural gas, hydroelectric, wind, or solar.

Alberta has a completely privatized electricity system, although some degree of government regulation remains through the Alberta Utilities Commission. Alberta has no provincial crown corporation with a monopoly over the electricity grid. In that same vein, Alberta's Department of Energy can recommend to the government whether to allow nuclear power (which they did in December 2009), but they do not have to consider whether they would have a financial stake in the business.[22] It is up to a private electricity generator to find customers to sell their electricity to. A company, like TransAlta or Enmax, could put all their electricity on the grid, they could sell it directly to one customer, or they could decide on some combination of the two. For Bruce Power, which seeks to move beyond being a reactor operator (as they are in Ontario) to being an owner/operator (as they want to in Alberta), there are advantages and disadvantages to the privatized Alberta market. On the one hand, the Alberta political and economic culture respects the fact that Bruce Power is a private sector firm willing to undertake the risk of building a nuclear power plant for the opportunity of great financial reward if the project succeeds. On the other hand, it would be easier to negotiate with only one customer, such as an Alberta utility that monopolized the electricity grid.[23]

Ontario, since the restructuring of Ontario Hydro, has partially deregulated its system and now has what could be described as a quasi-private electricity market. OPG, and the other successor companies, remains solely owned by the government of Ontario, but it is expected to operate on sound business principles as if it was privately owned. This is one of the reasons why OPG conducted a competitive bid process for its new build project. OPG owed it to its shareholders (the people of Ontario) to get the best

[22] Alberta, "Province releases results of nuclear consultation," *News Release* (14 December 2009).
[23] Confidential interview with Alberta electricity industry representative.

technology at the lowest price. This is also why the reactor vendors were required to be solely responsible for any price escalations. In the end, the only compliant bid was AECL, but it was rejected because, notwithstanding the economic development aspects of its proposal, its bid was deemed to be too expensive. Ontario's partially deregulated electricity market also explains why Bruce Power was able, on its own, to consider investing in new reactor projects.

The situation in Saskatchewan and New Brunswick is different because both provinces have retained pure public ownership of electricity. While private sector companies (Team CANDU or Bruce Power) would be involved, all decisions regarding electricity would ultimately flow through the provincial crown corporations of SaskPower and NB Power. When SaskPower told the government that it wanted to wait until 2020 to consider nuclear power, then that is exactly what the government did.[24] The proposed sale of NB Power to Quebec-Hydro will change some of the details, but the basic parameters around the public ownership of electricity will remain.

Both Saskatchewan and New Brunswick also continue to adhere to the old model of using electricity generation for regional development. Both governments saw nuclear power as a key component of their province's industrial strategy. Premier Graham's vision was to turn New Brunswick into an 'energy hub' with multiple energy projections (LNG terminals, expanded transmission system, oil refinery, etc) based on the province's central geographic location. The refurbishment of Point Lepreau and the pursuit of a second reactor were integral parts of the "energy hub" strategy.[25] Premier Wall created the UDP to pursue his plan of leveraging Saskatchewan's substantial uranium mining

[24] Confidential interview with Saskatchewan government official.
[25] New Brunswick, Energy, "The Energy Hub." Accessed on 26 October 2009 at http://www.gnb.ca/0085/Hubdef-e.asp

resources to move up the value-added and high technology chain to uranium upgrading, medical isotopes, nuclear research and development, and nuclear power.[26]

Part of their regional development strategies was to acquire federal funds for their nuclear projects. Point Lepreau was first built in the 1970s with a significant contribution from the federal government. Therefore, the New Brunswick government was surprised when it was rebuffed by the Paul Martin government in their request for about $800 million to support the refurbishment of Point Lepreau.[27] More recently, the New Brunswick government has asked Ottawa to cover the cost overruns associated with the refurbishment. In the case of Saskatchewan, their proposal for a new multi-use research reactor is based on a cost-sharing arrangement that would have the federal government contribute up to 75% of the construction costs and 60% of the operating costs.[28]

Public Consultations

A major difference between the provinces was the use of public consultations. Public acceptance of nuclear power has been identified as a necessary political requirement in democratic societies. This is because, as Les Pal, has recognized, policymakers must "somehow balance expertise with democracy. Scientists and experts make claims and recommendations based on notions of truth, not majority wishes. The fear is that an overly rational policy process will be driven more by small cliques of experts than by the democratic desires and participation of the public. The problem is

[26] Premier Brad Wall, *Address to the Canadian Nuclear Association,* (Ottawa, 26 February 2009).
[27] New Brunswick, Department of Energy, "Province to proceed with refurbishment of Point Lepreau," (29 July 2005).
[28] Government of Saskatchewan and the University of Saskatchewan, *The Canadian Neutron Source: Securing the Future of Medical Isotopes and Neutron Science in Canada.* Submission to the Natural Resources Canada Expert Review Panel on Medical Isotope Production. (31 July 2009).

even more acute when an issue is highly contentious."[29] The nuclear policy area is obviously one of the more contentious issues that governments have to face, so, in order to derive public acceptance, governments often utilize a thorough public consultation process. As Richard Florizone, the Chair of the UDP, has asserted, there are critical elements to a successful nuclear strategy: technically sound and feasible, economically attractive, environmentally appropriate, and socially accepted. An effective public consultation process supports this strategy by: "inform[ing] debate and dialogue on the nuclear development; surface[ing] and explor[ing] the strong and varied perspectives that exist; and provid[ing] input into longterm policy decisions."[30]

Yet, in New Brunswick and Ontario, where nuclear power has been generating electricity for decades, the government, despite demands from local anti-nuclear groups, decided against a public consultation process. In contrast, in Saskatchewan and Alberta, where nuclear energy would be a new phenomenon, both provincial governments decided on a process to consult the public. This is because while nuclear power is always politically contentious, it is strongest in geographic areas, like the two prairie provinces, where it did not exist before. Accordingly, both the governments of Saskatchewan and Alberta embarked on a mechanism to consult their populations on whether they should introduce nuclear power. While the goal was the same – to gauge public reaction on a continuous policy issue – the design of their respective consultation process was quite different. This allows a policy analyst to make some observations about the strengths and weaknesses of different designs. Designing the appropriate mechanisms is critical. An

---

[29] Leslie A. Pal, *Beyond Policy Analysis: Public Issue Management in Turbulent Times.* 3rd Edition (Thomson Nelson: Toronto, 2006), 261.
[30] Richard Florizone, "Capturing the Full Potential of the Uranium Value Chain in Saskatchewan." Presentation to the 30th Annual Canadian Nuclear Society conference (Calgary, 1 June 2009).

inappropriate mechanism can lead to accusations that "the decision is already a *fait accompli*," or allowing a vocal minority to block a project that would greatly benefit the province. However, a proper design is only half the battle. When the results are in, governments need to weigh quantitative and qualitative data and randomly-selected versus self-selected responses. They need to assess the strength of economic and environmental arguments and balance scientific facts with democratic impulses. The ultimate judgement of the government's decision, and the role of the public consultation process, occurs when the electorate either rewards or punishes the government at the ballot box.

The biggest difference in the two processes was the use of public hearings which were done in Saskatchewan, but not in Alberta. The major benefit of public hearings is in support of the concept of deliberative democracy. Deliberative democracy "take the ideal of the informed and uncoerced dialogue of all those who could be bound or affected by policy (or their accountable representatives) as an appropriately high standard of justice and legitimacy." It is critical that the dialogue – such as public hearings – allows "all those potentially affected by the outcomes freely draw from their experiences and expertise, mutually exchange their perspectives, and ultimately exercise their decisional agency."[31] Critics of Alberta's decision not to hold public hearings emphasized that the omission constituted a democratic deficit.[32]

An additional benefit of public hearings is that, while not a statistically representative sample of public opinion, it did, in the case of Saskatchewan, reveal a cross-section of groups that are strongly opposed to most (for some, all) aspects of the

[31] Johnson, *Deliberative Democracy for the Future*, 79.
[32] Citizens Advocating the Use of Sustainable Energy, *Response to the Alberta Nuclear Panel Report* (7 April 2009). Accessed 15 April 2009 at http://www.nuclearfreealberta.ca

nuclear sector. The range of opposition groups (environmental, labour unions, peace, religious, etc), the geographic range of the opposition (all parts of the province, no NIMBY syndrome here), and the range of arguments (economic, health, environmental, peace, etc) against nuclear expansion was wide indeed. Everybody in Saskatchewan, organizations and individuals alike, could have participated in the UDP public consultation process. The fact that it was the anti-nuclear forces who mobilized is something that the government cannot ignore. A highly motivated minority can often overwhelm a soft majority by its intensity.

There is a danger that public hearings can often be high jacked by special interest groups. Commenting on previous public hearings, Colin Hunt, of the Canadian Nuclear Association, noted that:

> It didn't matter where you were in Canada, it was exactly the same faces testifying at the previous one...the usual horde of anti-nuclear groups. That's who participated in these hearings...The public didn't speak. All the Panel heard from was a handful of special interest groups repeating their message time after time after time. So, my question becomes then, is it legitimate to translate a handful of public interest groups to say, or so-called interest groups, to say they constitute the public interest.[33]

This scenario played out again in Saskatchewan as anti-nuclear activists packed the public hearings and submitted the majority of submissions.[34] The UDP public consultation process, as a Bruce Power official admitted, allowed the:

> anti-nuclear movement to mobilize and unify. It gave all of the opposition groups an opportunity and platform. They could say what they wanted without any consequences. Opinions, even misguided ones, even completely wrong ones, were equally counted as facts. The Perrins report, as an official government document, has given the anti-nuclear groups legitimacy.[35]

---

[33] Quoted in Johnson, *Deliberative Democracy for the Future*, 45.
[34] Jeremy Warren, "Uranium forums 'sidetracked,'" *Saskatoon StarPhoenix* (15 June 2009).
[35] Interview with Steve Coupland, Senior Advisor – Regulatory Affairs, Bruce Power (Calgary 20 October 2009).

The only people who tend to participate in public hearings about nuclear issues, with the exception of hearings at potential reactor sites (which are included in the environmental assessment process) are the rabid anti-nuclear and pro-nuclear activists. It is to avoid this problem that focus groups, where the participants are not told what the topic is in advance, were used to provide input from Albertans who were undecided about nuclear power. Allowing any interested person to fill out the workbook (in combination with the stakeholder consultations and focus groups) was a legitimate compromise. Moreover, stakeholders from the Peace Region were invited to a special consultation meeting. But it was a closed meeting, meaning that it was by invitation only, and no media was allowed. It is important to note that that many of the most vocal and organized critics of nuclear power in Alberta participated in these stakeholder sessions.

A second aspect of the public consultation process is that it needs to include multiple tools because each one has strengths and weaknesses. Telephone surveys may provide a statistically representative sample, but they do not have time to go into detail, and there is no opportunity for dialogue. Workbook submissions, either on-line or hardcopy, allow for greater detail including an opportunity to provide comments instead of just a sliding scale of responses. Workbooks also allow participants an opportunity to reflect on their answers. However, workbooks are time consuming, and this means that only the most motivated will take the time to fill them out. Therefore, you get the most intense responders, but not a statistically representative sample. There is also a danger that pro or anti-nuclear groups could mobilize people to fill out the workbook in a

consistent fashion.[36] Public hearings allow individuals and groups to prepare (like with the workbooks), but with the additional benefits of a dialogue with other individuals and groups. In addition, if the media covers the event, it allows non-attendees to be educated about the subject. The public hearings in Saskatchewan generated substantial media coverage; in contrast, the nuclear issue in Alberta was beneath the radar. The downside of public hearings is that they can be high jacked by special interest groups and the silent majority can be ignored. Focus groups also allow for dialogue, but because they are randomly-selected they are more representative than public hearings. However, focus groups do not allow participants the time for preparation and reflection in advance of the meetings. In addition, there is the possibility that a facilitator could lead the participants in the pre-designated direction.

The other reason why multiple tools need to be used is that there is a strong correlation between the consultation tool and the result. In both Saskatchewan and Alberta, there was a wide divergence between the results of randomly-selected participants (telephone surveys, public opinion polls, focus groups) and self-selected participants (public hearings attendees, online workbook submissions). Dan Perrins declared that 85% of participants opposed nuclear power, but this result contradicted numerous public opinion surveys that showed a slight majority of Saskatchewanians in favour of nuclear power.[37] As Table 2 shows, there was a similar gap in Alberta.

---

[36] For example, Citizens for the Use of Sustainable Energy (CAUSE) sent out emails, labelled a "call for action," through affiliated organizations with instructions on how to fill out the Alberta consultation workbook. They wrote that "the information preceding the survey is full of false and missing information. I am attaching again CAUSE's response to the Nuclear Panel Report, our alternative report and media release. Here is a summary of some of the errors in the government document preceding the survey (this new government document is similar, but not identical, to the Nuclear Panel Report.)" Confidential email received by the author.

[37] In three separate polls conducted by Sigma Analytics for the Regina Leader-Post (November 2006, May 2008, and April 2009) support for a uranium refinery has ranged between 57.2-75.1%. While support for

[Attach Table 2 about here]

What impact did the public consultation process have on government decision-making? Prior to the initiation of the process, the Saskatchewan government could be described as very pro-nuclear. Soon after coming to power, Premier Brad Wall stated that "we would like to lead. It's time for the country to have a national vision on nuclear energy—and we want to aggressively pursue that."[38] The governing Saskatchewan Party publicly desired everything from uranium upgrading, to a power reactor, to increased research and development, to medical isotopes. This was reflected in the mandate which they gave the UDP, which was not to assess in a neutral fashion the technical aspects of nuclear power, but to consider how to maximize the potential of the nuclear sector in Saskatchewan. Moreover, if the Saskatchewan party was replaced it is likely that the NDP would follow a similar path. This is because the NDP tacks towards its internal anti-nuclear faction while in opposition, but when it is in government it listens to its pro-nuclear wing.[39]

In contrast, the Alberta government could be described as agnostic on nuclear issues. There is no pro-nuclear political party in Alberta. The Progressive Conservatives, who have governed since 1971 in what has been described as a "one party dominant"

---

the construction of a nuclear power plant is lower still: support has ranged between 47.8-53.5%, while opposition has ranged between 30.5-33.5%. Regina Leader-Post and Sigma Analytics, "Uranium Development and Nuclear Power Generation," *Survey Report* (April 2009). Accessed on 18 April 2009 at http://www.leaderpost.com/pdf/UraniumNuclearTrackingReportApril09.pdf An October 2009 online poll by Insightrix Research found that almost 62% expressed support for the development of a nuclear reactor in Saskatchewan. In addition, 75% of respondents "felt the feedback at public hearings this summer represented a very vocal minority of nuclear opponents." Jeremy Warren, "Opposition to reactor grows," *Regina Leader-Post* (21 October 2009).

[38] Karen Howlett, "With two proposed reactors, Saskatchewan joins Ontario in nuclear renaissance," *The Globe and Mail* (18 June 2008).

[39] Commentators from both the left and right have come to the same conclusion: John Gormley, "NDP's nuclear meltdown," *Saskatoon StarPhoenix* (3 April 2009) and Jim Harding, *Canada's Deadly Secret: Saskatchewan uranium and the global nuclear system* (Fernwood Publishing: Winnipeg and Halifax 2007).

political system, have been very cautious when asked about nuclear power in the province. During his campaign for the Progressive Conservative leadership in 2006, Ed Stelmach did not advocate nuclear power (as did Jim Dinning, the perceived frontrunner), but instead promised to study whether it was a right fit for the province. After assuming the Premiership, there were some initial tentative comments, both in favour and in opposition, from some of Stelmach's cabinet ministers.[40] But once the NPEP was established a cone of silence went up around the government and no public comments were made except to say that they are consulting Albertans. Even when the government announced its conditional support for nuclear power in December 2009, there have been no comments outside of Premier Stelmach and Energy Minister Knight.

Ultimately, the purpose of the public consultation process is to help elected officials come to a decision. Governments must weigh the advice of nuclear scientists, business people, and other experts with the concerns of ordinary citizens. In addition, governments must weigh the various tools that are used in the public consultation process. The Saskatchewan government, on the surface, appeared to throw out most of the results of the public consultation process. But, its decision to delay moving forward with a nuclear reactor was obviously informed by the strong, if not statistically accurate, opposition exhibited in the public hearings and submissions. This does not mean that the Wall government is disregarding the wishes of the public, but recognition that the public consultation process was high jacked by special interest anti-nuclear groups who did not represent the majority view of Saskatchewanians.

[40] For example, Treasury Board President Lloyd Snelgrove said that nuclear power was "a natural fit" for the oil sands, but Environment Minister Rob Renner responded that he was sceptical and was concerned about the disposal of nuclear waste. Quoted in Jason Fekete and Tony Seskus, "Nuclear option divides Alberta," *Calgary Herald* (11 February 2007).

The Alberta government's decision further reflected its agnostic stance regarding nuclear power. It did not oppose nuclear power; instead it asserted that nuclear power, like all other forms of electricity, were private sector decisions. It did not support nuclear power; instead it explicitly stated that it would not put any public money into a nuclear project. This balancing act continued with its assessment of the results of the public consultation process. It opted to emphasize the quantitative results of the telephone survey over the online workbook. It also balanced the qualitative discussions in the stakeholder sessions with that of the focus groups. Regarding public hearings, the government noted that if a nuclear project went forward it would require a further three-year environmental assessment that would include public hearings.[41]

National and Provincial Policy Communities

This paper, unlike most of the literature on policy communities, distinguishes between national and provincial policy communities.[42] What is seen in the nuclear sector, is that the Canadian nuclear policy community is modified in each province. The major reason for federal-provincial cooperation (and sometimes competition) in the nuclear sector is because it is mandated in the constitution. Canada's constitution grants jurisdiction over natural resources, energy, and electricity generation to the provinces, but assigns jurisdiction over nuclear power, especially regulatory powers to ensure the safety and security of nuclear reactors, to the federal government. This is why both levels of government have crown corporations in the nuclear sector. At the federal level you have

[41] Alberta, "Province releases results of nuclear consultation," *News Release* (14 December 2009) and Innovative Research Group Inc., *Alberta Nuclear Consultation*. Report prepared for: The Alberta Government – Department of Energy (2009). Accessed on 14 December 2009 at http://www.energy.gov.ab.ca/Electricity/pdfs/AlbertaNuclearConsultationFull.pdf

[42] Montpetit and Coleman compare provincial policy communities, but do not compare national and provincial policy communities. Éric Montpetit and William D. Coleman, "Policy Communities and Policy Divergence in Canada: Agro-Environmental Policy Development in Quebec and Ontario," *Canadian Journal of Political Science* XXXII/4 (December 1999): 691-714.

AECL, and at the provincial level you have NB Power, OPG, and SaskPower. The interplay between these national and provincial actors is an essential feature of each province's response to the global nuclear revival.

The fragmentation of the nuclear sector replicates the larger fragmentation that exists in electricity generation. For example, Canada generates electricity in different ways depending upon the province: hydroelectric in Quebec, Newfoundland, and Manitoba; nuclear energy in Ontario and New Brunswick; and coal in Alberta and Saskatchewan. In addition, Canada does not have an east-west electricity grid, but a series of north-south grids. It is due to the problems of fragmentation that business leaders are requesting the federal government to initiate and coordinate a pan-Canadian electricity strategy.[43]

There are many different ways that the national policy community and the provincial policy communities interact. At one extreme is Ontario, where it is very difficult, even by the participating actors themselves, to distinguish between the national and provincial communities. At the other extreme is Alberta where it was easy to delineate the two communities. The Alberta nuclear policy community is notable for the existence of a series of mutually beneficial partnerships within the different components of the nuclear sector. Since there was a general lack of nuclear knowledge across the province, a partnership emerged between a local actor who knew the economic/political landscape and an affiliated national actor who provided technical support. This situation existed in every branch of the Alberta nuclear policy community. At the governmental level, the Alberta departments of energy and environment spoke with their colleagues in the federal government and the CNSC. In the case of industry, Energy Alberta Corp

[43] Interview with Hal Kvisle, President of TransCanada Corporation, Calgary, 14 May 2008.

(EAC) was the public face, but AECL was in the background. Even when Bruce Power took over it made sure to establish a small office in Peace River headed by Albert Cooper, a former MP and prominent businessman in the area. Bruce Power also has local ties through one of its owners – TransCanada Corp – which is a major oil & gas firm headquartered in Calgary. Local anti-nuclear groups, like the Peace River Environmental Society (PRES), could mobilize grassroots opposition, but they relied upon national actors, other provincial organizations, and international groups to provide technical advice. The Alberta Branch of the Canadian Nuclear Society relied heavily on financial, administrative, and technical support from the national office in Toronto. This relationship existed because the political culture in Alberta demanded that local actors lead the process – there was no way that an Ontario-based crown corporation like AECL could gain traction in Alberta - but the technical realities of nuclear power required assistance from the larger national policy community.

The preceding section identified the differences between the national and provincial policy communities. However, there are also stark differences between the four provincial nuclear policy communities. Each provincial nuclear policy community can be compared based on their actors, the relationships between the actors, and their influence over government decision-makers.

There are obviously national actors, like the CNSC and the CNA, that simply replicate their relationships and influence across different provincial jurisdictions. In addition, there are the same *types* of actors are present in each province, ie., government departments, provincial utilities (SaskPower, NB Power, OPG), etc. What is most interesting is the existence or prominence of actors in some provinces, but their absence

in others. Labour unions are important actors in New Brunswick, Ontario, and Saskatchewan, but largely absent in Alberta. First Nations organizations exist in every province, and any siting decision involves the Duty to Consult, yet their presence is most apparent in the Saskatchewan nuclear policy community. This reflects the role of native employment in the uranium mining sector and the location of uranium mines on native land. However, a more powerful explanation is the more active role that native groups play generally in Saskatchewan politics. A role that is greatly heightened when compared to the other provinces analyzed in this study. Similarly, rural municipality groups, as opposed to just individual mayors and county officials, are traditionally stronger in Saskatchewan. This is reflected by their involvement in the Saskatchewan nuclear policy community. In each province, there are local anti-nuclear groups, but their presence is relatively smaller in New Brunswick than the other provinces. This could be due to the combination of a small population base and a traditionally weak economy with high unemployment whereby economic development trumps many other social considerations.

The key relationships within the nuclear policy communities are between the pro-nuclear and anti-nuclear components. The pro-nuclear components include the nuclear industry, unions, nuclear scientists, and sympathetic members within government. The anti-nuclear components include many general environmental organizations, grassroots anti-nuclear groups, and nuclear critics within government. There are also a handful of more neutral actors (Native organizations, municipalities, etc) who swing back and forth depending upon the issue. In general, the pro-nuclear and anti-nuclear components have largely been unified, but several recent events in Ontario and New Brunswick have divided AECL from other pro-nuclear actors. In New Brunswick, the delays and costs

overruns with the Point Lepreau refurbishment project have set AECL and NB Power against one another. This dispute escalated to a higher level when the owners of the companies - the New Brunswick government and the federal government – became involved.[44] Similarly, the delays and costs overruns with the Pickering A restarts and the Bruce A refurbishments have created tensions between OPG, Bruce Power, and AECL. The competitive bid process in Ontario also led to a dispute between Areva and AECL. Other nuclear companies, especially those within the Organization of CANDU Industries, were forced to choose sides. The suspension of the new build project in Ontario led the power workers union to support the enhanced CANDU-6, while AECL was still promoting its new ACR-1000. Finally the anticipated privatization of AECL has been supported by much of the nuclear industry (including AECL management), but opposed by the unions.

There is widespread consensus that the nuclear industry is the most influential actor in all of the nuclear policy communities. However, as was mentioned above, the nuclear industry is not always unified. Obviously the nuclear industry is very supportive of the maintenance and expansion of nuclear power. However, they often disagree over the means, especially the type of technology, to advance nuclear power. More importantly, just because the nuclear industry is the most influential, and has the easiest access to government decision-makers, does not mean that they get their way. Evidence of this is the stalled efforts to build new nuclear reactors in Ontario, New Brunswick, Saskatchewan, and Alberta.

[44] New Brunswick, Office of the Premier, "Letter to the Right Honourable Stephen Harper," (21 January 2009) and New Brunswick, Office of the Premier, "Letter to the Right Honourable Stephen Harper," (15 September 2009). Accessed on 28 October 2009 at http://www.cbc.ca/news/pdf/letters-to-pm.pdf

The actors, relationships, and influence are the most important aspects of the nuclear policy communities. That being said, it is also important to note that there has been significant coordination between the national and provincial nuclear policy communities, but there has been little coordination *between* provincial nuclear policy communities. As Cadman has noted, "one need only consider the apparent lack of consultation and coordination between neighbouring Alberta and Saskatchewan in their respective nuclear planning….Likewise, Ontario and New Brunswick appear to have engaged in little, if any, coordination in their respective nuclear ambitions."[45]

Conclusion

The first decade of the 21st century has seen the beginning of a global nuclear revival. In the years that come, we may look back on this period, especially from 2005-2010, of activity in Canada as the critical preparation stage that was necessary before fully embarking on a revival of nuclear power. It was during this time period when the political, economic, and technological case for nuclear power was made. When the arguments of the pro-nuclear members of the nuclear policy communities persuaded governments and the wider public to maintain and expand nuclear power across Canada. By 2030, we could very well be observing new nuclear power plants operating in Ontario, New Brunswick, Saskatchewan, and Alberta. An alternative scenario, is to look back and see that Canada choose not to participate in the global nuclear revival. When, despite the energetic activity of many pro-nuclear actors, governments across the country decided that while they would maintain the existing fleet of reactors (largely due to the sunk costs), they would take a pass on expanding nuclear power.

[45] Cadman, "The Canadian Nuclear Industry," 15.

TABLE 1

COMPARING THE NUCLEAR REVIVAL ACROSS THE PROVINCES

		Ontario	**New Brunswick**	**Saskatchewan**	**Alberta**
Major Studies	**Government**	IPSP, Pickering A, OPG Review	Pt Lepreau Refurb, New Reactor Feasibility	UDP	NPEP
	Industry	Bruce Power (Refurb of Bruce A), OPG (Refurb of Pickering B)	Team CANDU New Reactor Feasibility	Bruce Power New Reactor Feasibility	None
	Anti-Nuclear Groups	Several	None	Several	Several
Refurbishments		Pickering A1 & A4 (restart), Bruce A3 & A4 (restart), Bruce A1 & A2 (refurb)	Pt Lepreau	n/a	n/a
New Builds		Two reactors at Darlington (currently suspended)	One reactor at Point Lepreau (proposed)	One power reactor (delayed), One multiuse research reactor (proposed)	Two reactors (proposal anticipated)
Public Support	**Consultations**	None	None	Comprehensive	Limited
	Polls	60-65% Support	45-55% Support	50-55% Support	50-55% Support

TABLE 2

COMPARING ALBERTA'S NUCLEAR POWER PUBLIC CONSULTATION RESULTS BY INSTRUMENT

	Telephone Survey (Randomly-Selected)	Discussion Group (Randomly-Selected)	Submission of Workbooks (Self-Selected)
Province should encourage proposals	19%	22%	28%
Considered on a case-by-case basis	45%	57%	16%
Province should oppose proposals	27%	13%	55%
Don't Know	8%	8%	1%

Source: Innovative Research Group Inc., *Alberta Nuclear Consultation*. Report prepared for: The Alberta Government – Department of Energy (2009). Accessed on 14 December 2009 at http://www.energy.gov.ab.ca/Electricity/pdfs/AlbertaNuclearConsultationFull.pdf