CANADA-U.S. ELECTRICITY TRADE AND ENVIRONMENTAL POLITICS

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INTRODUCTION

In August, 1989, Hydro-Quebec and the New York Power Authority signed the largest export contract in Canadian history, totalling $17 billion(Cdn) over a 21-year period. Two and one-half years later, following months of tumultuous international debate over the economic and environmental aspects of this agreement, New York Governor Mario Cuomo accepted the advice of the Power Authority and refused to sign the final implementing contract. What prompted such a dramatic reversal?

Canadian electricity exports to the U.S. have become one of the most salient issues in Canada-U.S. relations. A decade ago, bilateral electricity trade was rarely discussed outside of electric utility circles and government regulatory offices. Today these sales of electric power touch on many of the fundamental issues facing Canadians and Americans. How should natural resources be managed for future generations? What are the appropriate roles

*A list of acronyms used in this article is provided on page 27.

for provincial, state, and federal governments? What are the rights of Native peoples? How should regulated monopolies price their product for export markets? How far should the U.S. go in making judgments on Canadian energy policies? How far should Ottawa go in structuring the conditions under which Canadian electric utilities (or "hydros") may sell to American buyers? And, for good measure, electricity trade in eastern Canada is inextricably bound to the broader influence of Quebec's nationalism, since Quebec's Quiet Revolution transformed Hydro-Quebec from an insignificant provincial crown corporation into a formidable instrument of francophone economic development.

This essay traces recent developments in Canada-U.S. electricity trade and emphasizes major changes which have occurred since 1985. Electricity trade is now shaped by Canadian export screening and environmental review policies. These policies have been marked by a shifting balance of forces between federal and provincial authorities and rising demands by Native groups for control over hydro development and exports. These associated questions have become supremely important, of course, with regard to the major exporting province, Quebec, because the issue of environmental review has now merged with the fundamental constitutional struggle between Quebec and the federal government. In the words of a former Quebec environmental policy official, "there is an immense constitutional problem which is now being played out in the environmental arena."[1] As well, rising demands by Native groups for autonomous powers have greatly influenced the export screening and environmental policies affecting electricity trade.

The paper concludes with a consideration of environmental issues in the United States as they affect American imports of Canadian electricity. The environment is not as pressing an issue for American importers of Canadian electricity at the present time, since no U.S. federal review is needed for these imports and state laws do not require any review of the environmental effects in areas beyond a state's borders.

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Only the environmental effects within the importing state are presently considered by state regulatory commissions. Rising public interest in environmental issues, however, is compelling state governments and public service commissions to pay careful attention to the environmental costs of imported power, even if those costs occur exclusively in Canada.

GROWTH OF CANADA-U.S. ELECTRICITY TRADE

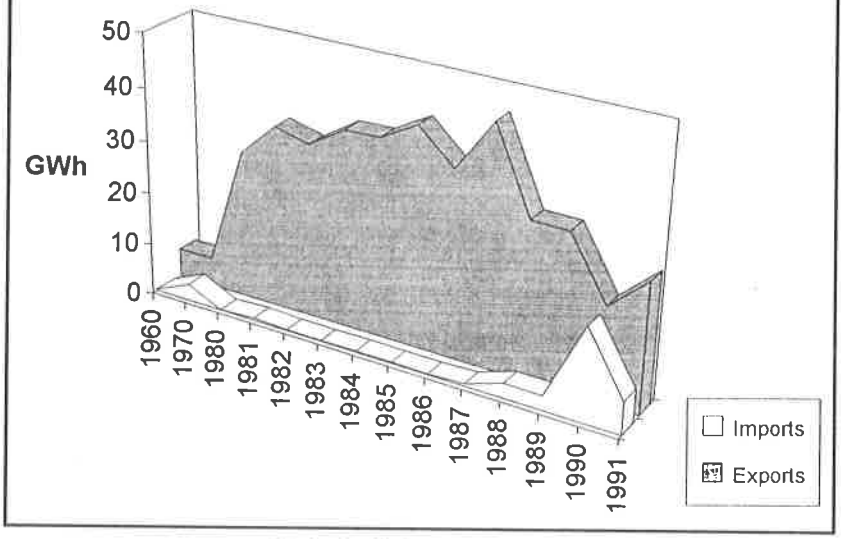
Canada-U.S. electricity trade is almost a century old, beginning in the early 1900s when Ontario and New York established interconnections at the Niagara Falls generating facilities. This trade remained small until the energy shocks of the 1970s, when Canadian power sales to the U.S. grew rapidly. For most of this century Canadian and U.S. shipments of electricity were equal, with flows occurring in different directions at various points along the international border.[2]

Beginning with the turmoil in world energy markets in the early 1970s, Canadian exports of electricity to the U.S. rose sharply as American utilities looked for cheaper and more reliable sources of power (Figure 1). Canadian hydros undertook new construction programs such as the mammoth James Bay development in northern Quebec, and these permitted rising sales to the U.S. In eastern Canada, the size of the untapped resources was enormous: in the mid-1980s, for example, Quebec was considering adding 20,000 megawatts to its generating capacity through long-term development projects. This equalled the entire capacity of New England utilities contributing to the New England Power Pool and serving a regional population equal to one-half that of all of Canada![3]

In the early 1980s the focus of Canadian exporters shifted from almost exclusive use of interruptible contracts to firm sales, whereby the Canadian seller guaranteed the American purchasing utility a specified power level with draconian financial penalties for failure to deliver on request of the buyer. Since the mid-1980s several important firm contracts have been signed with American customers, although interruptible transactions still represent the more important method in Canadian exports, remaining more than half of all exports in 1989.

FIGURE 1

Canadian Electricity Exports and Imports, 1960 - 1991



Provinces vary widely in their export strategies: in the mid-1980s, Quebec pursued a determined strategy of shifting toward firm export contracts, while Ontario, Saskatchewan, and British Columbia continued to have very small shares of firm contract commitments (Table 1).

TABLE 1

FIRM AND INTERRUPTIBLE CANADIAN ELECTRICITY EXPORTS, 1989

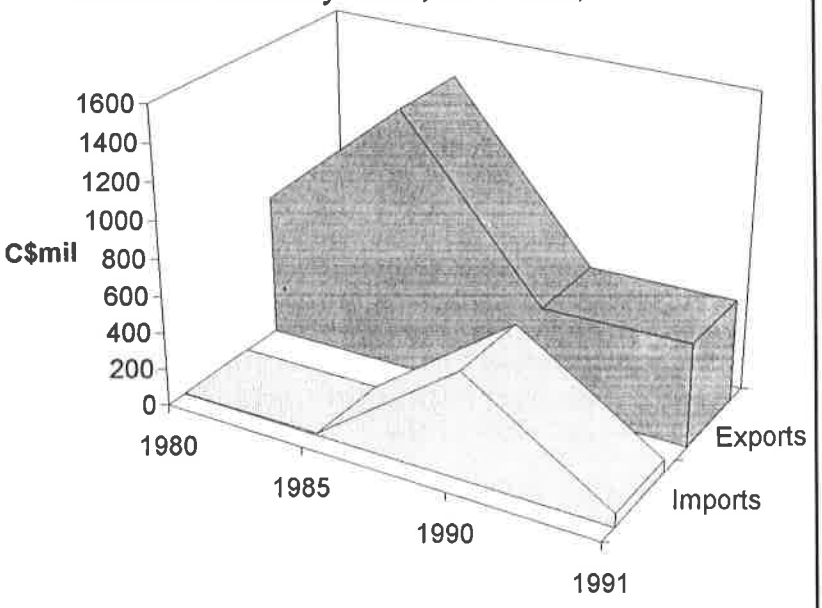
	Firm	Interruptible	Firm	Interruptible
	(GWh)		(Percent)	
New Brunswick	2,399	2,055	50	50
Quebec	4,930	776	86	14
Ontario	330	2,383	12	88
Manitoba	243	985	20	80
Saskatchewan	0	10	0	100
British Col.	476	3,874	11	89

Source: National Energy Board data, cited in Canada, Department of Energy, Mines, and Resources, *Electric Power in Canada, 1989* (Ottawa: 1991), 59.

But the optimistic growth scenarios marking the mid-1980s did not hold. Electricity exports from Canada peaked in 1985, totalling 41.4 GWh, with net exports earning $1.4 billion(Cdn). In the late 1980s gross exports declined precipitously. Low water conditions in Quebec, Manitoba, and Newfoundland, operating difficulties in Ontario's nuclear facilities, and higher than anticipated domestic demand reduced the amount of electricity for export. Ontario and Quebec turned to the U.S. to import large amounts of electricity in 1990 and 1991 (Figure 2). At the same time, the northeast U.S. was entering a severe recession, shrinking electricity markets, while the attractiveness of natural gas as an alternative fuel increased.

FIGURE 2

Canadian Electricity Trade, 1980 - 1991, C$ Million



To appreciate the severity of the fall in Canadian electricity exports, one may compare the actual net export figure of 9,715 GWh in 1989 with overly optimistic projections made by officials in both nations. In 1986 the U.S. Department of Energy's Energy Information Administration (EIA) projected that Canadian exports would reach 49,000 GWh in 1990 and 54,400 GWh in 1995.[4] As recently as 1988 the National Energy Board of Canada (NEB) projected net exports for 1990 in the range of 44,000 GWh, widening to a range of 45,300 to 70,800 GWh by 2005.[5]

In addition to the rapid and unexpected change in economic conditions which undermined the most careful forecasts, broader forces were challenging the new energy projects on the drawing boards in Canada. Native peoples opposed new hydro projects in Quebec, Manitoba, and British Columbia as part of a fundamental questioning of their relationship to the Canadian political system. On the American side of the border, federal regulatory changes underway since the late 1970s were pushing U.S. electric utilities—the customers for Canadian electricity—away from large contracts for firm power stretching over 20 or 30 years. Instead, American federal and state regulators aimed to transform U.S. utilities into market-driven buyers and producers of electricity, responding quickly to changes in the energy markets, fiercely competing with other energy sources and rewarding their individual and corporate customers for far-reaching conservation measures. This meant that U.S. utilities became increasingly reluctant to lock themselves into long-term contracts with Canadian hydro exporters.[6]

It is against this backdrop that the most dramatic confrontation in bilateral electricity trade unfolded in the early 1990s.

ORIGINS OF CANADIAN ENVIRONMENTAL REVIEW POLICIES

Comprehensive Canadian environmental reviews at the federal level began in June, 1984, during the closing days of the Trudeau government when the cabinet issued an order-in-council[7] establishing guidelines for all federal departments and entities under the Environmental Assessment Review Process (EARP). The reviews would be coordinated through the Federal Environmental Assessment Review Office (FEARO). For several years, federal departments considered these reviews discretionary. FEARO did not conduct reviews independently but only at the request of specific departments.[8] The process was widely criticized as weak and uncoordinated.

Canadian federal court rulings on two dam construction projects in 1989 and 1990 radically altered the interpretation of Ottawa's responsibilities in a field in which it had previously deferred to provincial authorities. The courts found that the federal government was negligent in its reviews of the Oldman River dam in Alberta and the Rafferty-Alameda dam in Saskatchewan. The courts ruled that the 1984 guidelines were binding rather than discretionary: Ottawa had to conduct reviews whenever construction projects impinged on areas of federal responsibility, such as federal lands, Native lands, inland fisheries, and navigable waters.

This unexpected activism shown by the federal courts surprised many federal and provincial officials. One senior official in Environment Canada had expressed the consensus prevailing before 1989: "NEPA [the U.S. National Environmental Protection Act] works because of pressure from the courts, but in Canada judicial review is much less likely to second-guess administrative judgments...."[9] The Oldman and Rafferty decisions drastically changed the rules of the environmental game. Since the Oldman and Rafferty-Alameda projects are being built by provincial governments, they now fear a move by Ottawa to expand federal powers into the natural resource area, a domain granted to provincial governments by the constitution.[10]

What had begun as an environmental issue in the mid-1980s, when groups such as Friends of Oldman River first prepared their attack on the project, now entered the constitutional debate over the very fabric of Canada. The direct implication of the Oldman and Rafferty decisions is that Ottawa may be able to block Quebec's megaproject of the 1990s. As federal officials struggled to find an acceptable course, interprovincial rivalries spilled over into the debate. Many Albertans, for example, charged that Ottawa treated the western dam projects more harshly than it planned to do for James Bay II even though the Oldman dam would flood less than 10 square miles, and James Bay II along with other smaller projects in Quebec, when completed, would flood 12,000 square miles.[11] Albertans point to perceived anti-western bias in the entire EARP process. "Of 23 environmental review panel reports from 1975 to 1982, no fewer than 21 concerned western or frontier projects." Yet no review was conducted of any large Quebec or Ontario industrial scheme, not even of Ontario's nuclear power project.[12]

Looming behind the Oldman River and Rafferty court decisions was the real flashpoint, the next steps regarding regulation of the vast James Bay projects in northern Quebec. Ottawa and Quebec skirmished for two years over the nature of federal participation in an environmental review. By late 1990 the principle of a joint review had been agreed upon and in 1992 an accord for a comprehensive review of Phase II and Grande Baleine was signed by Ottawa, Quebec, and the Cree.[13] This plan encompasses five different environmental review procedures, four of which are covered by the James Bay and Northern Quebec Agreement of 1975 which laid the legal framework for hydro development in the northern region, and one is implemented under the EARP following the 1984 order-in-council.

Until 1992, environmental reviews lacked a firm grounding in legislation which stood up to parliamentary scrutiny and gathered a firm

grounding in public consensus. The absence of governing statutes became even more noticeable after 1989 when federal courts, responding to environmentalists' appeals, embarked on an activist course which changed environmental reviews from optional to mandatory responsibilities of the federal government. The Mulroney administration moved to develop federal legislation for the environmental review process, and the House and Senate passed Bill C-13 in 1992.[14]

The centerpiece of federal environmental review policy is the Environmental Assessment Review Process (EARP).[15] EARP must be undertaken for federal construction projects or for projects affecting areas of federal responsibility, such as navigable waters or Native affairs. EARP is now required whenever a federal department (this term also includes federal agencies, boards, and Crown corporations) has jurisdictional responsibilities affected by construction projects. Projects requiring environmental assessments may include those undertaken by private companies, provincial or federal Crown corporations, or other entities of the provincial or federal governments. Sometimes the same federal department may be the builder of the project as well as the department having jurisdiction touched by environmental impacts of the project.

The EARP and FEARO roles have been under review since 1987, with rising public concern that the existing EARP procedure is reactive and *ad hoc*, valuing consensus over achievement of policy goals, too politicized and not transparent enough for public input. Here is a brief sample of concerns:

> The [current environmental impact assessment process] that exists today is proponent-driven and weighs long-term economic benefits against short-term environmental impact or damage, when in fact it should be the other way around. . . .[because of the present political framework] decisions on whether or not projects go ahead are being delayed unreasonably and in many cases pass all the way to the ministerial level, where a whole new set of highly politicized considerations enters in.[16]

> [Regarding panel reviews, usually headed by regional FEARO directors:] It is too much to expect a middle-rung bureaucrat to come out against a megaproject [which] the Prime Minister, the government and perhaps even his own department are on the public record as supporting, perhaps even subsidizing. Panel chairmen should be able

to resign their posts on matters of principle without having to worry about ruining their civil service careers.[17]

FEARO itself admits the difficulty of enforcing EARP throughout the numerous federal departments and agencies involved. As one FEARO official noted, "All decisions made by the federal government are, theoretically, subject to EARP." But the image of "endless consultation" and "thick reports," he noted, "has in the past caused federal decision-makers to be less than enthusiastic about embracing EARP as a useful planning tool."[18]

ELECTRICITY EXPORTS AND ENVIRONMENTAL POLICY

Until the Oldman and Rafferty court decisions requiring environmental reviews by all federal departments, Ottawa did not examine electricity exports for environmental impact. The National Energy Board had previously reviewed these exports for security and economic considerations, and even the NEB's grounds for review were reduced by the 1989 Free Trade Agreement (FTA). However, through the Oldman-Rafferty decisions, the courts have imposed environmental review responsibilities on the NEB.

The National Energy Board regulates Canadian exports of electricity, subject to the changes made by the FTA. The Agreement forbids minimum export prices for electricity; it also removes the National Energy Board's third price guideline, which required exported power to be priced near the level of the least cost alternative for the American purchasing utility.[19]

In the late 1980s, the Mulroney government relaxed many of the Board's oversight procedures in a move to deregulate electricity sales to the U.S. in the same spirit as natural gas or oil deregulation. At the same time, environmental review responsibilities were actually added to the mandate of the Board by the government, again reflecting the growing importance of environmental values among the Canadian public. This began in October, 1988, before the federal court decisions of 1989-1990 requiring environmental assessment by all federal government entities, with Energy Minister Masse's new Canadian Electricity Export Policy.

The linkage of environmental screening functions with the traditional export monitoring role of the Board rendered its mission more complex. The new authority put the Board in the position of facing potential conflicts on environmental grounds with provinces eager to develop their electricity-generating resources for American markets. The constitutional reservation of resource powers to the provinces was

the general point of contention; the specific and explosive decision facing the Board in 1990 concerned Quebec's commitment to expand Hydro-Quebec's facilities through the Great Whale and Nottaway-Broadback-Rupert projects in the northern regions.

The traditional understanding of provincial authority over natural resources was drastically altered in 1990. The Oldman River and Rafferty-Alameda federal court decisions made the EARP procedure mandatory for a project such as James Bay II. Bill C-23, the implementing legislation for the Free Trade Act, was passed in March, 1990. It was followed by the implementing regulations which the National Energy Board issued in June, 1990. In effect, the Board found itself in a new and uncomfortable role: in spite of the general deregulation of electricity markets since the issuance of the new Canadian Electricity Export Policy in 1988, the Board was now faced with the task of acting as gatekeeper for electricity exports with regard to environmental questions, a responsibility for which neither its institutional history nor its technical expertise had prepared it.

The effect of new legislation and the federal court decisions is that the National Energy Board must examine "environmental impact screening" related to any future export application. It may be forced to put aside provincial reviews and rely on its own reviews of projects linked to electricity exports, since the court, in the Rafferty ruling, found that Environment Canada should have conducted its own full environmental review of the Saskatchewan project instead of deferring to the province's environmental review.[20]

The Rafferty decision runs counter to the Board's approach (and the Mulroney government's policy) of shifting electricity export review down to the provincial level, with the Board stepping in only if the provincial reviews are *prima facie* incomplete. In the 1980s the provincial governments had increased their review mechanisms for electricity exports so that all major provincial exporters were subject to some type of oversight by the end of the decade, as shown in Table 2.

The concern for environmental issues within the provinces increased in the late 1980s. The 1986 visit to Canada of the World Commission on Environment and Development (the Brundtland Commission) helped the Canadian Council of Resource and Environment Ministers generate further support for a strong environmental agenda throughout the country. The increased provincial attention to environmental issues in the context of economic development could have important ramifications for provincial electricity reviews. If the provinces develop stringent "provincial EARPs," the National Energy Board may be able to rely upon such reviews as part of its own, now mandatory, review process.

TABLE 2

PROVINCIAL REVIEW PRACTICES FOR ELECTRICITY EXPORTS

British Columbia	Environmental and rate reviews under terms of Environment Management Act and Utilities Commission Act
Alberta	Review by Minister of the Environment
Saskatchewan	Review by Minister of the Environment
Manitoba	Review by Department of Mines, Re sources and Environmental Manage-ment
Ontario	Review by Minister of Environment
Quebec	Environmental Impact Assessments under authority of the Environment Quality Act
New Brunswick	All major generation projects subject to environmental review process
Nova Scotia	Board of Commissioners of Public Utili-ties has general supervision over all public utilities' actions
Newfoundland	Review under terms of the Newfound-land Environmental Assessment Act
Prince Edward Is.	No formal review, but provincial Cabi-net may require environmental impact statement

Source: National Energy Board, *The Regulation of Electricity Exports: Report of an Inquiry By a Panel of the National Energy Board Following a Hearing in November and December 1986* (Ottawa: National Energy Board, June 1987), Appendix II, 66.

The National Energy Board, although an autonomous regulatory body, reports to the government through the Minister of Energy, Mines and Resources. In response to a letter from the Minister of Energy on February 8, 1990, inquiring how the Board would comply with federal environmental review requirements as embodied in the EARP Order, Roland Priddle, the Chairman of the NEB, stated that the Board would begin an environmental review for several major pending projects, including the Mackenzie River Delta gas project and the Trans-Canada pipeline construction project. The 1989 court decisions marked a new phase in NEB review of electricity exports, since environmental review of export applications for power to be derived from new projects such as Phase II of James Bay, Great Whale, and Nottaway-Broadback-Rupert would mark a major incursion of the federal government into provincial energy development. Furthermore, the environmental questions could provide grounds for restricting power exports which would be compatible with the Free Trade Agreement and the General Agreement on Tariffs and Trade.[21] Chapter Nine of the FTA, the energy chapter, does not affect the ability of either party to pursue environmental policies.

The National Energy Board soon felt the impact of legislation and court cases strengthening its environmental responsibilities. Hydro-Quebec had applied for an export license for its firm power contracts with Vermont and New York State (the Board had agreed to consider both contracts in a single review). The NEB's approach to this complex case is examined below.

ENVIRONMENTAL POLICY MEETS ELECTRICITY POLICY: LA GRANDE PHASE II AND GRAND BALEINE

In the early 1980s Quebec began to envisage additional giant generating projects in the James Bay region, expanding facilities on the La Grande river in a second phase, "Phase II," Grande Baleine river, and the Nottaway-Broadback-Rupert (NBR) river complex (Figures 3 and 4). By the late 1980s, Phase II and Grande Baleine were the priority projects, with NBR scheduled for later construction (Table 3). The strategy included firm power exports to the northeast in the early years of these facilities, with Quebec using a rising amount of their output in the period 2010-2020. The export markets, through contract sales, would help to finance construction as well as reduce the exchange rate uncertainties involved for Hydro-Quebec in servicing its debt denominated in American dollars. It is important to note, however, that none of these new facilities would be specifically dedicated to serve export markets for a given number of years.[22]

ELECTRICITY PRODUCTION IN QUEBEC, 1991

FIGURE 3

Centrales de plus de 50 MW en service au Québec Au 1er janvier 1991

CENTRALES HYDROÉLECTRIQUES

	Centrales	Puissance (MW)	Propriétaires
1	La Grande 2	5 328	Hydro-Québec
2	La Grande 4	2 650	Hydro-Québec
3	La Grande 3	2 304	Hydro-Québec
4	Beauharnois	1 652	Hydro-Québec
5	Manic 5	1 292	Hydro-Québec
6	Manic 3	1 183	Hydro-Québec
7	Manic 5 PA	1 064	Hydro-Québec
8	Manic 2	1 015	Hydro-Québec
9	Bersimis 1	930	Hydro-Québec
10	Outardes 3	756	Hydro-Québec
11	Chute-des-Passes	742	Alcan
12	Shipshaw	717	Alcan
13	Bersimis 2	712	Hydro-Québec
14	Carillon	654	Hydro-Québec
15	Outardes 4	632	Hydro-Québec
16	Outardes 2	453	Hydro-Québec
17	Île Maligne	336	Alcan
18	McCormick	303	Hydroélectrique Manicouagan
19	Trenche	297	Hydro-Québec
20	Paugan	250	Hydro-Québec
21	Beaumont	243	Hydro-Québec
22	La Tuque	220	Hydro-Québec
23	Rapide Blanc	192	Hydro-Québec
24	Shawinigan 2	191	Hydro-Québec
25	Chute à la Savane	187	Alcan
26	Chute du Diable	187	Alcan
27	Manic 1	184	Hydro-Québec
28	Chute-à-Caron	180	Alcan
29	Shawinigan 3	171	Hydro-Québec
30	Les Cèdres	162	Hydro-Québec
31	Grand-Mère	149	Hydro-Québec
32	Rapides des Îles	146	Hydro-Québec
33	Chelsea	144	Hydro-Québec
34	La Gabelle	136	Hydro-Québec
35	Première Chute	124	Hydro-Québec
36	Masson	112	Énergie Maclaren-Québec
37	High-Falls	100	Énergie Maclaren-Québec
38	Rapides Farmers	98	Hydro-Québec
39	Rapides des Quinze	90	Hydro-Québec
40	Chutes des Chats	89	Hydro-Québec
41	Bryson	61	Hydro-Québec
42	Rapide 7	57	Hydro-Québec
43	Murdock Willson	51	Abitibi-Price inc.
44	Jim Gray	51	Abitibi-Price inc.
45	Chutes Churchill	5 428	Labrador Corp. Ltd

CENTRALES THERMIQUES

	Centrales	Puissance (MW)	Propriétaires
46	Tracy	600	Hydro-Québec
47	La Citière	200	Hydro-Québec
48	Cadillac	162	Hydro-Québec
49	Îles-de-la-Madeleine	57	Hydro-Québec
50	Gentilly 2	685	Hydro-Québec

L É G E N D E

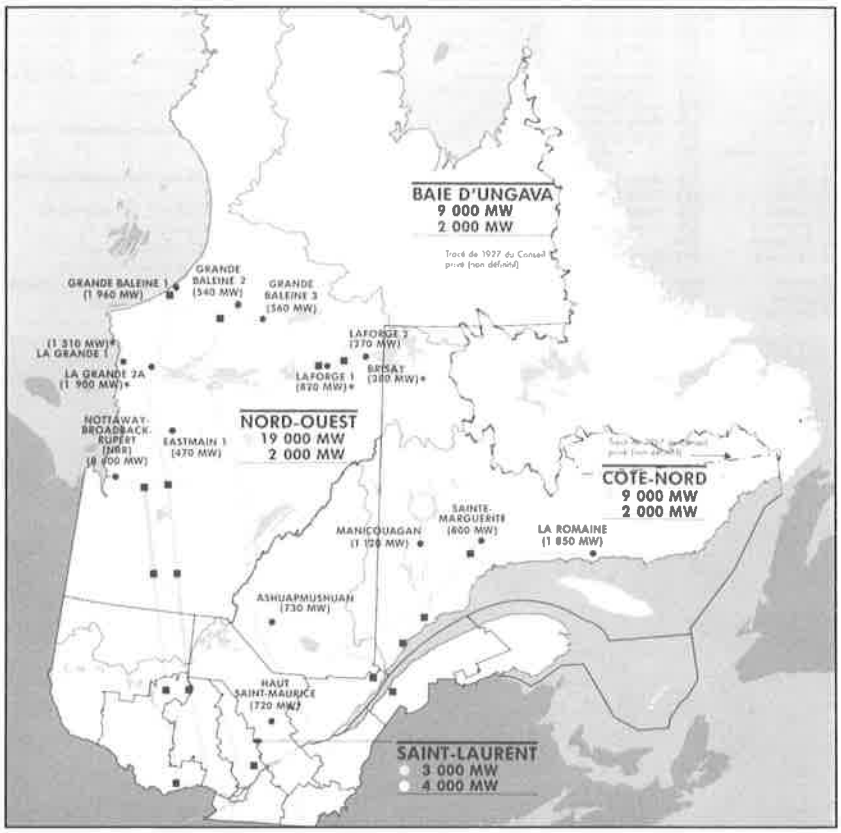
ARNAUD : bassin des principales rivières

- Centrale hydroélectrique
- Centrale nucléaire
- Centrale thermique (autre que nucléaire)
- Limites des principaux bassins hydrographiques

Source: Gouvernement du Québec, *Atlas énergétique du Québec* (Québec, 1991), 7.

HYDRO ELECTRIC DEVELOPMENT POTENTIAL IN QUEBEC

FIGURE 4



Source: Gouvernement du Québec, *Atlas énergétique du Québec* (Québec, 1991), 11.

TABLE 3

HYDRO-QUEBEC DEVELOPMENT PROJECTS IN JAMES BAY AND NORTHWEST QUEBEC

Project	Time Frame	Components	Power Production
La Grande, Phase I	1973-85	LG2, LG3, LG4 reservoirs & powerhouses	10,282 MW
	1991-2	LG2A powerhouse	1,998 MW
La Grande, Phase II	1991-96	LG1, Brisay, Eastman 1 & 2, LaForge 1 & 2	3,250 MW
Great Whale	1991-2001	3 power stations	3,060 MW
Nottaway-Broadback-Rupert	1998-2004	8 power stations	8,400 MW

Sources: Hydro-Quebec, *Proposed Hydro-Quebec Development Plan 1990-1992, Horizon 1999* (Montreal: 1990), 72-73; Peter Gorrie, "The James Bay Power Project," *Canadian Geographic* (February-March 1990), 23-24; Claire Saint-Louis, "Le developpement des ressources hydroelectriques: l'heure de la concertation," *Forces* 89 (Spring, 1990): 6.

Phase I of the La Grande project directly affected the Cree people of the region. The Cree number about 10,000 and live in the James Bay watershed, along the Great Whale River and in the southern Hudson Bay region of Quebec. During debates over Phase II of La Grande in 1989-92, Cree opponents of the project referred to the changes brought about by Phase I, including charges of the degradation of the food chain and hunting lands. In order to place these criticisms in perspective, it is necessary to bear in mind the changing condition of the Cree.

In the early 1970s, the Cree people had little organizational cohesion. Their sense of identity was ill-defined. In fact, they rarely used the word "Cree" to describe themselves. Small groups covered the territory, with no single decision-making or consultation structure among

the population.[23] A decade later the conditions of the Cree had become quite different as the first phase of La Grande construction approached completion in the early 1980s and as the administrative structures created by the James Bay and Northern Quebec Agreement took root. Yet according to the head of the McGill Cree Project, Professor Richard Salisbury, who has worked closely with the Cree since 1971, it is simplistic to argue that the James Bay project "caused" the change:

> I shall try to counter [in studying social change among the Cree during the 1971-1981 period] the simplistic view that it is 'the Agreement' that has 'caused' the changes, by showing that the form of the [James Bay Agreement] itself is, in large part, the outcome of what the Cree negotiators were trying to obtain (or to establish as being their aboriginal right) between 1971 and 1976, and of the changes that were already occurring among the village bands in 1971. [Emphasis added][24]

This suggests a considerably more complex view than the one in which an idyllic hunting life was abruptly torn apart by the construction of the La Grande facilities in the first phase of James Bay. The latter view overlooks, for example, the severe health problems and high infant mortality prevailing among the Cree. Cree life expectancy has dramatically increased in the years since the James Bay Agreement established governing structures, consultation processes among the Cree and the Quebec and federal governments, and substantial compensation payments. The years following Phase I have brought dramatic changes in the Cree lifestyle, of course, including the decline of hunting as a major occupation as well as the rise of problems such as alcoholism. Yet, again, it is difficult to establish a simple link between modernization and damaging life stresses. For example, a recent examination of the rise of high blood pressure and heart problems concludes that no significant link can be found, and that the present models of the interaction of indigenous peoples with modern, industrialized societies are simply insufficient to further an understanding of the changes in Cree society.[25] Although the anthropological debate extends far beyond the range of this study of electricity trade, many complex changes in Cree and Inuit society have been occurring in northern Quebec, not only in the last fifteen years, but since World War II or even earlier in this century.

Development in James Bay has had one specific health effect which everyone—whether Cree, scientific experts, or Hydro-Quebec officials—agree upon: the rising level of mercury in the newly created

reservoirs makes it necessary to avoid eating fish. On the other hand, because of the massive payments made by Quebec and Canada in compensation for hydroelectric development, nutrition and health care have greatly improved. This is reflected in the decline in infant mortality and the expansion of life expectancy. The Cree population has increased from 6,000 to 10,000 or more than 60 per cent in only fifteen years, a stark indicator of the material difficulties inherent in Cree life prior to development of the region.[26]

The Cree have been much more strident in their opposition to the Great Whale project than the Inuit (Eskimo), who in fact occupy most of the territory of the Great Whale river watershed. The Inuit affected are one of fourteen bands in northern Quebec. Whereas the Cree have experienced a rising sense of nationhood in the past fifteen years and are determined to halt further development, the Inuit have been divided on the issue. At this time the Inuit are still removed from close contact with southern Quebec. If the Great Whale project is completed, the partially Inuit community of Poste-de-la-Baleine north of Chisasibi will be the first Inuit village to be linked to southern Quebec.[27]

As mentioned above, Hydro-Quebec's contracts with Vermont and New York were placed before the National Energy Board for export approval; although the electricity to be sold to these states was general system power, implementation of the contracts would require acceleration of the schedules for Phase II and Grande Baleine. This linkage was the controversial turning point in the Board's export review. The fundamental question was the necessity of a full-scale environmental review as a condition of NEB approval of the export contracts.

In hearings in Montreal in February, 1990, the Board heard abundant testimony from numerous opponents of the Vermont and New York contracts. Hydro-Quebec defended the exports, arguing that it was selling power coming from its entire system. However, Hydro-Quebec stated that the heavy domestic demands on electricity generation within Quebec, when added to the calendar for commencement of the power exports (1990 for Vermont; 1995 for New York), required an acceleration of the construction timetable for Phase II (comprising the La Grande I, La Forge I, and Brisay generating stations), the Great Whale project, and the sprawling Nottaway-Broadback-Rupert project at the southeast region of James Bay.

Hydro-Quebec's position concerning the environmental effects of Phase II of James Bay is part of its general view of the entire James Bay development effort. Hydro-Quebec states that the Quebec and federal government review procedures, and in particular the regime established by the James Bay and Northern Quebec Agreement of 1975, have

provided effective parameters within which the corporation has avoided or mitigated major adverse environmental effects.[28]

Opposing Hydro-Quebec's environmental position was a loose coalition of Crees and many environmental groups, including the Canadian Wildlife Federation, the James Bay Defense Coalition, the New England Coalition for Energy Efficiency and the Environment, and Greenpeace. The Cree and environmentalist groups argued that the James Bay Agreement covered only projects in the La Grande Phase I area and that Hydro-Quebec would therefore have to obtain additional approval from the Native peoples for work in areas such as Great Whale. They also argued that accelerating construction of the projects would produce additional environmental harm and not provide enough time for adequate environmental impact assessments.[29]

In contrast to the Cree and environmental groups' views about the adverse effects of the new projects, Hydro-Quebec argued that it had undertaken extensive programs to mitigate damaging impacts. More than 200 scientists had prepared studies and inventories for Phase I; $250 million(Cdn) was spent in this area, of which 65 per cent was for mitigation efforts and 35 per cent for enhancement measures to reestablish environmental equilibrium. Impacts on wildlife and climate change were minimal. Mercury level impacts were significant; a new mercury agreement signed in 1986 by Hydro-Quebec, the Quebec government, and the James Bay Cree increased research, monitoring, and mitigation measures and provided $18 million(Cdn) funding, of which Hydro-Quebec provided $12 million(Cdn).[30]

The Board finally concluded that, while the export request was permissible from the supply and price standpoints (relying on the new market-based policies developed in 1986-87), it found that the export proposal had definite environmental effects requiring examination. This was so because of the casuality between the proposed exports and the acceleration of project construction. The Board rejected Hydro-Quebec's distinction between construction of the facilities and advancing the timetable for construction.

> Sufficient evidence was provided indicating that major hydro-electric facilities such as those required to meet the proposed exports do have environmental effects. Hydro-Quebec itself did not deny this. The issue rather is whether, on balance, the environmental consequences are acceptable or mitigable. This, the Board does not know at this time.[31]

Therefore, the Board found, environmental review was necessary.

Referring to the Rafferty and Oldman River court decisions, the amendments to the National Energy Board Act under Bill C-23, and the EARP Guidelines Order of 1984, the Board affirmed its responsibilities as the decision-making department to ensure effective environmental assessments. It would accept satisfactory provincial government assessments in order to avoid duplication, as EARP itself provides. Up to this point, the Board stated, Hydro-Quebec had not supplied "a comprehensive environmental assessment of the impact of the construction and operation of facilities required to support the proposed exports."[32]

It is important to note that if there had been no accelerated construction caused by the need to meet export delivery commitments, the federal government would still have been drawn into negotiations with Quebec on a joint environmental review. But the National Energy Board would not be involved. According to the Board;

> ... the review carried out by the Board regarding effects of an export project on the environment does not mean that the Board must carry out a complete review of environmental effects of the entire plan for production expansion. In other cases, in its reviews of environmental effects linked to the construction of facilities which would not be totally dedicated to exports and which could also one day produce for the domestic market, the Board has only examined the incremental effects of the acceleration of their construction and their operation for export purposes. The evaluation of the environmental effects of construction and operation of facilities linked to domestic needs does not fall within the jurisdiction of the Board. [Emphasis added.][33]

Rather, other agencies such as the Department of Indian Affairs and Northern Development (DIAND) or the Department of Fisheries and Oceans (DFO) might become epicenters of the coming jurisdictional, and even the constitutional, struggle between Ottawa and Quebec. It was not a role which the National Energy Board relished.

In provisionally granting the export license for the Vermont and New York contracts, the Board added several conditions. The most important is Condition 10, requiring environmental assessments for "any production facility required by Hydro-Quebec to supply the exports."[34] For the next two years Quebec and Ottawa would struggle over the nature of the environmental assessment which was now required by the federal authorities.

Initial reaction in Quebec to the ruling was varied and complex, defying neat political classifications. One might have thought that the further expansion of Hydro-Quebec's generation facilities and its growing market penetration in the U.S. for firm power would have won the unquestioning support of all pro-sovereignty Quebecers, especially since Hydro-Quebec's nationalization of electricity and its subsequent growth were the result of the late René Lévesque's policies in the early 1960s. Hydro-Quebec has been seen as the incubator of French Quebec entrepreneurship, a giant corporation run by francophones, capable of incorporating the most advanced technology in enormous hydroelectric projects which have won the admiration of energy experts in many other countries.

But the sovereignty/federalist dimension did not sufficiently explain the reactions of key actors to the James Bay II project, the need for environmental review (whether by an autonomous Quebec panel or by a joint federal/provincial panel), or the economic wisdom of the Vermont-New York contracts. Both Lucien Bouchard (by 1991, an ardent defender of sovereignty-association) and *Parti québécois* leader Jacques Parizeau urged strong environmental reviews of James Bay II.

In March, 1990, Bouchard, while still Environment Minister in Mulroney's government, declared that no construction on Phase II would go forward until federal environmental reviews had been completed.[35] In October, 1990, after his resignation from this post and his organization of the nationalist *Bloc québécois* in the federal Parliament, Bouchard continued to maintain his previous position: "Before complaining about others [i.e. the federal government] intervening [in Quebec's affairs], we have to do our homework. Quebec has not done its homework on the environment."[36] At the same time, Parizeau urged that preliminary work on the project not proceed at all until an environmental assessment of the entire project, both infrastructure and dams, was completed: "Let's solve the issue. If we must order new studies, let's do so."[37] Even within Premier Bourassa's cabinet, Environment Minister Pierre Paradis continued to oppose Energy Minister Lise Bacon's insistence that construction on the access road begin before the review was completed. The manoeuvering for position reflected the attractiveness of the environmental cause within francophone Quebec politics, quite apart from federal concerns.[38]

Finally, in February, 1992, a major compromise was reached among the federal and Quebec governments and the Cree. The Memorandum of Understanding represented an important victory for the proponents of a comprehensive, single environmental review of Grande Baleine. The federal review panel would operate under the EARP

provisions and would not be limited by Quebec's claims of jurisdiction. The review would carry out public hearings, and $2 million(Cdn) was allocated for public intervenor funding. The environmental review would also consider the justification of the project, and this part of the Memorandum of Understanding could open the way for public hearings on Great Whale which opponents of the project had long demanded. Annex I of the Memorandum listed the various aspects of possible justification to be considered, including export markets, conservation, and alternate sources of power such as co-generation.[39]

The agreement on this complex and extensive review of Phase II and Grande Baleine was followed by New York's rejection of its $17 billion(Cdn) contract in March of 1992. These two developments and the more fundamental changes in northeast electricity markets caused a far-reaching re-examination by Hydro-Quebec of its growth strategy. In its *Development Plan* for 1993, released in late 1992, Hydro-Quebec scaled back its export target from 3500 MW to 1500 MW by 2004. The plan also limited any future support for energy-intensive industries such as aluminum and magnesium refineries, reflecting the trade retaliation recently threatened by the U.S. Department of Commerce against Norsk Hydro's Quebec magnesium plant.[40]

U.S. ENVIRONMENTAL POLICY

The U.S. offers little national review of the environmental impact of Canadian electricity as it is imported by American utilities. The Department of Energy's Economic Regulatory Administration oversees construction of transmission lines across the border and receives the advice of the State Department and the Defense Department for any impact on national security. The Federal Energy Regulatory Commission oversees interstate transmission and pricing of electricity, as well as practices of federally-owned utilities such as the Tennessee Valley Authority and the Bonneville Power Authority. The main burden of review falls on the state public utility commissions exercising oversight of the purchasing utility.[41]

The fundamental American law on environmental issues, the National Environmental Policy Act (NEPA) of 1969, addresses the international dimensions of environmental problems in its preamble, calling for the U.S. "to promote efforts which will prevent or eliminate damage to the environment and biosphere . . . ." Section 102(f) requires federal agencies to "recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives" to

increase international cooperation.[42] Apart from requiring such international cooperation and hortatory calls for preventing environmental damage, NEPA requires environmental impact statements solely for action performance or funded by federal agencies. In the context of U.S.-Canada electricity trade, NEPA has only been applied to the construction of cross-border transmission lines on the U.S. side of the border.[43]

Some groups opposing further Canadian electricity exports to the U.S. have urged extraterritorial application of NEPA to the Canadian generating facilities. The coal and utility industries of Ohio and other midwest states have been especially eager to impose American environmental reviews on Canadian activities, arguing that Canadian protests against U.S. acid rain were designed to shift an unequal regulatory burden onto American competitors of Canadian electricity producers.[44]

After the approval of the Free Trade Agreement, Midwest Congressional allies, led by Senator James McClure (R-ID), failed in 1989-1990 to amend the U.S. Clean Air Act. Their proposal would have restricted U.S. imports of Canadian electricity produced from fossil-fuel plants lacking adequate pollution controls. Senator McClure argued that British Columbia, Saskatchewan, and Manitoba do not follow Canada's acid rain program. Senators Lloyd Bentsen (D-TX) and Daniel Moynihan (D-NY) opposed the amendment, arguing that it would contravene the Free Trade Agreement.[45] The Midwest coalition also unsuccessfully sponsored bills to ensure that Canadian electricity exported to the U.S. is generated under the same environmental conditions which would prevail if the power were produced in the U.S.[46]

Many U.S. states review the environmental impact of electricity purchases. The jurisdiction of the state regulatory commissions covers only the environmental impacts within state borders. No state importing Canadian electricity presently authorizes its public utility commission or environmental board to consider environmental effects of the generation or transmission of electricity if those effects occur solely within Canada. In the early 1990s, bills were introduced in the Vermont, Massachusetts, and New York legislatures to require extraterritorial environmental reviews; if Massachusetts was considering a new purchase of Quebec power, for example, the state would first examine the environmental impact in northern Quebec as well as within the territory of Massachusetts. As of early 1993 none of these bills has passed, although a review bill has been introduced again in the Massachusetts legislature.

Environmental issues strongly influenced the American debates on the Hydro-Quebec contracts in Maine, Vermont, and New York in the 1989-92 period.[47]

In 1989 the Maine Public Utilities Commission rejected a Hydro-Quebec contract for firm power imports during the period 1992-2000. The Commission ruled on strictly economic grounds; it did not have the legal authority to consider environmental impacts, in contrast to the Vermont Public Service Board, whose legislative mandate required such a review. However, in Maine the environmental groups strongly opposed the contract. The Vermont Public Service Board explicitly considered environmental concerns and in 1990 approved a Hydro-Quebec firm power contract for the period from 1991 to 2020. The Vermont case is especially interesting, since the state regulatory authorities were considering the Hydro-Quebec contract simultaneously with the National Energy Board, and each board was quite aware of the other's proceedings.

The Vermont Public Service Board ultimately rejected the Crees' opposition to the sale and permitted the Vermont utilities to purchase 340 megawatts of the 450 megawatts in the contract. The Vermont Board found that it was fundamentally beneficial for the state "to purchase a significant portion of its total electrical supply from Hydro-Quebec . . . ." However, the Board indicated the priority placed on conservation and demand-side management by cautioning that "...such purchases should be limited in order to facilitate development of other supply-side and efficiency resources that will have lower total costs to the state."[48]

On the question of James Bay II and its effect on the Cree, the Board claimed that the purchase by Vermont did not depend on any specific Hydro-Quebec generating facility and that it was dependent on the entire Quebec generating system. Therefore, said the Board, "we find that continuation of our purchases under this Contract does not depend on, nor does it require, the construction of new generation facilities in Quebec." The Vermont contract "...should not `cause' the construction of major new facilities on the Hydro-Quebec system."[49]

The Board had heard extensive testimony not only on the specific Vermont-related environmental effects but on regional and global effects, especially concerning migratory wildlife and air pollution. It was cautious about testimony regarding migratory wildlife. It observed that the first phase of James Bay, on La Grande river, had no adverse effects on migratory wildlife in Vermont. But the Great Whale and Nottaway-Broadback-Rupert projects of Phase II had the potential to alter the ecosystem and affect species of migratory birds in Vermont. It found that "adequate cumulative studies and assessments of the environmental impacts of these projects [should] be completed" before the Board approved purchase of the second part of the contract of 110 megawatts.[50]

The Board "noted with approval" the National Energy Board's decision in October, 1990, making Hydro-Quebec's export license for the Vermont and New York contracts contingent on adequate environmental reviews. Such reviews were deemed "necessary" and "[t]hese studies will also be critical to any future reviews of the Contract options by this Board."[51] This last point indicates that the Board indeed thought that the Vermont contract, especially the last 110 megawatt portion, was linked in some way to the completion of the Phase II project by Hydro-Quebec. With regard to air pollution, the Board found that the contract would have net benefits for Vermont and the region in reducing air pollution because of the superiority of Hydro-Quebec electricity generation to other alternatives in terms of greenhouse gases and acid rain. The Cree appealed the Board's decision to the Vermont Supreme Court, which upheld the contract in late 1992.

The Vermont consideration of the Hydro-Quebec contract in 1990 highlighted the extraterritorial aspect of U.S. environmental debates on electricity trade. The Public Service Board devoted much attention to environmental issues. It found no firm evidence that the imports would cause environmental damage within the state, and it pointed out, in its decision, that the state legislature had not given the Board the authority to examine environmental effects outside the state.

One intriguing aspect of the Vermont case is the different conclusion regarding the linkage of exports and environmental effects of James Bay II in contrast to the decision of the National Energy Board discussed above. The central question was one of causality: would Vermont's acceptance of the new import contract in some degree provoke the construction of Grande Baleine? It should be noted that Hydro-Quebec's stated positions before both the Vermont Board and the National Energy Board were identical: the Vermont and New York contracts would not cause the need to construct Grande Baleine or the NBR complex. Quebec would be exporting power from its entire system, not linked specifically to any particular generating facility. But these export obligations would require advancing the construction timetable for certain facilities from two to six years.[52]

The two regulatory bodies, the National Energy Board in Ottawa and the Vermont Public Service Board, reacted differently to this Hydro-Quebec presentation. In considering the impact of the National Energy Board's Condition 10 on the Vermont contract, the Vermont Board asked Hydro-Quebec for an affidavit that all power under the new contract would be derived from the general system and not depend on any specific generating facility, and that, furthermore, if the National Energy Board were to withdraw its approval for exports under Condi-

tion 10, the Vermont utilities would be compensated for damages under the terms of their contract.[53] The Vermont Board stressed in its final decision that the Vermont contract "should not `cause' construction in James Bay." This probably made the Board's approval of the contract more acceptable politically, in light of the strong and vocal opposition to the contract within the state.[54] In contrast, however, the National Energy Board took a somewhat different position, arguing that the new projects would be necessary to fulfill the export commitments and that therefore they were subject to environmental review under the EARP, following recent federal court interpretations.

The Vermont case is probably not a unique event, but rather a harbinger of things to come in the regulatory arenas of the states and provinces. Recently, for example, the NEPOOL Siting Council "had to consider the possible impact on Rhode Island air and water of a resource recovery plant near the state line . . . . Questions of extra-jurisdictional environmental impacts of energy projects are likely to occupy an even higher level of attention in the future."[55]

In New York, Governor Mario Cuomo, as previously noted, cancelled the pending Hydro-Quebec contract in March, 1992, following a long and acrimonious public debate. Cuomo acted after consultation with the New York Public Service Commission and the Energy and Environmental Conservation Commissioners and upon the recommendation of the New York Power Authority, the government-sanctioned purchasing and importing entity, which then resells power to individual utility companies throughout the state. The New York contract was by far the largest export move by Hydro-Quebec; the $17 billion(Cdn) contract would extend from 1995 to 2016. In contrast to the Vermont examination of power imports, New York government agencies openly participated in a cross-border environmental debate over the appropriate reviews which Canada and Quebec should adopt concerning Grande Baleine. The debate within New York over the contract was fierce, with opponents such as the Mayor of New York City and Greenpeace attacking the Grande Baleine project for its impact on the Cree and the environment.

New York regulatory officials responded to these concerns. In his letter to Governor Cuomo recommending rejection of the contract, New York Power Authority Chairman Richard Flynn described his role in the Canadian debate over environmental review procedures:

> In the spring of 1991, reports in the Canadian press indicated that Hydro-Quebec was seeking to use our contract as a rationale for abridging environmental re-

> view of the Great Whale project. I wrote to Richard Drouin, the utility's chairman, to state clearly and unequivocally my position that full, fair and sophisticated environmental reviews must be conducted for any project advanced to supply power to us. It has been my consistent position ever since that we would not buy a single kilowatt of Quebec power unless this condition were met.[56]

Equal to or surpassing the environmental concerns were drastically changed markets for electricity; Flynn pointed out that New York needed much less power for the 1990s than originally forecast in the late 1980s, and power prices for alternate sources were much more favorable than Hydro-Quebec's contract price.[57]

These three contracts formed part of Quebec's strategy of exporting firm power into the 21st century in order to pay a major part of the costs of Phase II of La Grande, Grande Baleine, and Nottaway-Broadback-Rupert. The cancellation of the greater part of the envisaged power exports for environmental as well as economic concerns indicates that future power export planning by Canadian provinces will have to incorporate close monitoring of the policy forces at work in individual American state political systems.

The debates in the northeast U.S. over the environmental aspects of Canadian electricity imports indicate that, as electricity systems become more tightly interconnected throughout North America, especially in the northeast U.S. and eastern Canada, state regulatory agencies will probably have to consider once again these issues of extraterritorial environmental effects of electricity purchase contracts put before them for review.

State agencies will not be the only government bodies which will probably be considering this issue in the 1990s. The same issue of environmental extraterritoriality is coming before the U.S. federal government. Several new trade disputes between Canada and the U.S. and between the U.S. and Mexico are revolving around the acceptability of environmental laws which limit trade flows; the cases of lobsters, salmon, and tuna/dolphin are the most notable. The negotiations over the North American Free Trade Agreement (NAFTA) were marked by intensive debates over the environmental effects of widening trade relations. The General Agreement on Tariffs and Trade, as currently configured, is not designed to address these questions clearly, and the Uruguay Round is attempting to introduce new rules for what is now a "policy Bermuda triangle," in which trade laws and environmental laws meet.[58]

Because the economic flows and the environmental externalities are criss-crossing borders increasingly, the political coalitions struggling over these issues are also transcending provincial, state, and national boundaries. The development of Canada-U.S. electricity trade in the 1990s will be increasingly shaped by transnational "ecopolitics".

ECOPOLITICS AND ELECTRICITY TRADE

Coalitions have arisen across provincial, state, and national borders to follow the issues of environmental effects of electricity construction and transmission projects. The Cree Indians of Northern Quebec have deployed skilled legal and media resources to publicize their views. Linking to the academic networks in various fields of environmental sciences, they have branched out to surprisingly diverse constituencies, even allying with Brazilian Indians of the Amazon rainforest to increase the impact of their message.

Within the northeast region, environmental groups in New York and New England have joined with similar groups in Quebec and other provinces to oppose Hydro-Quebec exports in all the jurisdictions which have some regulatory authority to affect these transactions—in Quebec the cabinet, the Bureau d'audiences publiques sur l'environnement, the Ministry of the Environment; in Vermont the legislature, Public Service Commission, and schools and community groups; in New York similar forums; in Ottawa the National Energy Board and the federal court system; in Washington, statements to the media opposing the contracts.

The spectrum of possible sources of support for environmentally motivated coalitions attempting to oppose increased electricity trade is one of the widest and most complex to be found in North American politics today. It ranges from spokespersons for conservative, rural constituencies, such as some Vermont legislators skeptical of the state's "sending our money to Quebec," all the way to green groups flirting with eco-terrorism, such as sabotaging construction machinery or transmission lines.[59]

In responding to the issues and actions produced by this new form of ecopolitics, exporting and importing utilities in Canada and the U.S. will in turn have to form new coalitions, drawing on their own internal environmental experts and linking to responsive environmental experts in academia, research groups, and the general public. This means that the tenor of policy debates on future electricity trade will be quite different in the 1990s, with much greater concern for extraterritorial impacts of electricity generation and transmission.

GLOSSARY

DFO = (Canada) Department of Fisheries and Oceans
DIAND = (Canada) Department of Indian Affairs and Northern Development
EARP = Environmental Assessment Review Process
EIA = USDE Energy Information Administration
FEARO = Federal Environmental Assessment Review Office
GWh = Gigawatt hours
NBR = Nottaway-Broadback-Rupert Power Project
NEB = (Canada) National Energy Board
NEPA = National Environmental Protection Act
NEPOOL = New England Power Pool

NOTES

[1] Michel Vergeau, "Hydro et l'environnement: un specialiste explique," *La Presse*, November 1, 1990, B3.

[2] J. Miller, *Foreign Trade in Gas and Electricity in North America* (New York: Praeger, 1970), 10.

[3] Robert Bourassa, *Power From the North* (Scarborough: Prentice Hall Canada, 1985), 7.

[4] U.S. Department of Energy, Energy Information Administration, *U.S.-International Electricity Trade: Projections Through 1995* (Washington: 1986), DOE/EIA-0496, viii.

[5] National Energy Board, *Canadian Energy Supply and Demand, 1987-2005* (Ottawa: 1989), 98.

[6] For a concise review of domestic U.S. electricity policy in the 1980s see K. Morgan MacRae, *Critical Issues in Electric Power Planning in the 1990s* (Calgary: Canadian Energy Research Institute, 1989), 212-37.

[7] *The Environmental Assessment and Review Process Guideline Order* (P.C. 1984-2132 SOR/84-467, June 22, 1984).

[8] The following review of policy developments is drawn from *Maclean's*, *Le Devoir*, *Le Soleil*, *Globe and Mail*, *La Presse* and the *Gazette* for the 1989-1992 period.

[9] Unnamed Canadian official quoted in Barry G. Rabe, "Cross-Media Environmental Regulatory Integration: The Case of Canada," *American Review of Canadian Studies* 19:3 (Summer, 1989): 268.

[10] "Oldman Changes Course of History," *Globe and Mail*, October 23, 1990, A6; "Ottawa Takes hard Line on Rafferty Dam," *Globe and Mail*, October 16, 1990, A1-A4.

[11] "Double Dealing on EARPs," *Alberta Report*, April 2, 1990, 12.

[12] *Ibid.*, 14.

[13] "Memorandum of Understanding: Environmental Assessment of the Great Whale Project," (Ottawa?: mimeo, January 1992).

[14] *Globe and Mail*, June 24, 1992, A8.

[15] The following description of the EARP process is based on Canada, Federal Environmental Assessment Review Office, *The Federal Environmental Assessment and Review Process* (Ottawa: 1987), 1-10.

[16] Bob Stewart, "The Environmental Impact Assessment Process Doesn't Work. Let's Scrap It," *Saskatchewan Business*, September, 1989, 7.

[17] Gerald Graham, "Changing Environment Procedures," *Financial Times*, April 24, 1990, 16.

[18] John F. Herrity, "Sustainable Reform," notes for a talk at the first federal real property conference, The Challenge of Reform—Conference '88 (Ottawa: November 29, 1988), 4.

[19] Canada, Department of External Affairs, *The Canada-U.S. Free Trade Agreement* (Ottawa: Department of External Affairs, October 27, 1988), Article 902, Annex 905.2.

[20] "Environment Jurisdiction War Heats Up," *Financial Post*, July 17, 1989, 5.

[21] "Federal Environmental Assessment and Review Guidelines Applied by National Energy Board," *The Free Trade Observer* 5 (February, 1990): 59-60.

[22] The essential strategy is presented in Bourassa, *Power From the North*, ch. 7.

[23] Richard Salisbury, *A Homeland for the Cree: Regional Development in James Bay 1971-1981* (Montreal: McGill-Queen's University Press, 1986), 1-10.

[24] *Ibid.*, 10.

[25] J. P. Thouez, Peter M. Foggin, and A. Rannou, "Hypertension et modernite chez les cris et les Inuit du nord du Quebec," *The Canadian Geographer* 33 (Spring 1989): 19-31.

[26] Luc Chartrand, "La trappe dans le village global," *L'Actualite*, June 1, 1990, 26-30.

[27] *Ibid.*, 10.

[28] Hydro-Quebec, "James Bay: Development, Environment and the Native Peoples of Quebec," (Montreal: September 1, 1989), 12-13.

[29] *Ibid.*, 26-28.

[30] *Ibid.*, 13-17.

[31] *Ibid.*, 37.

[32] *Ibid.*, 34-37.

[33] National Energy Board, "Article Documentaire Sur La Demande Presentee Par Hydro-Quebec En Vue D'Exporter de l'Electricite au Vermont et a New York," (Ottawa: mimeo, February 19, 1990), 2.

[34] National Energy Board, "Reasons For Decision," 72.

[35] Louis-Gilles Francoeur, "Pas de travaux a la baie James sans preuve que les regles federale seront respectees," *Le Devoir*, March 30, 1990, 2.

[36] Graeme Hamilton, "Quebec Lax on Environment: Bouchard," *Gazette*, October 30, 1990, A1.

[37] Patricia Poirier, "Delay James Bay Project, Parizeau Urges," *Globe and Mail*, October 27, 1990, A8.

[38] Dan Burke, "Power Plays in Quebec: Cabinet Rivals Battle Over James Bay II," *Maclean's* (November 26, 1990): 23-24.

[39] "Memorandum of Understanding: Environmental Assessment of the Great Whale Project," mimeo (January, 1992), 2-9, 13-14.

[40] Hydro-Quebec, *Development Plan 1993* (Montreal: 1992), 59, 68. See also William Averyt, "Challenges to Quebec Economic Development Policy in the Energy Sector," *Quebec Studies* 14 (Spring/Summer, 1992), 115-27.

[41] National Energy Board, *Canadian Energy, Supply and Demand, 1990-2010* (Ottawa: June, 1991), 83.

[42] National Environmental Policy Act, cited in Lynton Keith Caldwell, *International Environmental Policy* (Durham: Duke University Press, 1990), 47.

[43] U.S. General Accounting Office, *Canadian Power Imports: A Growing Source of U.S. Supply* (Washington: 1986), 55.

[44] James Friedmann, *The Silent Alliance* (Chicago: Regnery Gateway, 1984), 21-29, 31-42; Giles Gherson, "Hydro Could Be Pawn in Acid Rain Fight," *Financial Post*, February 23, 1987.

[45] "Trade Disputes Continue: Ban on Canadian Electricity Defeated," *The Free Trade Observer* 7 (April, 1990): 85.

[46] See the testimony of James Friedmann for the coal coalition in U.S. House of Representatives, Committee on Interior and Insular Affairs, Subcommittee on Mining and Natural Resources, *Proposed U.S.-Canada Free Trade Agreement on Domestic Mining and Natural Resources* (Washington: March 1988), 44-45.

[47] The debates in Maine, Vermont, and New York are summarized in William Averyt, "Quebec's Electricity Exports," *Revue de l'energie* 428 (February-March 1992): 197-200.

[48] *Ibid.*, 21.

[49] *Ibid.*

[50] *Ibid.*, 31.

[51] *Ibid.*, 32.

[52] National Energy Board, "Reasons for Decision," 36.

[53] Vermont, Public Service Board, 38-39.

[54] *Ibid.*, 171.

[55] Peter G. Boucher, "Electric Utility Issues at the State Regulation Level," Ninth NICE Energy Roundtable, Northeast Electricity Issues (Halifax: April 25-26, 1990), 5.

[56] Richard M. Flynn, letter to Governor Mario M. Cuomo, March 24, 1992, 3.

[57] *Ibid.*, 3-4.

[58] See the penetrating discussion of this issue by Ambassador Joseph Greenwald, "Trade and Environment in a North American Free Trade Agreement" (Ottawa: Carleton University and Universitéd'Ottawa, Centre for Trade Policy and Law, November, 1991). Occasional Paper No. 21.

[59] "Des groupes ecologiques americains s'unissent pour s'opposer aux importations d'electricite du Quebec," *La Presse*, November 21, 1990, A5.

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