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Electric Power from the North

Six Canadian provincial utilities export electricity to the United States: New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, and British Columbia.* It is now technically and economically feasible to transmit power over long distances. British Columbia has sold hydroelectricity to Los Angeles for about 2 cents per kilowatt hour, roughly half the local cost of generation from oil. New England, New York, and some upper Midwest states have also been the beneficiaries of bargain-rate Canadian power. Thus far, the imports have largely involved interruptible power, but negotiators are talking about long-term contracts for "firm" power. The Canadians possess the necessary engineering experience, managerial skill, and hydropotential to develop large additional power supplies. With benefits to both countries, Canada could ultimately replace a large fraction of the U.S. electricity currently generated from oil. The barriers are regulatory and political.

Utilities did not foresee the oil crisis of the early 1970's and its major effects on the economy. Now, in both the United States and Canada, there is excess generating capacity. The Canadians have not experienced so much of the costly regulatory delays and litigation common in the United States. Many of their plants were built within budget. Exporting surplus power to the United States is profitable. Quebec, Manitoba, and British Columbia deliver hydropower; New Brunswick supplies nuclear power; Ontario provides nuclear, hydro-, and coal-derived power. Saskatchewan depends on cheap coal.

Utilities in the United States that burn oil or natural gas must guess about prices of these fuels in 1995 and beyond. Estimates are that costs will be higher—perhaps much higher—than they are now.

The potential hydropower of Canada is large. Total stream flow there is about 1.5 times that in the United States. Undeveloped power is on the order of 100,000 megawatts. Most of the rivers discharge to the north. Many of the important sites for plants are in sparsely settled areas far from the U.S. border. Some of the choice sites are in British Columbia, Manitoba, and Quebec. In Quebec, Robert Bourassa, former premier of the province and current leader of the Liberal Party, has made export of electricity a major campaign issue. He has recently published a book designed to influence opinion in the province and in the United States.† In it, he advocates a 12,000-MW expansion of hydroelectricity for export purposes. He states that, after providing for Quebec's needs, there is a total of 20,000- to 30,000-MW potential in the contiguous Quebec-Labrador landmass. He refers to engineering achievements that have already earned Hydro-Quebec an outstanding international reputation. He emphasizes the hazards and environmental damage arising from nonrenewable sources of electricity while extolling the value of clean, renewable hydropower.

Quebec would reap many benefits from exploiting a resource that is now wasted. Construction would provide many jobs. The electricity would be sold at a profit. After fulfilling a long-term contract for delivery of firm power, the facilities would be available for local needs or for additional sales. The cost of electricity to U.S. utilities would depend on their contribution to financing the project as well as on interest rates.

Expansion of power from the north will occur, but probably slowly. Rules of state regulatory commissions discourage movement of surplus power even within the United States. Installation of transmission lines is vigorously opposed. People and politicians here and in Canada will find reasons to delay action. However, renewable hydropower carries with it minimal environmental consequences, and for the long haul it is in many instances the least expensive source of electricity.—PHILIP H. ABELSON

*See Northwest-Midwest Institute and Canadian Institute of International Affairs, *Trading in Power: The Potential for U.S.-Canadian Electricity Exchange* (Northwest-Midwest Institute, Washington, D.C., 1984).

†R. Bourassa, *Power from the North* (Prentice-Hall, Scarborough, Ontario, 1985).