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Let's give small hydro a green light

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With most of North America in winter's grip, probably the last thing on our mind is the prospect of global warming, or more accurately, climate change. But it's coming — as are global efforts to cope. Russia has signed the Kyoto accord, and despite Washington's intransigence, more and more U.S. states, local governments and businesses accept that the faster we generate power that doesn't emit greenhouse gases, the better.

I'm a Canadian and manager of renewables and advanced generation for the City of San Francisco Public Utilities Commission, which operates one of the most aggressive renewable-energy programs in the United States. My city may be foggy, but our first major solar project put more than 3,000 solar panels atop the Moscone Convention Center — enough to generate more than 600 kilowatts when there's full sun. On an annual basis, it can generate 825,000 kilowatt-hours. By making the building's internal lighting, heat and ventilation more efficient, we managed to conserve another four million kwh. Combined, the two initiatives have saved the Moscone Center $200,000 (U.S.) a year; the project just won the U.S. EPA/DOE Green Power Award for 2004. With wind, biomass and biogas, and renewable-fuels projects under way, San Francisco is committed to acquiring all its electricity through renewable generation.

Such green-power projects are good not only because they don't harm the environment; the style of development — distributed generation as opposed to a traditional model of centralized electricity generation — has very different economic consequences at the community level. That's why the Canadian energy projects that excite me most are small-hydro projects. They not only reduce pollution, they also improve communities' social health.

My quest for the best led me to David Carter, vice-president of the Toronto-based firm Regional Power Inc., a visionary in the field of small-hydro development. "Because our development philosophy is so environmentally based," Mr. Carter told me, "we walk away from many of the potential developments we see. The only ones we do are those where we can enhance some aspect of the environment."

His firm has worked with the Ojibway/Pic River First Nation in northwestern Ontario to retrofit an old logging dam on the Black River east of Thunder Bay. It now produces 13 megawatts at peak capacity. The project has also involved the creation of new spawning channels for local fish. Members of the Pic First Nation have been involved in contracting, construction and operations; some still are.

Byron Le Clair, economic development officer of the Pic River First Nation, recently reported to another first nations community, "The power plant created the greatest turning point in the modern history of our community. The monies provided to the community allowed us to reinvest without having to ask government for a handout . . . Today we have used the funds we received . . . to reinvest in many diverse economic activities within the community without government approval."

The Pic River First Nation now runs its own cable television network and high-speed Internet service; it runs a successful forestry operation and is looking around for new hydroelectric projects. With the money from power generation and spinoff enterprises, the Pic River First Nation has invested in a women's crisis centre, youth centre and a recreation centre.

Regional Power has done similar work with B.C.'s Sechelt Indian Band. At Sechelt Creek, just north of Vancouver, it built a small powerhouse with a unique double intake structure to take in water from two creeks, with two vertical 8.3-megawatt Pelton units that can meet the variable stream flows with high efficiency. Thanks to the installation of a new salmon spawning channel, salmon are back in Sechelt Creek after an absence of years.

Projects like these are critical to the burgeoning field of green power. Communicating news of successful projects is even more critical to maintaining and building strong public support. Meeting Kyoto commitments isn't impossible — and it's essential.

Fred Schwartz, manager of renewables and advanced generation for the City of San Francisco Public Utilities Commission, is chair of the York University Faculty of Environmental Studies alumni drive.