

HYDRO PROJECTS: HARMED ENVIRONMENTS AND INDIGENOUS PEOPLES

PIMICIKAMAK'S EXPERIENCE AND INTENTIONS

Hydro-electric energy generation in Canada's north wreaks havoc on the boreal environment and indigenous peoples. Canada and northern U.S. states (which buy much of this hydro-electric energy) have a critical choice.

- **They can allow the assault on boreal watersheds and indigenous peoples to expand (through unmitigated growing impacts from existing projects, and development of more projects), and delay the development of truly cleaner energy options;**
- **Or they can lift the cloak that disguises hydro-electricity as clean, green and renewable, address the real harms, and embrace cleaner options.**

Pimicikamak's survival is bound up with its boreal environment. Pimicikamak is determined to defend and protect this environment by all lawful means.

- **We can stop the impacts of existing projects from worsening. Many people don't realize that using existing dams to control water flows causes further damage to the environment such as eroding forest areas that fall into the water.**
- **We can heal some of what has already been damaged. Forests, rivers and the people who depend on them have been profoundly damaged, but some restoration measures can be undertaken.**
- **We can stop further unsustainable hydro-electric development. The key to this is to dispel the myths about "clean hydro": our experience shows that hydro harms the environment and indigenous peoples.**



HYDRO'S LEGACY OF DEVASTATION

Pimicikamak is an indigenous Cree nation in the boreal forest of northern Manitoba. It seeks to expose and address the harms caused by hydro-electric generation, and the marketing delusion that encourages them. Pimicikamak's boreal environment has been suffering and dying for decades as a consequence of hydro-electric development. What is happening in Manitoba exemplifies a pattern across northern Canada. Increasingly, this pattern is driven by exports to the United States that are marketed as "environmentally clean".

Although Pimicikamak's experience spans decades, time for fundamental choices is running out. The boreal ecosystem, its home for thousands of years, will not long survive the continuing assault of hydro-electric development.

Expansion of hydro-electric projects, for domestic supply in Canada and for export to the U.S.A., undermines development of truly renewable choices, such as conservation and efficiencies, or wind and solar generation, in both countries.

"For Manitoba Hydro, the governments and consumers, the [hydro-electric energy] Project is a success, but in northern Manitoba it constitutes an ongoing ecological, social, and moral catastrophe." Report of the Interchurch Inquiry into Northern Hydro Development, December 2001, p.3.

"Hydro is breaking our hearts." Pimicikamak Chief John Miswagon

"Hydro will break the back of the boreal forests and indigenous peoples, if ongoing impacts continue to build, and new projects continue to be built." Pimicikamak Vice-Chief William Osborne.



Hydro-electric development in Canada is a high stakes gamble with the environment, the economy and indigenous peoples' lives.



Canada is the world's largest producer of hydro-electricity. Many Canadians may be proud of this, but few have first-hand experience of the resulting environmental damage, because hydro-electric industrial complexes are mostly located in Canada's remote boreal north, in indigenous peoples' territories.

Like any big industry, hydro-electric generation is an interconnected system. The system includes dams, generating stations, river diversions, flooded forests, reservoirs and transmission lines. Whether rivers and lakes are flooded, emptied or just used, the industrial water regime destroys the boreal shoreline ecosystem – the most productive and most sensitive part of the boreal environment, upon which all the rest depends.

The boreal forest is the major bastion of viable environment remaining in North America. It is the northern lung of the planet, covering 40% of Canada's land mass (and part of it is in Russia). It may be as important as the world's rainforests (the other lung) in producing oxygen and absorbing greenhouse gases. But the boreal forest is now the most threatened of all major landscapes on our planet (William Pruitt, University of Manitoba).

In Canada's boreal zone, many rivers have already been altered by hydro-electric developments.¹ These developments corrode the boreal environment. In Manitoba alone, hydro-electric development has resulted in the flooding or clearing of roughly 600,000 acres of boreal forest.² That is roughly 10 times the area lost to clear-cutting in Canada annually.³ In addition, an unknown area of forest is lost each year as destabilized land is dumped into rivers and lakes by erosion.



¹ Boreal Shield: Ecological Assessment of the Boreal Shield Ecozone, Environment Canada, 2000, p. 20.

² State of the Environment, Manitoba Environment, 1991, p. 108; and State of the Environment: Report for Manitoba, Manitoba Environment, 1991, p.109. This includes estimates of areas cleared for transmission corridors, roads, quarries, dikes, etc.

³ Forests, Climate Change and Carbon Sinks: Opportunities for Forest Conservation. Martin von Mirbach, April 5, 2002 (review draft), Figure 5 (source of chart referred to: ESSA Technologies, 1999).

***“People speak about endangered species without thinking that sovereign indigenous peoples, spiritually mandated to protect forests and waters, are an endangered species.”
David Muswaggon, Pimicikamak Executive Council***

“It is time to stop playing environmental roulette with Aboriginal communities' lives and cultures.” Lorraine Land, Citizens for Public Justice, Toronto

What we do about hydro today may well determine Pimicikamak's survival and that of other indigenous peoples.



THREATS OF MORE DEVASTATION

***“We can have our cake, we can eat it and we can make a bigger cake and sell part of that.”
Duff Roblin, Former Premier of Manitoba (referring to the proposed hydroelectric mega-
project in northern Manitoba and the prospect of export sales, 1966)***

***“For us, expansion of this project is comparable to feeding off the sores of Mother Earth.”
Nelson Miller, Pimicikamak Executive Council***

In Canada, governments and energy utilities are talking about spending as much as \$65 billion (U.S. \$40 billion) on hydro-electric energy projects across the country (largely in the boreal), mostly to expand exports to the U.S.⁴

⁴ Data collected from www.hydro.qc.ca/projects/ October 17, 2002; Winnipeg Free Press, May 18, 2002, “Kyoto gold to Manitoba”; Canadian Press, April 9, 2002, at <http://list.web.ca/archives/innu-l/2002-May/000125.html>; <http://www.gov.nf.ca/Budget2000/economy/churchill.htm> October 19, 2002; and <http://www.eia.doe.gov/oiaf/ieo/hydro.html> October 29, 2002.

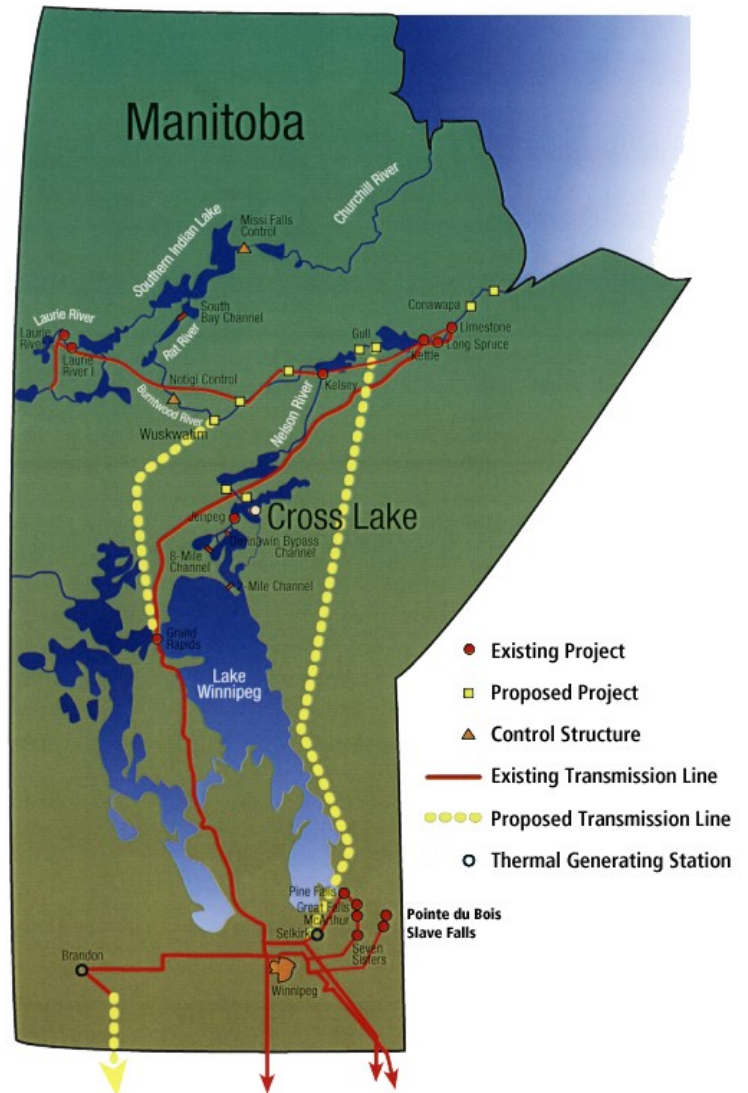
Today, Manitoba Hydro says the province's boreal rivers are "only half exploited"⁵. The Premier of Manitoba speculates openly of \$8 billion (\$U.S. 5 billion) worth of hydro expansion.⁶ Construction of one new dam has begun, and plans for two more are being actively pursued. These are conceived as the first of a chain of new dams in northern Manitoba (Manitoba Hydro's operations presently include 14 dams, 12 generating stations and 12,000 miles of transmission lines).

This expansion is mostly aimed at the U.S. market (Manitoba Hydro currently exports about 40% of its energy production, most of it to Xcel Energy in Minnesota).

Major boreal watersheds elsewhere in Canada face similar threats. The President of Hydro Quebec, Andre Caille, says he wants to develop the remainder of his province's 10,000MW of hydro-electric potential "as quickly as possible", and the Canadian Hydropower Association boasts that technically Canada could exploit another 118,000MW of hydro-electric potential.⁷

Hydro-electric energy developers aggressively advertise their product as clean and climate friendly in order to promote expansion.⁸ This is a big lie that depends upon an environmental cover-up. The cover-up should be exposed.

A huge hydro-electric industrial complex was built in Manitoba with a promise that it would be "clean and green". To this day, Manitoba Hydro fails to understand and acknowledge that this promise was utterly false. As long as hydro-electric energy industrialists remain in denial about past and ongoing environmental consequences, it seems unlikely that new developments will be significantly less damaging than the existing hydro-electric industrial complex has proven to be.



⁵ The Hydro Province (leaflet), Manitoba Hydro Public Affairs, September 2000.

⁶ Winnipeg Free Press, August 1, 2002, "Discord over Kyoto accord"; and May 18, 2002, "Kyoto gold to Manitoba."

⁷ "HQ plans 1-billion hydro project near Lac St. Jean", article by Kevin Dougherty, Montreal Gazette, Sept 27, 2001 (<http://list.web.ca/archives/innu-1/1904-January/000005.html>); and

http://www.canhydropower.org/hydro_e/pdf/quickfacts2001.pdf October 17, 2002.

⁸ See <http://www.canhydropower.org> for an example of hydro promotion, and reference to potential hydro expansion of 118,000 MW (http://www.canhydropower.org/hydro_e/pdf/Quick_Facts_2002.pdf).

TYPES OF HARMS THAT MUST BE FACED AND FIXED WHERE POSSIBLE

“Our people are grieving; they are grieving for land, the water and a way of life that was brought to an abrupt halt. I remember going along the shoreline to pick medicine with my late grandmother only to find it flooded. My grandmother stood there crying because that was her life. Her life was the land.” Bobby Brightnose, Traditional Healer

“Millions of tons of earth wash into the rivers and lakes from shoreline erosion each year; erosion of burial sites continues to take place. Historic camp sites are washed away. Entire islands disappear. Spawning grounds have been destroyed. Wildlife has become scarce. Navigation has become hazardous. Our people feel and fear the effects day after day, week after week, year after year.” Nelson Miller, Pimicikamak Executive Council

“...it's just the cost of doing business,” Manitoba Hydro President and CEO, speaking in regard to the 1994 death of a Pimicikamak citizen in a boating accident caused by Manitoba Hydro's hydro-electric project.⁹

The Nelson River—Kichi Sipi—is at the heart of Pimicikamak's homeland and of its people's spiritual life. It drains the fourth largest watershed in North America.¹⁰ Manitoba's largest lake (the 7th largest in North America)¹¹ and two of the continent's largest rivers have been drastically re-engineered, a “concrete conversion” that has turned pristine rivers into power corridors, ancient lakes into holding tanks and a sacred homeland into a dangerous and dirty industrial complex.



⁹ Canadian Broadcasting Corporation, radio interview of Bob Brennan by Curt Petrovich aired April 8, 1998.

¹⁰ The Nelson River drains 380,000 square miles and is used in tandem with the Churchill River which drains an additional 109,000 square miles (total area of almost twice the size of Texas). Watershed statistics from Government of Canada web site: <http://atlas.gc.ca/site/english/facts/rivers.html> (October 18, 2002).

¹¹ Manitoba Hydro Public Relations [complete info is at the office].

Hydro-electric industrialization of wild environments causes debilitating and often irreversible harm.

- Often the worst effect is ecosystem disruption from altered water regimes. Seasonal high and low water levels, supporting ecosystems for thousands of years, are drastically modified and even reversed to match energy demand (including exports), with catastrophic results.
- Industrially-controlled water regimes destroy the ecosystem in the critical but fragile riparian (shoreline) zone. A Manitoba Hydro report acknowledges that these riparian zones “interact extensively with adjacent ecosystems”, play a “vital role” in “overall environmental health”, and are “one of the most important and fragile types of wildlife habitats.”¹²
- The industrial water regime typically destabilizes shorelines. In northern Manitoba, erosion is chewing away at thousands of miles of once sustaining, but now often dangerous, boreal shorelines. Islands erode right off the map; forest areas collapse into waterways.
- As a result, thousands of tons of wood debris (which Manitoba Hydro has now seriously begun to remove) obstruct shorelines and endanger navigation of waterways.
- Hydro-electric energy is not greenhouse-gas (GHG) neutral as is sometimes claimed. It contributes to climate change to a degree that is not yet well understood. Reservoirs add to GHGs. Vegetation rotting underwater emits methane¹³, a gas with far higher greenhouse impacts than carbon dioxide¹⁴ (the natural end-product of most of the carbon tied up in the boreal forest). Destruction of boreal forest also reduces the ability to absorb GHGs. Biased GHG accounting neglects reservoir emissions and destruction of carbon sinks.¹⁵

Pimicikamak experiences many other effects of hydro-electric generation in Manitoba, including:

- Approximately 1000 square miles of pristine boreal forest was flooded and destroyed.¹⁶
- The surface area of Cross Lake — located immediately downstream of a dam — varies largely at Manitoba Hydro's whim from over 230 sq. miles to under 115 sq. miles.¹⁷
- Fishing “declined dramatically”¹⁸, and populations of beaver and muskrat declined by an estimated 50% in the impacted region.¹⁹. Their return to pre-project conditions seems unlikely.
- Approximately 85% of the flow of the once mighty Churchill River is now diverted 200 miles southward to augment flow of the Nelson River.²⁰
- Pimicikamak, once a healthy society with a sustainable traditional economy, now has catastrophic unemployment, mass poverty, despair and one of the highest suicide rates in North America.

12 Shorelines, Shorelands and Wetlands, Manitoba Hydro, Winnipeg, March 2001, pp. 34, 1, 25 respectively.

13 Kelly, C. A., J. W. M. Rudd, et al, Increases in Fluxes of Greenhouse Gases and Methyl Mercury following Flooding of an Experimental Reservoir, *Environmental Science & Technology* / VOL. 31, NO. 5, 1997, pp. 1334-8.

14 Philip Raphals of the Helios Centre in Montreal used a model developed by Stuart Gaffin of Environmental Defense (U.S.) to calculate that “the cumulative global warming effect after 100 years of a constant methane emitter is 39.4 times greater than that of a constant emitter of an equivalent quantity of carbon dioxide”, *Flooding the Land, Warming the Earth: Greenhouse Gas Emissions from Dams*, International Rivers Network, Berkeley, June 2002, p. 11.

15 Voluntary Challenge and Registry Program: 2001 Update, Manitoba Hydro.

16 State of the Environment, Manitoba Environment, 1991, p. 108.

17 Federal Ecological Monitoring Program (FEMP), Environment Canada / Department of Fisheries and Oceans, April, 1992, Final Report, Vol. 1, p.2-11.

18 Cross Lake Environmental Impact Assessment Study, Vol. 1, The Nelson River Group, January 1986, pp.6-7 to 6-8.

19 Ibid, p. 6-8.

20 FEMP, Final Report, Vol. 1, pp.2-4, 2-7, 2-8.

PROMISES AND FAILURES TO FACE AND FIX THE HARMS

[H]istory has been marked by little or no action in implementation of NFA obligations and a long, drawn-out (and continuing) process of arbitration to force governments to implement their obligations.” Royal Commission on Aboriginal Peoples, 1996 Report

On December 16, 1977, Canada, Manitoba, and Manitoba Hydro (the Crown parties) and five Cree First Nations entered into a treaty, known as the Northern Flood Agreement (NFA), after the hydro-electric Project had been put in operation without consultation or consent. The NFA created legal obligations to mitigate or remedy ongoing harms and prevent further harms. Twenty-five years later, on December 16, 2002, Manitoba and Hydro announced a 15-month interim Action Plan to implement some of their NFA responsibilities, and to develop a comprehensive longer term plan.

Hopefully this is the start of a new positive approach by Manitoba and Hydro to repair some of the damage caused by the existing hydro-electric Project. The government of Canada still fails to honour core legal obligations.


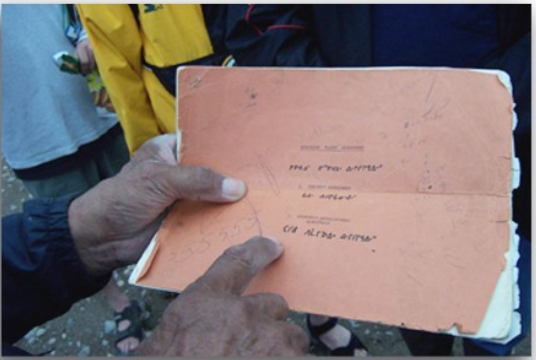
However, Manitoba and Manitoba Hydro are calling for major project expansion, once again promoting it as sustainable and environmentally friendly. They also promote it as low-cost. The true cost of hydro-electric energy (including costs to the boreal environment and indigenous peoples) has yet to be accounted, and remains unpaid. These “hidden externalities” subsidize electricity exports to the U.S. and hinder development of viable and sustainable domestic U.S. industries such as wind power.

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PART I

Article 1

1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.
2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.
3. The States Parties to the present Covenant, including those having responsibility for the administration of Non-Self-Governing and Trust Territories, shall promote the realization of the right of self-determination, and shall respect that right, in conformity with the provisions of the Charter of the United Nations.

SOLUTIONS

***"It's time to clean up and make atonement with Mother Nature."
Emma Jane Crate,
Elders' Council Representative***

***"This is our place in the Universe.
This is where the Creator put us...."
Pimicikamak Red Book 2***

***"We will no longer be beaten up in silence."
Rita Monias, Pimicikamak
Women's Council Representative***



After decades of oppression, Pimicikamak is reawakening to the need for self-determination and survival. It is working, through lawful means including public education, advocacy, legal action and plain hard work on the shores of Kichi Sipi, to protect and restore its environment and to heal its people. Others who share concerns about the environment and human rights can help to expose the abuse and to end the tragedy.

For Pimicikamak, this is not merely a "campaign" or a "project". It is a matter of survival. If Pimicikamak is to survive as a people, so too must its environment. For its environment to survive, so too must its spiritual caretakers, the Pimicikamak people. They are interwoven into one, and have been since time beyond the memory of humankind.

While the harms caused by hydro-electric projects cannot be undone, some of them can be mitigated or remedied.

Canadian governments and hydro-electric utilities can bring scientific study together with traditional knowledge of indigenous homelands to develop and implement plans for minimizing these harms. Those who created the mess and who benefit from the energy production can clean up some of the environmental slums in Pimicikamak and other homelands.

Mitigation and remediation might include:

- Thousands of tons of wood debris can be collected and burned in small biomass-energy plants;
- Some shorelines can be stabilized to reduce erosion;
- Changes in water flows can be made with some regard to their consequences;
- Fisheries may be partially restored;
- Safety measures can be undertaken on a serious scale;
- Affected indigenous peoples can become more involved in managing remaining resources sustainably; and they can find employment and human dignity in these restoration and management activities.

While these and other such measures will have costs, these are part of the true cost of existing hydro-electric projects.

U.S. governments and regulatory agencies that decide whether Canadian hydro-electric energy will be imported, and U.S. utilities which buy this energy, can and should have regard to the effects on the environment and indigenous peoples. Leading the way, Xcel Energy recently announced that it will closely monitor Manitoba Hydro's actions to address these effects.

WHAT YOU CAN DO TO HELP

Pimicikamak invites interested individuals and organizations to expose the environmental and human rights consequences of hydro-electric energy generation and work to face and fix their devastating legacy.

Possible goals include:

- Get environmental and social mess created by existing hydro-electric energy generation cleaned up.
- Get environmental and social impacts which accumulate and grow from existing hydro projects (such as shoreline erosion, mercury poisoning, greenhouse gases, loss of forests to erosion and water fluctuations) mitigated.
- Prevent further harmful hydro-electric projects.
- Support development of cleaner and safer energy options (such as conservation, efficiencies, wind, solar, biomass).
- Help to widen respect for indigenous peoples working to protect their environments.