

Like Oil and Water: The True Cost of the Tar Sands

WEALTHY COUNTRIES HAVE AN ALMOST UNQUENCHABLE thirst for oil, and Canada is rushing to meet the demand through the Alberta tar sands. These projects have created good jobs for ordinary workers, large profits for corporations, and healthy government treasuries. And, we're told, North America's energy supply is more secure.

If those are the benefits, what are the costs? The impacts of this massive development will be felt beyond Alberta and the costs include climate change, watershed damage, and concerns about human rights and the absence of public consultation.

Without water, the tar sands wouldn't be worth much. The tar sands projects have already had an enormous impact on water quality and use, threatening watershed destruction, over-extraction, and contamination.

Watershed destruction

The thick black muck that is the tar sands lies under a layer of boreal forest and bog. In many operations, this "overburden" — soil, plants, and waterways — must be stripped away from the top of the deposits. Hundreds of square kilometers of forest and streams are vanishing.

The industry claims that total restoration of the original forest is possible, but it's difficult to see how a complex ecosystem, adapted to harsh, cold growing conditions, can be replaced. David Schindler, Professor of Ecology at the University of Alberta, compares the reclaimed land to "a golf course where the lawn mower is broken — a hard land with a little pond at the bottom." According to Schindler, only about two percent of the wetland areas have been reclaimed. "Right now the big pressure is to get that money out of the ground, not to reclaim the landscape. I wouldn't be surprised if you could see these pits from a satellite 1,000 years from now."¹

Over-extraction

Enormous amounts of water are needed to separate oil from sand. In 2004, three major corporations were allocated 138 billion litres of water for the year. Once the projects are fully developed, they will use 175 million litres a day in an energy-intensive process that until

recently was not considered economical.

Some say it's still not, and that one reason extraction is viable is the free access the government provides to the Athabasca River. Running north through a very fragile environment, it's the only major river in Alberta with no dams and (until now) no extensive water extraction.

Steam and water are forced through the sands that have been mined, or are injected into sands that lie beneath the forest. It initially takes four to five gallons of water to extract one gallon of oil from the sand. The water is re-used where possible, bringing the ratio to one or two gallons of water used for every gallon of oil.

But as Mary Griffiths of the University of Alberta's Pembina Institute notes, "We're going to need water resources long after the oil resources are gone. We have experienced drought in Alberta over a number of years... This is climate change. We could be experiencing far more drought in the future, so we need to ensure all our allocations of water are sustainable."²

Contamination

By the time water is ready for disposal, it's filled with silt and contaminated with a wide range of chemicals. It can't be returned to the environment. It must be removed from the watershed for an indefinite period and stored in enormous ponds, some of which the Pembina Institute says are "bigger and more plentiful than the natural lakes in the area." No one knows the full consequences should a pond leak or rupture.

Whose land? Whose health?

The damage to the land and water is carried out by oil and gas corporations, and aided by poor long-range planning and management by government. Scrutiny is limited because the oil sands are relatively remote, and lie under Aboriginal treaty land in a thinly populated area.

Northern and Aboriginal communities are struggling to make themselves heard. In 2006, the CBC carried stories focusing on the Aboriginal community of Fort Chipewyan, on the shores of Lake Athabasca. Their doctor wonders if the large cluster of rare cancers and other diseases in their community are related to water contamination from



Oil Sands Watch

By Julie Graham. Research by the Pembina Institute and Hugh McCullum

the tar sands. After this public exposure the Alberta government agreed to hold a review.

Further south the Lubicon Cree Nation, one of the few in Canada not to have a reserve, let alone a treaty with the federal government, is dealing with oil and gas interests operating on its land. Hundreds of kilometers of roads and test sites now divide the land, adding to the earlier devastation caused by commercial logging. The Lubicon have no legal ability to stop it. Despite the UN Human Rights Committee's criticism of Canada's treatment of the Lubicon, the federal government has not sat down to negotiate for two years, but continues to allow resource extraction from Lubicon territory.

Whose responsibility?

The tar sands can't move ahead without federal oversight and approval, including legally required environmental impact assessments. Many of these have not been carried out. In late 2005 the Federal Court of Appeal allowed Petro-Canada to bypass a comprehensive environmental assessment of its proposed Fort Hills Oil Sands Project.

Governments are approving expansion so rapidly that in July 2006 the town of Fort McMurray requested that the pace of development be slowed in order to allow for more sustainable development of the tar sands and the infrastructure needed for the workers.

Groups from First Nations communities and the province of Alberta are resisting the pace of tar sands development and raising public awareness about the environmental cost. They are reminding us that future generations rely on this land, and that Canada's promise to the international community to reduce greenhouse gas emissions is being broken largely due to the tar sands operations.

The mainstream media have not given much space to groups who question why we're exploiting the tar sands in the first place, let alone at a pace that is effectively waging war against the environment. We live in an economy and a consumer society that relies heavily on oil, and that makes it hard for all of us to acknowledge its true price.

1. Climate and Water Issues in the Athabasca River Basin: Transcript of a speech given by Dr. Schindler at Athabasca University, Fall 2004

2. Oil and Troubled Waters: Reducing the impact of the oil and gas industry on Alberta's water resources. Pembina Institute for Appropriate Development/Mary Griffiths and Dan Woynillowicz, 2003.

WHAT WE CAN DO

Sign the KAIROS "Counting On Water" action for legislation requiring Canadian corporations to protect water and human rights. See www.kairoscanada.org or call toll free: 1-877-403-8933, extension 241.

BECOME AWARE.

Get to know the groups working on this issue:

Oil Sands Watch: www.oilsandswatch.org

Pembina Institute: www.pembina.org

Sierra Club Legal Defense Fund: www.sierralegal.org

Recommended resources

(available on the KAIROS 2006-07 CD or on the sites listed):

CBC online pages on Fort Chipewyan (use its site search for more articles): www.cbc.ca/story/science/national/2006/05/05/fort-chipewyan.html

Death by a Thousand Cuts: The Impacts of In Situ Oil Sands Development on Alberta's Boreal Forest by Richard Schneider and Simon Dyer: Pembina Institute and CPAWS, August 2006: www.oilsandswatch.org

Troubled Waters, Troubling Trends: Pembina Institute, Alberta, May 2006: www.pembina.org or telephone 403-269-3344 (Calgary office)

Down to the Last Drop: The Athabasca River and Oil Sands: Pembina Institute, March 2006, by Dan Woynillowicz and Chris Severson-Baker: www.pembina.org

Oil Sands Fever: The environmental implications of Canada's oil sands rush. Pembina Institute, November 2005 by Dan Woynillowicz, Chris Severson-Baker, and Marlo Reynolds: www.pembina.org

Fuelling Fortress America: A report on the Athabasca Tar Sands and the US Demands for Canada's Energy. CCPA, the Parkland Institute, and the Polaris Institute. By Hugh McCullum: www.polarisinstitute.org

Paying the ecological price for oil profits: Catholic Register, May 2006 by Sandra Mooibroek: www.catholicregister.ca