

# ENVIRONMENT: Burning Energy to Produce It

By Stephen Leahy

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**BROOKLIN, Canada, Jul 24 (IPS) - Everything about the Alberta oil sands development is impossibly big. Monster-sized trucks and giant excavators are carving up hundreds of square kilometres of land, thousands of kilometres of pipelines and roads have been laid, and millions of litres of water are being super-heated to process millions of tonnes of rock and sand.**

Producing oil from oil sands also uses impossibly large amounts of energy.

The mining-extraction process requires about 750 cubic feet of natural gas for every barrel of bitumen, according to the non-governmental Pembina Institute report "Oil Sands Fever". The "in situ" process that pumps super-hot steam 1,000 metres underground requires 1,500 cubic feet of natural gas to produce a single barrel of oil.

Currently, about 0.6 billion cubic feet of gas is used every day in the oil sands region – enough to heat 3.2 million Canadian homes, the report says.

"Oil sands are the largest industrial emitter of greenhouse gases in Canada," said Lindsay Telfer of the Sierra Club of Canada from Edmonton, Alberta.

"It's one of main reasons why the Canadian government has said meeting its Kyoto commitments will be too hard," Telfer told IPS.

Canada needs to trim emissions of carbon dioxide from fossil fuels by six percent, or about 45 megatonnes, by 2012 under the Kyoto Protocol, an international treaty to reduce emissions of greenhouse gases that cause global warming.

Producing one barrel of oil from oil sands emits three times more greenhouse gases (GHG) than production of conventional light or medium crude oil.

Oil sands currently pump out 23 megatonnes of such emissions, and are the fastest rising source of greenhouse gases in Canada, projected to emit 70 megatonnes by 2010, according to a Sierra Club report.

Projected requirements for use of natural gas with the in situ oil recovery process alone range from 1.2 billion cubic feet (Bcf) per day to 1.8 Bcf per day by 2015, according to a report from the National Energy Board of Canada.

In total, two Bcf of gas will be needed each day for the entire oil sands operations by 2012. That's almost enough gas to heat every Canadian home, according to the Pembina report.

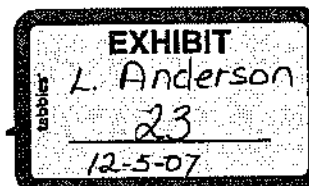
"Governments won't put in regulations that would slow greenhouse gas emissions from oil sands," Telfer said.

In her view, oil sands companies now drive Canada's environmental policy because both the prime minister and minister of the environment are from Alberta.

"Governments have stepped aside, and dropped the ball on their regulatory and planning responsibilities," agreed Ian Urquhart, a political scientist at the University of Alberta.

A few companies are making efforts to improve their energy efficiency, especially as natural gas prices climb. One company, Shell Canada, has said it will reduce GHG emissions by 50 percent relative to its projected emissions intensity of 65 kilogrammes of GHGs per barrel of bitumen at its

Anderson Exhibit #



## Athabasca Oil Sands Project.

Due to the enormous consumption, local sources of natural gas are declining and will not be sufficient to meet future needs of the oil sands development.

However, future natural gas is likely to come from the controversial 7.5-billion-dollar Mackenzie Gas Project. It would bring 500,000 cubic feet of natural gas pumped from Canada's Arctic region 1,200 km south. Most of this route would be along the pristine Mackenzie River Valley in the Northwest Territories.

Final hearings for the project are being held this year by the National Energy Board of Canada, and construction could begin next year with a completion date in 2010.

Other future energy sources being considered include the building of several nuclear power plants or coal bed methane plants, says Telfer.

Oil sands mining and refining have also dramatically increased the levels of air pollutants such as sulphur dioxides, nitrogen oxides, particulate matter and volatile organic compounds. While Alberta is home to only 10 percent of Canada's population, it is the largest source of industrial air pollutants. Not surprisingly, the oil sand facilities are its largest emitters.

The process of making usable oil from the tar sands produces at least two times more air pollutants than from conventional oil wells.

Just 70,000 people live in the vast Athabasca Oil sands region, but its air quality is comparable to large cities, said Telfer.

Still, Greg Stringham, vice president of the Canadian Association of Petroleum Producers, says that, "Companies have made dramatic reductions in emissions."

Nearly all of the sulfur is trapped and turned into large solid blocks, which are then sold. And companies are meeting government air quality standards, Stringham said in an interview.

Environmentalists acknowledge that reductions have been made but say these are offset by the rapid growth of the industry. Without significant additional reductions, emissions of pollutants will exceed health standards in a few years time.

"No one knows what the cumulative environmental impacts of the oil sands development will be," said Rick Schneider of the Canadian Parks and Wilderness Society in Edmonton, Alberta.

"There haven't been any studies," Schneider said.

Canadians strongly support Kyoto and GHG reductions but don't know that the rapid growth of the oil sands will make it difficult for Canada to reach its targets, said Urquhart.

And few Canadians realise they are taking a huge environmental hit just so people in the United States can continue to drive their petrol-guzzling SUVs, he added.

Public opposition is growing, however, even in Alberta, where every citizen received a cash payment of 350 dollars, called a "prosperity dividend", thanks to the booming oil sector.

Peter Lougheed, Alberta's former premier who once championed oil sands development, announced this week that a moratorium on further expansion is needed so the impacts can be properly studied.

"We need to slow down the expansion, and figure out the toxic legacy we'll be left with,"

Schneider concluded.

\*This article is the last of a four-part series on the environmental impacts of Canada's massive oil sands mining and processing development, the world's largest industrial project. (END/2006)