

Will Canada's oil boom be an environmental bust?

By ROB GILLIES – August 25, 2008

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FORT MCMURRAY, Alberta (AP) — The largest dump truck in the world is parked under a massive mechanical shovel waiting to transport 400 tons of oily sand at an open pit mine in the northern reaches of Alberta.

Each Caterpillar 797B heavy hauler — three-stories high, with tires twice as tall as the average man — carries the equivalent of 200 barrels of heavy oil worth \$23,000 per haul at today's prices.

"It's like sitting on your back porch and driving your house," said Todd Dahlman, the manager of Shell Canada's Muskeg River open pit oil sands mine in Alberta's Athabasca region.

Shell, which has 35 of the massive loaders working 24 hours a day, 7 days a week, has ordered 16 more — at \$5 million each — as it expands its open pit mines. And it is not alone among major oil companies rushing to exploit Alberta's oil sands, which make Canada one of the few countries that can significantly ramp up oil production amid the decline in conventional reserves.

Shell, Exxon-Mobil, Chevron, Canada's Imperial and other companies plan to strip an area here the size of New York state that could yield as much as 175 billion barrels of oil. Daily production of 1.2 million barrels from the oil sands is expected to nearly triple to 3.5 million barrels in 2020. Overall, Alberta has more oil than Venezuela, Russia or Iran. Only Saudi Arabia has more.

High prices — a barrel reached almost \$150 last month and is around \$115 now — are fueling the province's oil boom. Since it's costly to extract oil from the sands, using the process on a widespread basis began to make sense only when crude prices started skyrocketing earlier this century.

But the enormous amount of energy and water needed in the extraction process has raised fears among scientists, environmentalists and officials in an aboriginal town 170 miles downstream from Fort McMurray. The critics say the growing operations by major oil companies will increase greenhouse gas emissions and threaten Alberta's rivers and forests.

"Their projected rates of expansion are so fast that we don't have a hope in hell of reducing greenhouse gas emissions," said Dr. David Schindler, an environmental scientist at the University of Alberta.

Oil sands operations, including extraction and processing, are responsible for 4 percent of Canada's greenhouse gas emissions, and that's expected to triple to 12 percent by 2020. Oil sand mining is Canada's fastest growing source of greenhouse gases and is one reason it reneged on its Kyoto Protocol commitments. Experts say producing a barrel of oil from sands results in emissions three times greater than a conventional barrel of oil.

Worries about environmental damage have gotten enough attention that even the oil industry realizes it must tread softly on the issue. "Industry has to improve its environmental performance," Brian Maynard, a vice president of the Canadian Association of Petroleum Producers, said recently.

Questions about developing Alberta's oil sands have seeped into the U.S. presidential campaign and the debate in Canada and the U.S. over keeping down the price of gasoline while still protecting the environment.

The Bush administration sees Alberta as a reliable source of energy that will help reduce reliance on Middle East oil. U.S. Ambassador to Canada David Wilkins said the oil sands will define the relationship between the two countries for the next 10 years.

"We are blessed by the fact that our friend and neighbor is also our number one supplier of foreign oil," Wilkins told The Associated Press.

However, Democratic presidential candidate Barack Obama's top energy adviser said oil sands emissions are "unacceptably high" and may run counter to Obama's plan to shift the U.S. away from carbon-intensive fossil fuels.

"The amount of energy that you have to use to get that oil out of the ground is such that it actually creates a much greater impact on climate change, as well as using much more energy than even traditional petroleum," Obama adviser Jason Grumet said.

Mining oil sands also was criticized by American mayors in a resolution adopted at their annual conference in June urging a ban on using oil sands-derived gasoline in municipal vehicles. They alleged the oil sands mines damage Canada's boreal forest — boreal refers to the earth's northern zone — and slows the transition to cleaner energy sources in the U.S.

John Baird, Canada's environment minister, warned that Washington would lose energy security if it doesn't take Alberta's oil.

"If American mayors want to send their money to unstable, undemocratic countries in the Middle East instead of to Canada, that will be their call. If they want to pay a premium for Iranian, Saudi, Iraqi oil that will be their call," Baird told the AP.

Alberta Premier Ed Stelmach said he doubted Americans would accept the resulting higher prices at the pump should the U.S. decide against exploiting Alberta's oil.

"Do you think Americans are going to be paying a buck or a buck fifty more because somebody said that our carbon footprint is higher than oil from Kazakhstan?" Stelmach told the AP. "It's a pocketbook issue."

Stelmach recently met with Wilkins in an effort to convince more U.S. politicians of the importance of Alberta's energy supply. Oil from the sands goes only to the U.S. and Canada now. The sands provide 46 percent of Canada's oil production and that's expected to be 80 percent by 2020.

Mayor Melissa Blake of the Wood Buffalo municipal district, which includes Fort McMurray, also noted Alberta could sell its oil elsewhere if it does not flow south of the border. "We're still going to have a market somewhere," Blake said.

Dave Collyer, Shell's chairman in Canada, said world demand means oil companies must exploit unconventional sources of energy.

"You have to consider the environmental impact in a broader context," Collyer said. "There is significant economic benefit from the development of oil sands. The oil sands represent a very secure, reliable, long-term source of supply to the United States. People in the U.S. will have to judge whether that supply stacks up to other alternatives."

The oil industry's Maynard also said companies would be able to develop techniques to protect the environment in the same way they made the process of oil sands extraction commercially viable over the past 20 years. "It will take time," he added.

Premier Stelmach said Alberta's oil sands caused less than 1/10th of 1 percent of world greenhouse gas emissions and that Canada caused just 2 percent of global emissions. He also said emissions from oil sands were overstated — compared to those from conventional crude — because the figures do not take into account the emissions it takes to ship overseas oil to North America.

But David Suzuki, Canada's most prominent environmentalist, argued that introducing the shipping issue distorted the statistics. He also cautioned against accepting the argument that the oil industry would develop safer techniques such as carbon capture storage, noting that the time and money needed to determine such methods could not be predicted.

"They say, 'No, no we're going to do research and really clean up our act.' Well, you can't give these guys permission to go ahead on the promise that something is going to happen in the future," Suzuki said.

He and other critics warn the environmental ramifications are too dire to ramp up oil sands production. They argue that Canada's boreal forest, one of the largest intact ecosystems in the world, is being torn up to make way for the mines.

They also say that not enough was done to safeguard the environment while two smaller Canadian firms — Suncor Energy Inc. and Syncrude Canada Ltd. — extracted the oils sands for

decades and that the situation is becoming alarming as major oil companies become more involved.

"For 40 years a couple of oil companies worked on the tar sands extraction process, not its environmental impacts. It was Alberta's massive expansion of tar sands leasing over the last few years, ignoring serious unanswered environmental and public health concerns, that created this mushrooming crisis," said Gary Stewart, a senior adviser to the International Boreal Conservation Campaign.

Refineries in the U.S. Midwest are retooling and expanding so they can process the thicker oil, raising concerns about more emissions.

Many also are worried about the amount of water taken from Alberta's Athabasca river. The extraction process uses 2 to 4 1/2 barrels of water for each barrel of oil produced, according to the Pembina Institute, a nonprofit think tank.

There are concerns, too, about the tailing ponds that sit next to the river. The ponds contain waste made from the separation of oil from sand. The toxic ponds look more like lakes and take up 50 square miles of northern Alberta.

Jeff Short, a U.S. government scientist who studied the long-term effects of the Exxon Valdez oil spill, said if one of the ponds spilled into the river, the impact would be felt for decades — or centuries.

"It would be the equivalent of several hundred Exxon Valdez oil spills," Short said.

A flock of 500 migratory ducks recently died after landing on one of Syncrude's ponds, and an accidental discharge from a Suncor waste treatment plant in 1982 caused the closure of the commercial fishery downstream in Lake Athabasca for three years.

Residents of Fort Chipewyan, Alberta's oldest settlement about 170 miles downstream from the projects, are worried that toxins from the ponds could seep into the river and drift into their drinking water. They say they have caught deformed fish in Lake Athabasca and the river that feeds it.

John O'Connor, once the doctor of the native community of 1,200, found five cases — an unusually high incidence — of cholangiocarcinoma, a rare cancer of the bile duct. The illness is so uncommon it is usually seen in one in 100,000 people.

The government disputed O'Connor's diagnosis of five cases. It said O'Connor was raising undue alarm and accused him of professional misconduct in a formal complaint. O'Connor has since left the community and officials have yet to issue final judgment on his case.

"There are major health issues at Fort Chip," O'Connor said. "I'm just one of a chorus of people that are concerned."

The government only recently announced it would study the cancer rate. Aboriginal leaders have urged a definitive study for years.

Aboriginals, environmentalists and some opposition members of the Canadian Parliament are urging a moratorium on new development until more is known about environmental and health effects of oil sands mining.

New Democratic Party Leader Jack Layton calls the size and scope of the projects staggering and said the environmental problems are being left for future generations. Liberal Party Leader Stephane Dion opposes a moratorium but urged the federal government to use its authority under environmental laws to ensure a more rational growth of the oil sands industry.

But the Conservative government doesn't want to get in the way of Canada becoming an energy power. The oil sands have created thousands of jobs and a booming economy in western Canada. Fort McMurray's population has burgeoned from 33,000 in 1996 to 65,000 last year. Mayor Blake of Wood Buffalo said it will be more than 100,000 soon.

High school graduates can make more than \$100,000 driving a truck, but living costs are extraordinary and the quality of life poor. Workers are separated from their families because of a housing shortage — the average one-family house costs over \$600,000 — and drugs and prostitution are rampant.

"It's unfathomable what's going on here," said George Poitras, a former chief of the Mikisew Cree First Nation in Fort Chipewyan. "While we don't disagree that the resources should be exploited for human consumption, we are saying it should be done in a way that's manageable, responsible, sustainable. There are gross negligent environment and health issues being observed."