

## TAR SANDS SHOWDOWN – CLIMATE CHANGE

- The boreal forest stores more carbon in peatlands, soil and trees than any other ecosystem in the world. From a climate change standpoint, the boreal is the most important natural capital in existence. Tar sands extraction in Northern Alberta creates a vast network of open pit mines, wells, roads and pipes which destroy hundreds of acres of previously untouched boreal.
- Tar sands oil currently produces between three and five times more greenhouse gas (GHG) emissions than pumping conventional oil. Conventional oil produces an average of 28.6kg of carbon dioxide per barrel of oil, while tar sands oil produces at least 85.5kg.
- The tar sands account for more than 16% of emissions in Canada, but this is expected to increase three or four times in the next decade. Tar sands could account for up to half of the growth in Canada's emissions between 2003 and 2010.
- In 2005, Pembina Institute reported that the tar sands released 37 megatonnes of greenhouse gases, compared with 23 megatonnes in 2000. Emissions could reach 164 megatonnes per year by 2015 due to rapidly increasing production.
- It is currently estimated that 20% of Canada's total natural gas production goes to extracting oil from the tar sands. To put it in perspective, it requires as much as 1,000 cubic feet of natural gas to convert a barrel of bitumen into thick crude oil.
- To meet Kyoto targets, Canada would have to be 6% below 1990 levels before 2012. Given current projections, emissions are likely to be 32% higher than 1990 levels by 2010.
- The plan from the Conservative Government calls for intensity based targets for the tar sands industry. This means that emissions have to be reduced per barrel, but the overall emissions of the industry are allowed to grow as the industry increases oil output. Production of oil from the tar sands will be an estimated four times higher in 2020, and with intensity based targets, emissions will still be three times higher than they are now. And, the tar sands industry was given a three-year free ride in 2007 by the federal government before they must reduce emissions. No other industry in Canada received the same exemption.
- Carbon capture and sequestration (CCS) is a technique used to capture carbon from the production process and store it underground. The Government of Canada and Provincial Government of Alberta along with corporations are touting CCS as a major way in which GHG emissions can be reduced within the tar sands industry. However, CCS is not a silver bullet; tar sands emissions are not clean and are difficult to capture and store efficiently, carbon can leak from its storage place and long term monitoring would be needed, and finally, if a large leak did occur, it would be disastrous to the environment.
- Additionally, CCS is hardly the saving grace for the tar sands that some have made it out to be. A report by Farrel and Brandt estimates that only 10-20% of tar sands emissions during production could be effectively captured and sequestered. Other methods would be needed to address the additional emission reduction requirements.
- If Ottawa is serious about our energy security as a country, then major commitments must be made to developing other alternatives. The federal government needs to initiate, with the provinces, a national strategy for developing new policies and programs. This strategy must include a timetable for measurable reductions in fossil fuel dependence, effective conservation of oil and gas supplies, and public investments in energy alternatives like solar, geothermal and wind power.

For more information, or to get involved visit <http://www.tarsandswatch.org>

<http://www.oilsandswatch.org>, <http://www.canadians.org/energy>, <http://www.greenpeace.org/canada/en/campaigns/tarsands>

## Excerpt from author Tony Clarke's Book "Tar Sands Showdown"



...Today most climate scientists agree that the critical threshold for temperature rise on the planet is two degrees Celsius above pre-industrial levels. The Potsdam Institute for Climate Impact calculates that holding global temperatures at two degrees Celsius above pre-industrial levels will “stabilize concentrations of greenhouse gases in the atmosphere at or below the equivalent of 440 parts of carbon dioxide per million,” which would be sufficient to bring global warming under control. During the twentieth century, the average global temperature increased by 0.6 degrees Celsius, above pre-

industrial levels, which, according to the World Meteorological Organization, is “the largest [increase] in any century during the past 1,000 years.” However, if temperatures rise beyond the two-degree threshold during this century, say climate scientists, then major ecosystems on the planet will begin to collapse. Up to this point, the planet’s ecosystems are able to absorb much of the carbon dioxide released into the atmosphere. Beyond this point, the planet’s ecosystems start releasing greenhouse gases instead of absorbing them, such as in the case of the melting of the permafrost in the Arctic, which will result in the release of methane gas. At this moment and beyond, says [George] Monbiot, “climate change is out of our hands: it will accelerate without our help.”

Most people in Canada today, including many Albertans, are genuinely and increasingly concerned about the realities of climate change. After all, we are a northern people living in close physical and geographical interconnection with one of the most fragile and vulnerable ecosystems of the planet, the Arctic. As the plethora of reports from the United Nations Intergovernmental Panel on Climate Change (UNIPCC) have become public, Canadians have generally responded by demanding governments do more about the greenhouse gas emissions that are heating the planet. Public opinion polls have consistently shown that the Canadian public wants our governments to meet the commitment made by Canada in the Kyoto Protocol to reduce this country’s greenhouse gas emissions to 6 percent below 1990 levels. What most Canadians do not know is that the Alberta tar sands are becoming Canada’s number one global warming machine.

The forests of northern Alberta, which are being strip-mined for the production of tar sands crude, are part of the boreal ecosystem, known as the northern lungs of the planet. The boreal has the potential to recapture more carbon from greenhouse gas emissions than any other ecosystem in the world, including the tropical rainforests of Africa and South America. The boreal peat lands, soils and trees are a natural storehouse for carbon. From a climate change perspective, therefore, the boreal constitutes one of the most important natural features in the world. Yet, the boreal carbon sink is being ripped away by strip mining and being replaced by a vast network of open pit mines, wells, roads, pipelines and hugely toxic waste ponds. Thousands of hectares of previously untouched boreal are being systematically destroyed...