

Questions and answers about the Alberta Tar Sands

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Greenpeace has started a campaign to oppose the unsustainable development of the Alberta Tar Sands. We are keeping the larger details of the campaign under wraps for now, but Geeta Sehgal, one of our new campaigners, answered a few of our questions about what's going on in the Alberta Tar Sands.

- 1) What are tar sands?
- 2) Where are they in Canada? Around the world?
- 3) Why are tar sands worse than conventional oil extraction?
- 4) How much do the tar sands contribute to Canada's greenhouse gas emissions?
- 5) What stage of development are the tar sands at now?
- 6) What do the tar sands mean for Canada's commitment to the Kyoto Protocol on climate change?
- 7) Why is Canada exploiting the tar sands now? Do we need the energy?

1) What are tar sands?

Tar sands are a mixture of sand, clay, and a very heavy crude oil called bitumen, which is tar-like and does not flow on its own. To get the oil out of the ground, trees are cut down, the surface layer is strip-mined, and the underlying mixture is heated with steam in order to make it flow. Because the bitumen is very low quality, it is then processed and refined to turn it into synthetic crude oil which can be used as fuel.

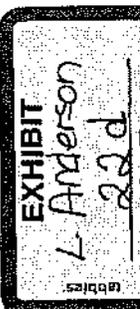
2) Where are they in Canada? Around the world?

The largest reserves of accessible tar sands are located in Northern Alberta, Canada, amidst pristine, untouched wilderness and under millions of hectares of boreal forest. The closest town is Fort McMurray, and there are a number of small communities located downstream from tar sands projects, where residents are suffering from the effects of pollution caused by the tar sands. Large tar sands deposits are also located in the Orinoco oil belt in Venezuela, as well as smaller deposits in the Middle East and the United States.

3) Why are tar sands worse than conventional oil extraction?

It takes immense quantities of water, and huge amounts of dirty energy to create the steam needed to

Anderson Exhibit #2



get oil out of tar sands, and processing the bitumen requires the use of even more dirty energy. But exploiting the tar sands goes farther than simply using up water, electricity, coal and natural gas. The air is polluted with nitrogen oxides and sulphur dioxide, water is contaminated with toxic chemicals, and millions of hectares of wilderness are being destroyed.

4) How much do the tar sands contribute to Canada's greenhouse gas emissions?

Oil from the tar sands produces five times as many greenhouse gas emissions as conventional oil. Annual greenhouse gas emissions from tar sands plants in 2007 are expected to be 39.3-41.4 million tonnes of CO2 equivalent, and it is estimated that by 2011, annual greenhouse gas emissions from the tar sands plants alone will be over 80 million tonnes of CO2 equivalent - a greater quantity of emissions than that produced by all of Canada's passenger cars today.

5) What stage of development are the tar sands at now?

There are over 3200 tar sands lease agreements in place right now, covering an area larger than Vancouver Island, and governments and the oil industry are constantly working to increase this number. Licenses are in place to divert 349 million m³ of water per year out of the Athabasca River. The area that can potentially be leased includes almost 150,000 km² of boreal forest - an area larger than the state of Florida, and double the size of New Brunswick. Existing tar sands operations produce just over one million barrels per day, and these are causing plenty of damage. Up to five barrels of water are needed to extract each barrel of bitumen, and 500 - 1000 cubic feet of natural gas to produce a barrel of crude oil. The amount of water in the Athabasca River has been noticeably depleted, fish in Lake Athabasca are reported to have strange tumours and mutations, and people living in downstream communities are suffering from higher rates of cancer and diseases like multiple sclerosis. Massive amounts of nitrogen oxides, sulphur dioxide, volatile organic compounds and particulate matter are also being released into the air by the processing of the tar sands; these substances are known to cause respiratory problems and cancers.

6) What do the tar sands mean for Canada's commitment to the Kyoto Protocol on climate change?

Canada will be unable to meet its Kyoto commitments if the tar sands continue to operate. We need to reduce our emissions by about 280 million tonnes per year in order to meet Kyoto requirements. The tar sands are emitting around 40 million tonnes of greenhouse gases per year at present, and will probably double to about 80 million tonnes per year by 2011. This will make it impossible to live up to our Kyoto commitments.

7) Why is Canada exploiting the tar sands now? Do we need the energy?

Most of the oil produced by the tar sands goes to the United States. Americans appreciate having a "secure" source of energy on the North American continent so that they can attempt to reduce their dependence on oil from the Middle East. We don't really need the energy, but because of our inefficient transportation systems we sure use up a lot of it! Canada could have exploited the tar sands a long time ago, but chose not to because oil prices were low and production prices were high, meaning that oil companies couldn't make very big profits. Over the past few years, oil prices have gone up and technology has changed to allow companies to get the oil out more cheaply. The Alberta government also gives oil companies a huge incentive to exploit the tar sands: low royalty rates that mean the corporations get to keep most of the profits, even though they're destroying land that belongs to Albertans.