

What are the tar sands?

Made by folks at the **Tar Sands Blockade**.
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A chunk of tar sands bitumen



Tar sands: (**Bitumens**) are a type of fossil fuel. Bitumen consists of a tar-like substance infused with clays and sands (see picture, left). Tar sands are an unconventional and difficult fuel to extract, transport, and refine for burning. The difficulties and risks with tar sands explained here should bring light to the issue that the industry has tried so hard to keep secret. Don't be fooled: tar sands are not crude oil, they are not safe, and they won't reduce fuel prices.

Many top scientists and the general public oppose tar sands for reasons including climate change, public safety, land sovereignty, and the irreversible destruction of sensitive bioregions.

Extraction: Most of the tar sands are extracted by open-pit mining, which requires the total destruction of ecosystems to scrape out the bitumen below.

Four tons of earth, rock, and bitumen must be processed with up to four barrels of heated water to produce just one barrel of synthetic crude oil (~1/8 ton). The whole process is incredibly inefficient, and up to four-times the carbon is released in its production compared to regular conventional oil.

Canada already uses 20% of their natural gas just for the production of tar sands, and many square miles of toxic waste ponds from extraction are poisoning Native American communities and Canada's vital river systems.



Once a forest, now an open-pit extraction site in Alberta, Canada.

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One Enbridge spill was burned (2002) to keep it from polluting the Mississippi River.



Refining: Communities face even more risks to their health with tar sands, including increased heart and lung disease, asthma, and cancer.

Compared to crude oil, tar sands contain more toxic metals like lead, nickel, mercury, and arsenic, as well as elements that cause acid rain. Worse, many refining communities are densely populated by people of color who tend to bear the brunt of environmental injustices.

There are many reasons we should all oppose the tar sands: advocating for our land, climate, air, water, public safety, and for people who deserve better!

Transport: Tar sands must be heated and diluted with liquified gas products to make them flow. Many chemicals used to make diluted bitumen (**dilbit**) are highly toxic to humans and the environment.

Pipes and their leak detection systems are not designed to handle the hot, corrosive dilbit. Spills are therefore very common and can go unnoticed for hours, days, or weeks.

The U.S. pipeline firm Enbridge had hundreds of dilbit spills in less than ten years. Their worst spill occurred in July 2010 in a Michigan river, lasting over 17 hours before they could shut it down. Cleanups are almost impossible since the bitumen and condensates separate outside the pipe. Bitumen sinks in water, while the gas products evaporate in the low-laying air. The Enbridge spill made over 200 people sick and killed countless animals and fish. They paid for public silence.



Valero refining plant in Houston, TX where TransCanada has contracts to burn tar sands for 17 years.

Stories and resistance: TARSANDBLOCKADE.ORG

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