

Energy East 101: Sources

From handimation script: "Industry has plans to triple production."

In 2012 1.9 million barrels of bitumen was produced every day in the tar sands. The Canadian Association of Petroleum Producers expects the industry will surpass 5 million barrels a day by the end of 2030. The industry has announced plans to produce more than 9 million barrels of bitumen per day.

Source: <http://www.pembina.org/pub/2455>

From handimation script: "A higher rate of rare cancer has been found in downstream First Nations."

The Athabasca Chipewyan First Nation (ACFN) and the Mikisew Cree First Nation (MCFN), in collaboration with researchers from the University of Manitoba, released a report titled *Environmental and Human Health Implications of Athabasca Oil Sands*. It draws an association between tar sands produced environmental contaminants and the declining health and well-being of people who live in Fort Chipewyan, Alberta. The report has been peer reviewed by Health Canada and other health and environmental agencies.

Report findings include generally high concentrations of carcinogenic PAHs (polycyclic aromatic hydrocarbons) and heavy metals in samples of traditional wild foods harvested by community members. Bitumen extraction and upgrading is a major emitter of all of these contaminants. The report finds that cancer occurrences in Fort Chipewyan are linked to the consumption of traditional wild foods, including locally caught fish.

This is consistent with concerns raised by Dr. John O'Connor and ACFN community members about elevated cancer rates.

Source: <http://onerivernews.ca/health-study-press-release-2014/>

From handimation script: "Millions of hectares of old growth forest and billions of litres of fresh water have already been destroyed."

A total of 1,613,887 hectares of natural boreal ecosystems have been changed or will be impacted by surface mining and in situ projects already in progress, or approved.

Source: http://www.globalforestwatch.ca/files/publications/20090927A_BioCarbon_WEB_HR.pdf p. 20

Tar sands operations return almost none of the water used in the extraction process to the natural cycle. Industry used approximately 170 million cubic metres (170 billion litres) of water in 2011.

Source: <http://www.pembina.org/oil-sands/os101/water>

From handimation script: "Filling the Energy East pipeline would allow a 40 per cent increase in tar sands production – that is like doubling the number of cars in Ontario, or restarting all the dirty old coal plants that took 15 years to close down. We can have a liveable planet or tar sands expansion – not both."

Producing tar sands crude generates three to four times more climate emissions than conventional oil.

The International Energy Agency (IEA) has stated that two-thirds of fossil fuel reserves must stay in the ground if we are to avoid dangerous climate change. There are 1.9 million barrels of bitumen produced in tar sands every day. To stay within the prescribed IEA scenario –based on a 50/50 chance of keeping Earth’s temperature rise below two degrees – tar sands production must not exceed 2 million barrels per day.

The IEA’s statement is, in fact, conservative. Research by the Carbon Tracker Initiative suggests we must keep 60 to 80 per cent of fossil fuels in the ground to remain under two degrees of warming.

Sources:

<https://www.iea.org/newsroomandevents/pressreleases/2012/november/name,33015,en.html>
<http://priceofoil.org/content/uploads/2012/11/tar-sands-climate-limits-copy.jpg>
<http://www.carbontracker.org/site/wastedcapital>
<http://www.pembina.org/media-release/2520>

From handimation script: “Massive pipeline ruptures in Mayflower, Arkansas in 2012 and Kalamazoo, Michigan in 2010 show how impossible it is to clean up dilbit because it sinks in water and sticks to everything it touches. The Kalamazoo cleanup is entering its fifth year and has already cost more than \$1 billion dollars. That pipeline leaked 4 million litres over 14 hours before it was eventually shut off. Energy East would pump that much oil in 35 minutes.”

Carrying up to 1.1 million barrels of oil a day means that Energy East can transport 121,458 litres per minute and 4 million litres in 33 minutes.

Diluted bitumen, or “dilbit” is produced by diluting heavy bitumen from the tar sands with light diluents in order for it to flow through a pipeline. The diluents are a chemical mix that is considered a trade secret so not all of its contents are known, although it has included benzene, a carcinogen.

While it is possible that any oil can sink in water, dilbit is much more likely to do so. Conventional crude consists of primarily mid-range chemicals that are light enough to float on water but too heavy to gas off. Dilbit contains bitumen that is heavy enough to sink and light diluents that can gas off, as was seen in Kalamazoo, Michigan. Dilbit sinks when it is mixed with sediments such as earth and sand, which is a likely scenario for a large spill. The longer dilbit stays in the water, the more likely it is to sink.

Industry, including TransCanada, often refers to a U.S. National Academy of Sciences study to claim that dilbit does not react differently than conventional oil when spilled. This study was widely criticized. It was not based on new research, but rather self-reported industry data that includes scientific research that was funded or conducted by the oil industry, and government databases that even federal regulators admit are incomplete and sometimes inaccurate.

A recent Canadian federal study conducted by Environment Canada, the Department of Fisheries and Oceans and Natural Resources Canada, found that dilbit, when mixed with sediment and beat by waves in salt water – which would happen in the Bay of Fundy and possibly the St. Lawrence River – forms tar balls that sink.

Sources:

<http://insideclimatenews.org/news/20120626/dilbit-primer-diluted-bitumen-conventional-oil-tar-sands-Alberta-Kalamazoo-Keystone-XL-Enbridge?page=show>
http://www.crrc.unh.edu/sites/crrc.unh.edu/files/1633_dilbit_technical_report_e_v2_final-s.pdf
<http://www.epa.gov/enbridgespill/>
http://www.epa.gov/region6/region-6/ar/ar_mayflower_spill.html
<http://insideclimatenews.org/topic/kalamazoo-river>
<http://insideclimatenews.org/exxon-oil-spill-arkansas>
<http://insideclimatenews.org/print/26538>

From handimation script: "When that pipeline was built starting in 1974, thinner steel was used in remote areas because it was cheaper and the consequences of a gas leak were considered much less serious than an oil leak. But not only is a rupture more likely in remote areas where the pipe is thinner, it could take a lot longer before the spill is noticed and the pumping is stopped."

Most of TransCanada's Mainline is in sparsely-populated areas, so Class 1 pipeline (the thinnest class) was used. The TransCanada Mainline pipeline that ruptured in 2009 near Englehart, Ontario was Class 1. It was 9.1 millimetres thick – about the thickness of a pencil.

Source: <http://www.tsb.gc.ca/eng/rapports-reports/pipeline/2009/p09h0074/p09h0074.asp>

From handimation script: "Industry brags that they have state of the art technology for detecting leaks, but 80 per cent of all the pipeline spills in the last three years were discovered by people before the pipeline companies even suspected they had a problem."

Looking at 10 years of federal data in the U.S., an investigative journalist found that remote sensors detected only five per cent of spills. Looking just at large spills of more than 1,000 barrels, only 20 per cent of the spills were first discovered by leak detection systems. In Canada, we are dealing with many of the same big pipeline companies, including TransCanada, Enbridge and Exxon. Only one of the eight ruptures on TransCanada's natural gas mainline system (including the pipeline to be converted for Energy East) was discovered by a leak detection system.

In the case of the Kalamazoo spill, alarms were triggered around the start of the spill at 11 a.m., but Enbridge staff debated whether a large bubble in the pipeline was the cause of the pressure drop. They stopped and restarted the pressure in the pipeline in an attempt to address this. It was not until the next day at 6 p.m. that the company was alerted to the spill when a Michigan utilities employee called the Enbridge emergency line.

Sources:

<http://insideclimatenews.org/news/20120919/few-oil-pipeline-spills-detected-much-touted-technology>
<http://www.canadians.org/sites/default/files/publications/EE-Safety-Briefing.pdf>
<http://www.lo e.org/shows/segments.html?programID=12-P13-00027&segmentID=1>

From handimation script: "In the last audit of their key safety management systems TransCanada was found to be non-compliant in four out of nine categories."

<http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/sfty/dtrprt/trnscndt211-2012-2013-01ntgrtymngmnt/trnscndt211-2012-2013-01ntgrtymngmnt-eng.html>

From handimation script: "In their sales pitch to the Obama administration, TransCanada claimed that their KXL pipeline would create 20,000 jobs, but the U.S. State Department estimates the real figure to be as low as just 50 long-term jobs."

Sources:

<http://www.usnews.com/news/articles/2014/03/10/experts-keystone-xl-pipeline-may-create-fewer-jobs-than-most-expect>
<http://www.ilr.cornell.edu/globallaborinstitute/research/keystonexl.html>

From handimation script: "Investing in the green economy generates seven times as many jobs as projects like Energy East while ensuring that future generations will still have a planet worth living on. We don't need to expand the tar sands. We don't need to export more oil. We don't need Energy East."

Source: <http://bluegreencanada.ca/>