lightsout canada

FOSSIL FUELS AND CLIMATE CHANGE

What are fossil fuels?

Coal, oil and natural gas are the most common forms of fossil fuels consumed in Canada. These fuels are considered a non-renewable resource because there is a finite amount available and they take millions and millions of years to form. Fossil fuels are created when organic matter, like plants or animals are exposed to extreme pressure and heat over very long periods of time.

Scientists have stated that carbon in the atmosphere that exceeds 350 ppm is not compatible with life on earth. The current level of carbon in the earth's atmosphere is 395 ppm. It is estimated that the fossil fuel industry holds 5 times more coal, oil and gas than it is safe to burn.

How do we access fossil fuels?

Fossil fuels are located in the ground under layers of sediment. To access fossil fuels, industries use drilling or mining techniques. There are two main forms of drilling: conventional and non-conventional. The difference between them is the direction used; conventional drilling drills vertically into the ground and non-conventional drilling has the technology to drill horizontally in the ground.

Hydraulic Fracturing (Fracking)

Fracking is an example of non-conventional drilling technique used to access natural gas from shale. A mixture of water, various chemicals and sand are injected into pre-drilled holes in the ground at high pressures. The result of the mixture entering the ground at a high pressure fractures the shale and releases the shale gas, which is then harvested by the companies. There have been concerns voiced in the public around the risk that hydraulic fracturing may pose to drinking water. Some people fear that the chemicals used to frack could contaminate aquifers, or that the pressure exerted could crack wells.

Canada's relationship with fossil fuels

The Alberta Oil Sands are one of the largest crude oil reserves in the world. The land that is impacted by the project is an area of 149 000 square km, which is around the same size as England. The Oil Sands emit as much greenhouse gas emissions in one day as 1.34 million cars. The tailing ponds (areas used to store the toxic waste from processing the oil) are so large that they can be seen from outer space.

Transporting Fossil Fuels

Currently Canada is proposing a lot of ways to transport the oil coming from Alberta such as pipelines. The three main pipelines being discussed by the Canadian Government are:

1. TransCanada's Keystone XL Pipeline would extend 1897 km from Alberta to Nebraska
2. Enbridge's Northern Gateway Pipeline would extend from Alberta to Kitimat, British Colombia where it would be shipped to Asia on tankers.
3. TransCanada's Energy East Pipeline would transport oil from Alberta to New Brunswick. TransCanada would like to convert an existing 3000 km of natural gas pipelines into pipeline capable of carrying oil. After converting the pipeline to carry oil, the company would then add 1400 km of pipeline to link up the existing one so it could extend across Canada.