
Location of the Oil Industry within Alaskan Tundra

There are numerous reasons why the oil industry is located within the Alaskan Tundra. One reason this is occurring is caused by humans, global warming is melting ice which makes it easier for the oil industries like Shell to drill as it is more accessible. Another reason is this area has never been touched and the US geological survey has predicted that there is about 30% of undiscovered gas and 13% of oil to be discovered in the Arctic Circle. There is a gas and oil-rich area called the North Slope and also offshore although most of the oil and gas are thought to be discovered coastal rather than offshore. A final reason is there is plenty of land with not many people about although there are lots of animals roaming the land.

The greenhouse effect is something that happens naturally on Earth, it is a process that warms the Earth. It is a process that happens when some gases in the atmosphere like carbon dioxide trap the heat from the sun. If the Earth had no atmosphere it wouldn't be as warm. The greenhouse effect makes the Earth a better and more comfortable place to live in as it acts as a greenhouse, hence the name, keeping the heat in by trapping it. During the day the sun rays shine through the atmosphere this warms the Earth's surface and at night the surface cools. This releases heat back into the air, although some heat does get trapped by the greenhouse gases. Some examples of these greenhouse gases include; Water Vapor, Methane, Carbon Dioxide, Nitrous Oxide, Ozone, Chlorofluorocarbons and Hydrofluorocarbons.

Humans have interfered with energy levels by burning fossil fuels in the last century or so which gives off extra Carbon Dioxide into the air. The levels of certain greenhouse gases like Carbon Dioxide are rising so this traps more heat nearer to the surface of Earth creating temperatures on Earth to rise. Some people will think this is a great thing as they can get a nice suntan but it can also create fires in countries that are already hot, it can also create the cold icy countries to melt and animals that live here like polar bears will become endangered or even extinct. It could also affect people that live here if their houses are built on top of the ice.

When humans burn oil it releases Carbon Dioxide into the atmosphere which contributes to global warming and climate change. 41% of the US's carbon dioxide emissions are from fossil fuels like the oil industry. Studies have shown that the Earth can't afford to burn more than 1/3 of known oil reserves. This study also showed that if we start drilling in the arctic it could cause an extreme temperature rise.

The Tundra's environment is very fragile and animals, plants and people have all adapted over time to this severe climate. When pipes burst the oil spills out, hundreds and thousands of gallons of crude oil pour out all over the Tundra's delicate environment, this pollutes the Arctic Ocean and kills animals and plants. Some animals are forced out of their habitats and nesting areas where they feed their young due to the pipelines being above ground.

Pipelines are above the ground due to the Caribou migration route being underneath (the caribou migration route is where the caribou reindeer migrate through to get to go and live in another area), so the pipeline needed to be raised at some points to allow the caribou to pass under it. Pesticides are added to control the number of insects, this causes a problem as lots of migrating birds eat these insects so the birds either starve as they don't have enough to eat or

they are poisoned. Due to the land being so delicate bulldozer tracks and even footprints can cause huge damage that can be seen years later. When the sun hits these ruts it causes erosion and the ruts get bigger and could even become gullies.

Due to Global Warming temperatures are rising the permafrost which is the underlying frozen soil and plant matter is thawing. Due to the tundra thawing, it is turning into a source of greenhouse gas emission. Microbes in the soil change carbon to carbon dioxide and methane. When methane is released it adds to the thawing cycle. When temperatures rise shrubs and plants begin to grow and this can change the temperature in the soil and could prevent snow from reflecting heat out. Shrubs could overgrow and crowd the lichen which is the caribou and other animals' food source. Warmer tundras could also lead to wildfires and droughts. Lakes have also dried up in the tundras due to the land becoming warmer. Studies have also shown that global warming has changed the season's cycle making winters come later and earlier springs.

Due to the oil workers starting to live in the area more people have started to illegally hunt and fish this is threatening the local's way of life as their food source is taken away. Although citizens have found work in employment that would never have been available, this gives them money to make their life better. New facilities like cinemas are being built to entertain the oil workers while they work here but this affects the native's way of living as for fun they would sit around campfires and tell stories so these new modern facilities are changing the traditional way for them to live.

The oil company uses chemicals called pesticides to kill insects and other animals to minimize the numbers. This gets into the food webs and locals and animals eat this food or the natives might eat the animals that have consumed pesticides so they end up becoming very sick or could even die due to being poisoned. This is an image of the people of the Tundra walking to find their dinner and the oil industry has left lots of oil canisters with some excess oil most likely spilling out. When this oil spills this could poison these people and the food they are going to hunt.

A group of greenhouse gases called chlorofluorocarbons (CFCs) like deodorants and hairsprays is breaking down the ozone layer which is a layer in the atmosphere which protects harmful radiation like ultraviolet radiation from the sun reaching Earth. This causes problems for the people as the sun will not have a shield and people will easily burn and could leave skin with cancer. Some specialists say the hole in the ozone layer over Antarctica could disappear within 50 years. As global warming melts the ice caps meaning polar bear habitats are shrinking and this could be some people of the tundra's food source but even if it's not what some eat it will affect the full food web and other animals they might feed on could start to reduce too.

So, the natives will have less to eat. as temperatures rise and the more people living on the land for work diseases will spread much faster as oil workers could bring it into the area and the warmer weather will be its catalyst. This will mean many natives could die or become very ill. Developed countries use more energy than developing countries and they give off more greenhouse gases, but if developing countries want to develop and this would mean they would need to burn more fuel and energy so global warming would become under massive threat and the Earth's temperature would continue to rise

To stop our planet warming any more we need to stop using fossil fuels as they produce far too

many greenhouse gases. The tundra could also create a protection scheme for species and regions that are endangered without taking away all industrial sites this is called Habitat conservation programs. The Arctic Council has already set up a group to study and stop the spread of deadly diseases in the region. Oil companies have to be more careful not to spill oil and leave a mess behind. The Tundra landscape takes hundreds of years to recover so heavy machinery should be limited where possible. Biodiversity Action Plans are a worldwide agreement that the Tundra agree with to protect and rebuild endangered species and their habitats.

Some countries have changed to energy-efficient resources like wind, wave, and solar panels so the Tundra could do this too or in some areas get more of these resources. Our full world also needs to reduce our carbon footprint by walking or cycling or even use public transport. We should also reduce the number of flights, another option is electric cars or smaller more energy-efficient cars to reduce fumes.

We should all also use less power by switching off lights and sockets when nit being used. We should also be recycling more and reusing products. We all need to try to use green electricity eventually to try and come away from the use of fossil fuels including the people of the Tundras. I think the oil industry has been a bad thing for Alaska with some good aspects. I think it's bad for the Tundra as it destroys animal habitats. The machinery ruins the land and it takes years to recover

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