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4 Key Impacts of the Keystone XL and Dakota Access Pipelines

The controversial projects may affect animals, climate, and people.

Here's how.

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President Donald Trump signed executive orders early this week that restarted the effort to complete the Keystone XL pipeline across the Great Plains ([see a map of the route](#)) and the Dakota Access pipeline in the northern plains.

If the two pipeline projects that were halted during former President Barack Obama's time in office begin moving forward again, here's the impact they may have on the environment and people.

WHAT IS THE KEYSTONE XL PIPELINE?

1. How the Pipelines May Affect Animals

Opponents have warned that the pipelines could endanger many animals and their habitats in the U.S. and Canada through the infrastructure's construction, maintenance, and possible failures that could lead to an oil spill.

The critically endangered whooping crane is at risk of flying into new power lines that would be constructed to keep oil pumping through the Keystone XL pipeline, the National Wildlife Federation has said. While the greater sage-grouse isn't officially an endangered species, it has already lost some of its habitat, and the Keystone XL pipeline route is close enough to areas where grouse mate that noise from roads, pumping stations, and construction could impact the breeding success of this shy bird.

The Keystone XL pipeline route would go through most of the remaining locations of the swift fox, a tiny canid about the size of a house cat. The U.S. State Department's Environmental Impact Report also said that some American burying beetles will be killed and their habitats also destroyed by the pipeline, though the agency added that a monitoring and habitat-restoration program would help mitigate losses and the species wouldn't be seriously threatened.

There are nine threatened, endangered, and candidate species in the areas that the Dakota Access pipeline would run through, according to an environmental assessment by the U.S. Fish and Wildlife Service published in May 2016. The assessment concluded that the pipeline does not pose a specific threat to any of their habitats.

2. How the Pipelines May Impact Oil Production

If the Keystone XL pipeline is built, about 830,000 barrels of heavy crude oil per day will flow from Alberta, Canada, to the refineries along the U.S. Gulf Coast, which are built to handle the kind of heavy crude oil that comes out of the tar sands. Those refineries need crude oil in order to function and to support the people who work there, and places like Mexico and Venezuela, which typically export oil to the U.S., are beginning to run out of it.

The U.S. State Department said TransCanada, the company behind the Keystone XL pipeline, has agreed to change its planned pipeline route to go around the environmentally sensitive sandhills of Nebraska, bury the pipeline deeper in the ground than they had planned, and closely monitor the pipeline's safety. These steps are intended to help minimize the harm of an oil spill if one happens.

The alternative to a pipeline also presents concerns. The State Department estimated that as of January 2014, 180,000 barrels of Canadian crude oil per day is being transported by freight trains. If no pipeline is built, that number will rise. Using trains to transport oil to refineries in the U.S. poses a safety concern because explosions can occur, killing people and damaging habitats nearby.

The Dakota Access pipeline project was meant to address the growing amount of oil being shipped out of North Dakota by freight trains. It's cheaper to move oil through pipelines and reduces the likelihood that explosions will happen, according to Energy Transfer Partners, the pipeline project's builder.

3. What the Pipelines Mean for Climate

Many climate activists have opposed the pipelines on the suspicion that they may increase our reliance on, and use, of fossil fuels, and further delay investment in more renewable technologies.

But the State Department said in a 2014 assessment that the Keystone XL pipeline would have no additional impact on greenhouse gas emissions because the oil would be extracted from tar sands in Canada at the same rate anyways, regardless of whether or not the pipeline was built.

The EPA contested that finding, saying that extracting oil from the tar sands generates more greenhouse gases than extracting oil through more conventional methods and therefore contributes to a greater amount of greenhouse gas emissions over time. If more pipelines are built, more oil could theoretically be extracted at a faster rate, meaning greenhouse gases would actually be released more quickly.

The State Department's assessment argued that the oil extracted from tar sands would find its way to market regardless of whether the Keystone XL pipeline was built or not. However, it's also true that the fate of the pipelines remains uncertain, with activists in Canada and the U.S. opposing the plans. The volatile market also does not guarantee that demand will make the high cost of extracting oil from the tar sands worthwhile.

The Natural Resources Defense Council and other major environmental groups say that, most likely, Keystone XL pipeline would accelerate the pace and expand the scale of tar sands development. Using trains slows down the process of getting the oil to refineries and ultimately to market, so it is better long-term for the environment, the groups said.

No environmental impact report has been created for the Dakota Access pipeline, though the U.S Army Corps of Engineers said they would conduct an environmental impact survey when they halted the project in December 2016.

Ultimately, Anthony Swift, staff attorney for the Natural Resources Defense Council, told National Geographic it's a question of whether the U.S. will support

development of “one of the most carbon-intensive sources of energy in the world, or whether we really are going to move in a direction to cut greenhouse gases.”

4. How the Pipelines Will Impact People

Aside from the long-term impact that a warming climate could have on human life as a result of reliance on oil, the pipelines could pose an immediate threat to the drinking water of nearby communities and may damage areas considered sacred by Native American tribes, according to opponents.

The Dakota Access pipeline project has encountered fierce opposition in part because the threat of an oil spill and poisoned water sources could impact the Standing Rock Sioux Tribe, whose reservation is immediately downstream of the point where the pipeline will cross the Missouri River. Many tribe members are also concerned about burial grounds being disturbed during construction of the pipeline. Bulldozers have already removed some topsoil on ground that the tribe considers sacred.

Both pipelines would create jobs during their construction. The State Department estimated that the Keystone XL pipeline would create 42,100 jobs over the one to two years of the pipeline’s construction and would create 50 permanent jobs. While that isn’t a lot of long-term job creation, it would keep the crude oil refineries in the Gulf Coast up and running. If the pipeline is not built, it could eventually endanger jobs at those refineries.

Energy Transfer Partners says the Dakota Access pipeline would create up to 12,000 jobs during its construction. It would create around 40 permanent jobs.