
Tar Sands Development: A Test for Our Energy Future

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Over the last year the Keystone XL pipeline has risen from relative obscurity to a front page political football that has taken center stage in both Congress and presidential politics. While the immediate rise of this controversy and its January 18, 2012, denial by President Obama can be attributed to an impressive grassroots campaign that united ranchers, environmentalists, a Republican governor, and others in concerns over and objections to this pipeline, the Keystone pipeline is really about something else: our increasingly troubling relationship with fossil fuels.

The Keystone XL pipeline is a proposed 1,700-mile pipeline from the tar sands deposits of Canada to oil refineries in the Gulf Coast. The environmental costs of developing tar sands cannot be overstated. Tar sands are not your granddaddy's oil. Instead tar sands are an asphalt-like substance called bitumen deposited over an area in Northeast Alberta that is roughly the size of Florida. Pembina Institute, *Death by a Thousand Cuts: Deep Oil Sands May Transform 21% of Alberta*, Fact Sheet (Aug. 2006), pubs.pembina.org/reports/1000-cuts-fact-sheet.pdf. This area is in the heart of the boreal forest, some of the most beautiful and productive habitat in the world. (Tar sands deposits exist elsewhere, but Alberta has by far the greatest deposits.) Extracting tar sands is an extremely dirty and destructive process accomplished in one of two ways: surface strip mining or a method called in situ, mostly used for deeper deposits, where steam is pumped into the ground, essentially cooking the tar sands so it becomes liquid enough to pump to the surface.

Both methods have enormous impacts and are incredibly energy intensive. Strip mining, as the name implies, obliterates the landscape, turning the lush and productive boreal forest into a moonscape. While in situ does not look as horrible (from the air it looks much like fracking, with well pads dotting the landscape), its impacts are nonetheless as bad. It fragments virtually untouched habitat. It dewateres the landscape, which is about 40 percent wetlands, drying up wet areas and depleting flow in rivers. Both methods also create massive toxic waste ponds. Currently, the ponds collectively cover an area about the twice the size of Manhattan, with some individual ponds measuring three miles wide and being visible from space. National Wildlife Federation, *Staying Hooked on a Dirty Fuel: Why Canadian Tar Sands Pipelines Are a Bad Bet for the United States*, p. 8 (2010) (www.nwf.org/~media/PDFs/Global-Warming/Reports/NWF_TarSands_final.ashx). These ponds then leach toxic chemicals into nearby waters.

The effects are alarming. Toxic and carcinogenic levels of chemicals in affected rivers, such as the Athabasca, well exceed what could be expected from natural conditions, and, since tar sands construction has invaded the landscape, cancer rates in downstream indigenous communities that rely on the fish and water of the now polluted rivers have skyrocketed, in some instances being significantly higher than that of other populations. See Sierra Club, *Toxic Tar Sands: Alberta*, www.sierraclub.org/dirtyfuels/tar-sands/faces/alberta/default.aspx (last visited March 30, 2012). Moreover, this once pristine landscape, which

is home to some of the world's most productive wildlife habitat and considered by scientists to be North America's bird nursery, is seeing habitat destroyed. The toxic ponds are leading to massive bird kills, such as one in 2008 that killed 1,600 waterfowl. A recent report has estimated that tar sands development could lead to the loss of habitat for 480,000 to 3.6 million birds by 2050. Jeff Wells, Natural Resources Defense Council, *Danger in the Nursery, Impact on Birds of Tar Sands Oil Development in Canada's Boreal Forest*, pg. iv (Dec. 2008) www.nrdc.org/wildlife/borealbirds.pdf. Tar sands development also directly threatens endangered and treaty-protected species, such as Whooping Cranes and Woodland Caribou.

And I have yet to mention the impacts to climate change. Tar sands, because they require so much energy to produce, are about three times as carbon intensive to produce, and by the time they reach the pump are about 20 percent higher in life-cycle emissions than gasoline derived from conventional oil. Natural Resources Defense Council, *Setting the Record Straight: Lifecycle Emissions of Tar Sands*, p. 6 (Nov. 2010) http://docs.nrdc.org/energy/files/ene_10110501a.pdf. Increased reliance on tar sands promises to hasten global warming and threatens to cancel out any benefits from carbon-reducing efforts such as increased Corporate Average Fuel Economy (CAFE) standards. Indeed, Canada's commitment to developing tar sands is likely the main reason Canada withdrew from the Kyoto Agreement. See, e.g., Ian Austin, *Oil Sands to Raise Emissions, Canadian Report Says*, *NEW YORK TIMES* (Aug. 8, 2011), available at <http://green.blogs.nytimes.com/2011/08/08/oil-sands-to-boost-emissions-canadian-report-says/>. To add to the problem, the boreal forest is one of the world's largest sinks of carbon, but this sink is quickly being turned into a source.

It is important to understand the genesis of this oil source to assess how the pipelines transporting it should be evaluated under U.S. law. For one, from a pipeline safety perspective, transporting tar sands is different from conventional crude. In the past, tar sands were often processed in Canada into synthetic crude, which is similar to conventional crude, prior to shipment. But as production has increased, tar sands are now often transported as diluted bitumen, which is unprocessed bitumen mixed with a chemical byproduct to make it liquid enough to ship. Diluted bitumen is considerably more acidic, corrosive, and abrasive than conventional crude. It also must be shipped at higher temperatures than conventional crude. These factors place added stress on pipelines. See Natural Resources Defense Council et al., *Tar Sands Pipelines Safety Risks*, (Feb. 2011) www.nrdc.org/energy/files/tarsandsafetyrisks.pdf.

When spills do happen, diluted bitumen behaves, as was sadly discovered in the case of the tar sands spill into the Kalamazoo River, differently than conventional crude. Its byproducts off-gas quickly, posing seriously health risks to those near a spill, and the remaining bitumen sinks into the ecosystem. This is contrasted to lighter crude that stays on the water surface where it can be skimmed off. The safety risks of diluted bitumen have not been extensively studied, and there continue to be great unknowns. Indeed, in light of the Kalamazoo River spill, the U.S. Environmental Protection Agency has acknowledged that cleanup has been more difficult than usual. See Interview with Mark Durno, Deputy Incident Commander, Environmental Protection Agency, *The Environment Report*, Michigan Radio (National Public Radio Affiliate) (Apr. 12, 2011), <http://environmentreport.org/show.php?showID=520>.

Approval of the Keystone XL pipeline rests largely in the

hands of the U.S. Department of State, which is charged under Executive Order 13337 with determining whether the pipeline is in the national interest. The State Department must also ensure that the pipeline would comply with other laws, such as the National Environmental Policy Act (NEPA) and the Endangered Species Act. Until the pipeline became embroiled in controversy, the State Department was inclined to dodge tough questions, claiming that the oil was likely to be developed anyway, and, therefore, much of the negative impacts of this fuel source need not be examined. See Final Environmental Impact Statement for the Keystone XL Project, Cumulative Impacts at 4-1 (Aug. 26, 2011). This claim ignores the fact that the oil is landlocked, largely dependent on pipelines, and, at least in the near term, largely dependent on the U.S. market. The State Department also largely failed to adequately tackle a number of other issues, such as gas prices (which would likely *increase* due to complex market manipulation that would be allowed by the pipeline), exports of tar sands (which is likely due to the access the pipeline would provide to shipping routes), and jobs (according to an independent Cornell study, jobs from the pipeline would be small in number and fleeting and would likely depress jobs in the renewable sector). See *e.g.*, Lorne Stockman, Research Note, Tar Sands oil Means High Gas Prices (May 6, 2010), www.dirtyoilsands.org/files/CEL-TarSandsMeansHigherOilPrices.pdf; see also Cornell University Global Labor Institute, Pipe Dreams? Jobs Gained, Jobs Lost by the Construction of Keystone XL, pg. 8, 33 (Sept. 2011) www.ilr.cornell.edu/globalaborinstitute/research/upload/GLI_KeystoneXL_Reportpdf.pdf.

TransCanada, the pipeline's proponent, has stated its intention to reapply. It also intends to push forward the southern leg of the project from Cushing, Oklahoma, to the Gulf Coast as a stand-alone project, likely for the purposes of avoiding State Department review of that segment because it does not involve a border crossing. In response to this bifurcation of the project and the political swirl his denial of the project created, President Obama has issued a directive to "expedite" the permitting of this project. Presidential Memorandum—Expediting Review of Pipeline Projects from Cushing, Oklahoma,

to Port Arthur, Texas, and Other Domestic Pipeline Infrastructure Projects (Mar. 22, 2012) www.whitehouse.gov/the-press-office/2012/03/22/presidential-memorandum-expediting-review-pipeline-projects-cushing-okla. While this memorandum appears to be mostly aimed at process and inter-agency coordination, it sends confusing signals about the level of scrutiny this pipeline will ultimately receive.

Moving forward, it is unclear how this new bifurcated project will be treated. As of now, no agency has stepped forward to coordinate important review under NEPA and the National Historic Preservation Act for tribal and historic consultation for the southern segment. It is also unclear whether the State Department will go back to the drawing board for the northern segment once an application is received or attempt to use the previous review. Regardless, in deciding whether the project is in the "national interest," questions of safety, climate change, and impacts in Canada, among others, must be appropriately addressed by the administration.

But the Keystone XL pipeline is ultimately about something much deeper: our energy future. To continue to feed our addiction to fossil fuels, we are being forced to turn to much dirtier, more dangerous, and more destructive forms of fuel. Climate scientist James Hansen has described tar sands as a carbon bomb and the pipeline as fuse. He claims lighting the fuse could have climate implication from which we will not recover. Elizabeth McGowan, *NASA's Hansen Explains Decision to Join Keystone Pipeline Protests*, Reuters (Aug. 29, 2011), available at www.reuters.com/article/2011/08/29/idUS257590805720110829. It is warning we should heed. We face a choice: Continue to feed an increasingly destructive and unsustainable habit, or move aggressively to find a better way. Whether or not we take an honest look at the Keystone XL pipeline and what constructing it means for our "national interest" will tell us a lot about how we as a nation will address that choice.

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