



Climate Impact of the Keystone XL Pipeline

By: Paul C. Knappenberger – January 9th, 2013

After a couple of months during which larger issues were grabbing headlines, the Keystone XL pipeline is back in the news again.

Recall that in the fall of 2011, Congress attempted to force the Obama Administration to come to some sort of a decision on the pipeline—a project that would deliver oil from Canada’s Alberta tar sands to a pipeline junction in Steel City, Nebraska and then ultimately on to refineries in Illinois and along the Gulf Coast. President Obama rejected the pipeline application in January 2012, citing the Congressional deadline as being too tight to allow for a thorough assessment. TransCanada Corporation, the pipeline’s operator, last September proposed a new route through Nebraska which avoided the environmentally sensitive Sand Hills region which was one the largest local environmental concerns of the originally proposed pipeline route.

The rumors were that this new proposed route, and the promise of new jobs and economic activity, were now tipping the administration in favor of the giving the go ahead to the pipeline.

Last Wednesday, the New York Post reported that EPA head Lisa Jackson (a vocal opponent of the pipeline) was stepping down in a huff because she was convinced that Obama was soon going to green-light the project.

Last Friday, Nebraska’s Department of Environmental Quality released its study of the new route and proclaimed that it could have “minimal environmental impacts in Nebraska” if properly managed and that construction of the pipeline would result in “\$418.1 million in economic benefits and would support up to 4,560 new or existing jobs in the state,” (though some jobs would be temporary) and annual local property tax revenues of between “11 million and 13 million” for the first year of evaluation. The U.S.

State Department is conducting its own report because the pipeline will cross the U.S./Canada border. That report is expected any day now.

Yesterday, a group of protestors stormed the TransCanada offices in Houston, TX, chaining their ankles, and for added measure, apparently supergluing their hands together. A statement from the group said that they were “representatives of a desperate generation who have been forced into this position by the reckless and immoral behavior of fossil fuel corporations such as TransCanada.” Bill McKibben’s 350.org is organizing a much larger-scale protest for Washington, D.C., and the White House next month.

The outcry is not really about local environmental concerns, but as NASA’s James Hansen (who himself was arrested outside the White House back in 2011 protesting the pipeline) put it, if the pipeline is built it will be “game over” for the climate.

With all this outcry, just how bad for the climate do you think the pipeline (or rather its contents) will be?

I did the analysis last year, shortly after President Obama rejected the first application. I found that the burning of the 800,000 barrels oil delivered annually by the pipeline would result in a warming of the average global temperature by $0.0001^{\circ}\text{C}/\text{yr}$

Yep, you read that right, the rise in global temperatures resulting from extracting and burning the oil delivered by Keystone XL at full capacity is about one-ten thousandths of a degree Celsius per year.

So, if the pipeline has a near zero climate impact and the new route results in “minimal” local environmental impact, then what’s the big deal?

The argument is that the Keystone XL Pipeline will set an example that will open the door for further development of the expansive Alberta tar sands and the flow of oil from the region will multiply. And the burning of all that oil will increase global temperature rise by a detectable amount (my analysis shows the total temperature rise could be between 0.36°C and 0.59°C if the entire 1.7 trillion barrels of oil estimated to be contained there was extracted and burned).

But as I noted:

Most observers of the situation think it incredibly naïve to think that even if the Keystone XL pipeline never comes to pass and all the Alberta tar-sands carbon stays in the ground, that the Canadian carbon won’t simply be replaced by carbon

taken out of the ground somewhere else to meet humanity's growing demand for energy. Or, if the U.S. is not a market for the Canadian tar-sands oil, someone else (hint: China) may very well be and so the Canadian carbon will be mined and released anyway.

If the U.S. economy doesn't benefit from the tar sands, someone else's surely will.

The final decision on the pipeline is expected in a couple of months. I am sure it won't pass by unnoticed.