

Tar Sands and Dirty Tricks

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James Hansen

The New Yorker just published (16 September issue) an excellent article "The President and the Pipeline" on Tom Steyer and the campaign to stop construction of the Keystone XL pipeline.

Unfortunately, advocates for the Canadian government's position ("industry officials") were able to slip in a statement that was not fact checked with me "They note that Hansen's dire warning about Canada's unconventional oil deposits was based on the assumption that every ounce of oil in the sands would be burned. Only a small fraction of the total estimated reserves is recoverable, and doing so will take decades."

First, note that the carbon from fossil fuel burning will stay in the climate system for more than 100,000 years before it is buried on the ocean floor as carbonates. So whether it takes a few decades (or even a few centuries) to extract the fuel is pretty irrelevant -- we would be screwing up the planet for our children, grandchildren and, as Native Americans say, the seventh generation.

Second, what I said is that oil in the total tar sands resource is more than double all oil that has been burned in the history of humankind, i.e., less than half of the tar sands is sufficient to match all oil burned so far. (And note that non-tar sands oil is being burned to extract the tar sands goop and process it to make oil, and forests above the tar sands are being destroyed, making the tar sands impact even greater.) If we build big pipeline infrastructure, you can be sure that technology developments will allow more and more to be extracted.

There is another error in the New Yorker article, an explanation of the origin of the name of Bill McKibben's organization 350.org: "The name is a nod to Hansen's calculation that once the level of atmospheric carbon dioxide exceeds three hundred and fifty parts per million, climate change could become uncontainable."

In reality, 350 ppm is the CO₂ level that, other things being unchanged, would restore Earth's energy balance. So 350 ppm is an estimate of the CO₂ level needed to stabilize global temperature. Temperature is now near the upper end of its range during the Holocene, the interglacial period now more than 10,000 years long, which is the climate that civilization is adapted to. It may be necessary to go somewhat lower than 350 ppm to avoid multi-meter sea level rise, so 350 ppm is only an initial estimate for a long-term target. We will know better by the time we get CO₂ turned around heading toward 350 ppm. It's unlikely we will want to go back all the way to pre-industrial 280 ppm, because there are other significant climate forcings. These include human-made change of the planet's surface albedo and natural forcings, which are providing a slight push toward global cooling.

Yet the New Yorker's "climate change could become uncontainable", unfortunately, is not science fiction. If we are so foolish as to burn all fossil fuels, including all coal and unconventional fuels, that result is nearly certain. Our paper discussing that topic, "Climate sensitivity, sea level and atmospheric carbon dioxide", by Hansen, Sato, Russell and Kharecha, is finally being published next week in the Phil. Trans. Roy. Soc. A PDF of the article will be freely available from my web site (www.columbia.edu/~jeh1) or from the journal's web site.

The attached note ("Europe Standing Tall Against a Rogue State") was written to accompany "Tar Sands Debacle and the Hama-Hama-Hama Oil and Gas Corporation", which I hope to finish soon. I include the note now because the situation in Europe is fluid. The Canadian government (not representative of Canada, as I note) is trying to work a backroom deal to avoid an open vote on unconventional fossil fuels.

Does anybody have a guess as to why the Canadian Prime Minister jumped at the chance to line up Canada in favor of Obama's plan to bomb Syria?

I'm sorry to have been so slow in writing -- I have been snowed under working on several things at the same time, including finding support for a new organization -- but I hope to catch up soon.