OREGON OIL TRAINS AND THE END OF THE ALASKA PIPELINE

Oil trains into Oregon and Washington are supposedly to export oil to Asia. But a different motive is more likely in the long run: Cascadia's oil supply mostly comes from the Alaska Pipeline, which had two million barrels a day in 1988 and in 2016 has dropped below a half million a day.

Oil trains are likely our "Plan B" when the Alaska Pipeline shuts down due to low flow.

ALASKA PIPELINE: PEAK & DECLINE

low flow shutdown threshold for Arctic winter estimated to be between 300 and 500 thousand barrels / day (109 million to 182 million / year)

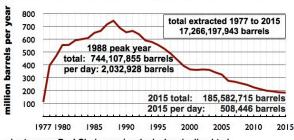


chart: www.PeakChoice.org/peak-alaska-pipeline.html data: www.alyeska-pipe.com/TAPS/PipelineOperations/Throughput

"Approximately 90 percent of Washington's current supply of crude oil comes from Alaska's North Slope oil fields. Five refineries in the Puget Sound area distribute refined petroleum products to Washington and adjacent states. Oregon imports 100 percent of its petroleum, approximately 90 percent of it from Washington refineries. Both states' future supply of petroleum is largely dependent on domestic production and reserves. Oil production from the North Slope peaked in 1988 and is projected to continue declining."

— Columbia River Crossing Final Environmental Impact Statement, September 2011

Boom and Bust

The oil fracking boom in Texas and North Dakota was impressive (and toxic). It boosted US production almost back to the levels of the 1970 domestic oil peak. This led to delusional claims the US would become energy independent and a net exporter of petroleum. In reality, fracked wells deplete faster than conventional wells, are much more expensive, and require huge energy inputs. **We are scraping the bottom of the oil barrel.**

The 1972 Limits to Growth study predicted peak pollution would follow peak resources. Tar sands and fracking confirm this.

What the Frack?

Texas oil peaked in 1972 and a decade ago had declined to a quarter of that. Fracking has pushed it back up to 1972 levels but fracking is peaking and production levels are dropping again.

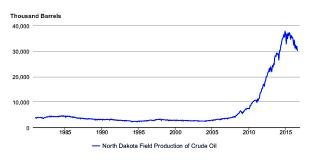
Half of USA "natural" gas is now from fracking, which heats cold cities and fuels part of the electric power grids. Without fracking, Obama would only have lasted one term, since **tar sands and fracking for gas and oil delayed rationing.**

As depletion becomes more obvious, the economic impacts are likely to be extremely profound. Our society is unprepared for the downslope in terms of logistics or psychology.

Fracking should be banned but this would have an enormous cost, which is why a ban probably won't happen before depletion.

Fracken' Bakken

North Dakota is now the second largest oil state, after Texas, and double Alaska's production. That increase has also reversed. Oil train export plans ignore Bakken's peak. North Dakota Field Production of Crude Oil



eia Source: U.S. Energy Information Administration

December 2014:37,845 thousand barrels (peak)August 2016:30,216 thousand barrels

THE FIVE STAGES OF PEAK ACCEPTANCE

- · Peak Denial and Plausible Deniability
- Pique: Anger and Peak Blame
- Peak Bargaining: techno-fixes and the promised land after oil
- PTSD: Peak Trauma Stress Disorder
- Peak Acceptance: Nature's limits

www.postcarbon.org/bakken-reality-check/ Post Carbon Institute report: North Dakota fracked oil has peaked

Exaggerated estimates: fracked oil in California downsized more than 99%

The oil industry claimed fracking California's "Monterey Shale" could extract **15 billion barrels**, two years of US combustion. This could pose severe threats to water quality in drought zones, but the other half of the story is <u>the oil is not there</u>.

Post Carbon Institute looked at the geological evidence — these estimates were exaggerated.

In 2014, the Energy Information Administration conceded the estimates were wrong and downsized estimates to 600 million barrels.

In 2015, the US Geological Survey further downsized the estimate to 21 million barrels.

Our Solar Budget on a Finite Planet

The main thing this writer has learned from using solar panels since 1990 is they are great but cannot replace our overuse of concentrated fossil fuels. Living on our solar budget will power a smaller, steady state economy not one based on endless growth on a finite planet. This limitation is due to physics, not politics.

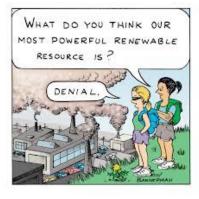
We use fossil fuels because they are more concentrated and

easier to use than sunlight and wind. It would be nice to have simple replacements for this stored energy, but our growth based economy requires ever increasing use of stuff.

Now that the easy to extract fossil fuels are in decline, replaced by difficult to extract energy, our economy is having increased difficulty sustaining continued growth. Economic impacts of energy decline are leading to increased instability, with social chaos on top of ecological damage.

Moving beyond fossil fuels is not about electric cars, but relocalizing food production. Solar panels do not power long distance food shipments.

Breeding plant varieties for changing climates will probably be the most important adaptation. A potential antidote to climate denial is understanding peak energy, since our choice is not to use less fossil fuel but how we cope with having less of it, whether wanted or not. This would



require moving beyond peak denial, which is more popular than climate denial.

Nature is abundant but not infinite. Solar panels cannot power endless growth of consumerism. As resources deplete, relocalizing food production and community cooperation will be more important than failed political strategies.

Peak Energy and Peak Blame

Financial hardships lead to demagogues — the classic example is 1930s Germany. Trump's alleged electoral win suggests the blaming likely to happen as energy depletion contracts the economy.

My guess is the elites letting Team Trump rig the election with faith based voting machines and blocking minorities from voting means the fracking crash is going to happen faster than our rulers expected, he will be

> able to implement nastiness in response and take the blame for the economic impact. Never Trumpers may be hoping to say they were against what the new President did, while continuing to keep the new policies after he leaves the White House to go back to Trump Tower, just as the two parties kept the surveillance state Bush the

Lesser presided over after he left office less popular than Richard Nixon after Watergate.

I fear the "stop drilling" environmentalists will get the blame for the oil shortages. Energy literacy about depletion and widespread permaculture relocation / transition town logistics could be the antidote to denial and scapegoating, but that would require recognizing limits to growth on a finite planet, which conflicts with a monetary system based on the cancer-like paradigm of endless growth. — Mark Robinowitz, PeakChoice.org

