Subject: : Conservation
Topic: : Fracking Spill into Pine Creek?
Re: Fracking Spill into Pine Creek?
Author: : pcray1231
Date: : 2012/9/28 13:55:09
URL:

While I agree Beast over-reacted, his observations regarding nuclear are spot on.

Mining? Yes, you still mine nuclear fuel. But the volume is extremely low. A typical reactor gets refueled only every 18-24 months and the volume of fuel they take is small. It's also cheap and abundant. Fuel costs are well under 30% of the cost of the energy itself, compared to coal/gas/oil, which all surpass 80%.

Waste. Again, the volume of waste is pretty small. Now, they do separate the waste into high level and low level. Low level waste is a bit of an issue, but it's not super dangerous and half life is pretty short. The attention all goes to the high level stuff. But:

1. The total we have produced in our nuclear history is about enough to cover a single football field 7 feet deep. That's not that much for well over 50 years supplying 20+% of our energy.

2. That high level waste represents more fuel. It's a POLITICAL choice not to recycle it, not a scientific one. France recycles theirs. After recycling, the remaining high level waste is zero. Nada.

3. Modern reactor designs, if we allowed recycling, would produce zero high level waste and about 1/1000th of the low level waste as our existing reactors. Yet, strangely, it's the concern about waste that prevents us from building new ones and shutting down the outdated 1st generation plants we currently run???

Also, I'd point out that everyone points to hydrogen as the eventual source fuel for transportation. Fuel cells and all that. But how to get the hydrogen? You can use oil, but it's no less pollution than just using the oil. You can use electricity to get hydrogen from water. But you use more electrical power (mostly gas and coal) in getting hydrogen than what you can get out of the hydrogen. Or, you can use nuclear.

Hydrogen would be a byproduct of modern reactor designs. Further, remember that the cost in nuclear is in commissioning and decommissioning the plant. Fuel is nearly free. So you gain absolutely nothing by running below capacity, might as well run at 100% all of the time. But, at 3 a.m., when demand is low, you have essentially a load of free electricity to use. That's when you do your electrolysis of water to harvest more hydrogen.

Nuclear is a large source, and it's simply the cleanest and safest source we have. It's cheap if we'd allow it to be. And it could supply us with a reliable, clean source of hydrogen to use in our cars.