

Comments to Department of State Supplement Draft EIS Keystone XL Project

My name is Milt Hetrick, my number to provide oral comments at the public hearing was 264. I live in Centennial, CO and was one of the group of 70 some people from the Denver-Boulder area who traveled to the Grand Island KXL Public Hearing 4/18/2013 to support our Nebraska neighbors who are against building this pipeline. **I too oppose the construction of Keystone XL Pipeline.** About 60 of us who came by charter bus had to leave before the hearing was over (around speaker # 180) to catch our bus back to Colorado— so these comments are being submitted in written form.

Summary.

- The transition from burning ancient hydrocarbons to harvesting renewable energy is the most important domestic issue facing America, North America, and the planet today.
- Any human effort that does not support or promote this transition must be critically examined.
- The Keystone XL Pipeline project is a \$7 billion human effort that DOES NOT help us transition away from burning hydrocarbon.
- This \$7 billion project actually contributes to and exacerbates the many problems associated with burning ancient hydrocarbons to meet our daily energy needs.
- There are viable alternatives available today. Contrary to the rhetoric of the powerful oil and gas industry 'We the People' can move away from burning their hydrocarbons and continue to have fulfilling lives for ourselves and our families. Each day there are more and more people around the world demonstrating that the sun, the wind, the water and geothermal energy within the earth are quite adequate for us to live the lives we are accustomed to today.
- STOP the Keystone XL project and promote human effort for harvesting renewable energy

Observation of the Public Hearing.

This hearing in Grand Island was an impressive public event, well facilitated by the Department of State moderator, with public representation from a broad range of perspectives. Although there were a significant number of pipelayers and welding union representatives who spoke FOR the construction of this pipeline, the super majority of those present, mostly Nebraska land owners and farmers were solidly AGAINST allowing this pipeline to proceed despite its endorsement by their governor. Of particular significance was the presence of representatives from Arkansas and Michigan where tar sands oil pipeline spills have occurred within the past two years with devastating effects on the surrounding community. So there is no need to repeat any of these comments. My comments below will be limited to topics that were not discussed to my knowledge.

Personal Background.

I'm a retired aerospace engineer /physicist and a grandfather soon to be a great-grandfather. I am deeply distressed that my generation has enjoyed a relatively good life but we are not leaving our planet a better place for future generations. There are many distressing forecasts for my grandchildren and beyond – most of these can be attributed to the unsustainable behavior of humans as we burn ancient hydrocarbons for our energy needs – these devastating anthropocentric impacts to our planet include: climate change and extreme weather events linked to the increase in green house gases associated with burning and the extraction of ancient hydrocarbons, glacial and polar region ice melt that causes sea level rise and the loss of habitable coastal areas and inundation of whole islands; destruction of forests and their ecosystems causing the mass extinction of thousands of living species. Death is one thing – it's the end of life. Extinction is a whole different concept – it is the end of birth.

The transition from burning ancient hydrocarbons to renewable energy sources (such as solar, wind, geothermal, water/wave) is inevitable within 100-150 years one way or another. We can make the transition today and minimize climate change and further devastation of our planet OR we continue burning this finite supply of easy energy until it is exhausted and we are left on an Easter Island planet. It's our choice – but it's a fact that in 5-6 more generations, humans will no longer be burning ancient hydrocarbons. So the issue is simply “When will make the transition?” We can start now when it is easy OR we can start 3 generations from now when there is little ‘easy energy’ left to build the infrastructure required to make the necessary transition.

The Keystone XL pipeline does nothing to help us make this transition – in fact it exacerbates the problem and threatens our food security by putting the Ogallala Aquifer under the bread basket of America at risk for as long as that pipeline remains buried on top of the aquifer.

When I do the math and compare the known and potential petroleum reserves on the planet with our current consumption rates, I know that my first great-grandchild who will be born in May will live to see the day when extracting oil requires more energy than the amount she can extract – the days of oil will be over in her lifetime. Oh, but what about all that coal and natural gas and all that tars sands and shale oil? When I do that math, within 5-6 generations, all of the planet's reserves of ancient hydrocarbon will be consumed. For perspective, homo sapiens emerged from eastern Africa about 6000 human generation ago. Within a period of about 12 generations, humans will have extracted and consumed/burned all the ancient hydrocarbon reserves they could find on the planet. For perspective, the Earth is expected to be habitable for life as we know it (assuming human behavior doesn't tip the scale and make it uninhabitable) for another 500 million years. That's equivalent to another 20,000,000 human generations. What do these future generations do for their sources of energy if we don't make the transition to renewable energy (solar, wind, water/wave) NOW while we have the easy energy to make that transition? For another perspective, there are 1.9 million documented living species on our planet today. All of these species live sustainably using the energy from the Sun (directly or indirectly) – all except one – homo sapiens. But we can. We must. When are we going to learn?

Rebuttals to Comments by Previous Speakers at the Hearing

I feel a need to respond to comments from four speakers before me.

1) Those of us from neighboring Colorado would say, “Yes, it's true” to the earlier Pro Pipeline speaker who pointed out that “we protestors traveled to Nebraska by burning ancient hydrocarbons.” For the record, this was not our preference. The fact is there are no hydrogen fueling stations along the I-76 and I-80 corridor between Denver, CO and Grand Island, NE. This is America not Germany where they do have hydrogen fueling stations along the Autobahn. In fact, there are not even any biodiesel fueling stations for buses along the way. This is America where oil and gas and now tar sands corporations still control our political and economic systems and hence control our individual freedom to choose the way we want to live. I respectfully say to that pipelayer who pointed this out that his extreme reverence for a life style that insists on burning hydrocarbons prevents the rest of us from developing the viable alternatives that other people in other countries around the planet are already pursuing. But in America, the land of the free, we do not have the freedom to make these sustainable-living choices or even ride on a bus that uses biodiesel – let alone a non-carbon based fuel such as hydrogen.

2) To the pipelayer/welder who said that “the only way to bring our troops home from the middle east is to develop our domestic /North American oil reserve” I would say, I've heard this fallacious sound bite created by the oil/gas/tar sands industry and repeated by certain media and even elected politicians far

too many times. Quite frankly this comment is ludicrous. We will stop resorting to armed force to assure our energy needs only when we transition away from these limited ancient hydrocarbons still available in the middle east and begin to utilize the free renewable energy sources that are available domestically – the sun and wind and water and geothermal. Only when we stop burning these finite ancient hydrocarbons will we be able to reduce/ eliminate our dependence on oil – foreign and domestic and stop this bullying of other nation states.

3) The notion that because U.S. welders can produce high quality welds and properly x-ray and inspect each weld (which is an agreed upon fact) assures that there will be no pipelines leaks is obviously another false statement with no basis in fact. Pipeline leaks are not just linked to failed weld joints. Leaks are more often the result of inadvertent overpressurization; or corrosion and erosion of the pipe wall from continued use (The dilbit moving through the pipe includes sediment carried with the fluid that mechanically erodes the pipe wall.) Just because U.S. welders do indeed make good welds doesn't preclude pipeline leaks. In reality, the actual welds on this pipeline will probably be made by existing Canadian welders already employed by TransCanada.

4) To those pipeline proponents who contend there is little risk of this pipeline every developing a leak because of careful monitoring and special controls. Do not be fooled by the proponent's rhetoric. This pipeline will fail and it will leak at some point just like every other underground pipeline has in the past. A typical pipeline operator will continue to operate the pipeline system beyond its original design lifetime because, "Why shut down a profit making operation before it fails?" So by definition, this pipeline will develop a leak sometime before the operator finally shuts it down completely – the free enterprise system dictates that it will be shut down only when reparation costs exceed profit. Plan on it.

Omission of Important Issues

There are several areas that were not discussed in the public hearing.

1) TransCanada must put their money where their mouth is.

Based on the Kalamazoo tar sands crude leak in MI that has already cost \$1B to clean up and the work is still ongoing, I would strongly suggest that TransCanada be required to place \$2 Billion dollars into a "Spill Cleanup Escrow Account" before the first drop of dilbit is ever allowed to flow through the pipe should it be built. And if this economic constraint makes the project uneconomical so be it.

If they do operate the pipeline for 20 years without an incident, and shut it down at the end of its design left and properly/safely decommission it, then all that money held in escrow would be returned (it's just a common practice called a security deposit).

However, if TransCanada goes out of business or finds another loop hole to circumvent their responsibility for safe operation and safe decommissioning, the escrow account is there for 'We the People' to cover the cost of mitigating the damage their pipeline system caused. It concerns me that TransCanada has already found a loophole in U.S. law that relieves them of any responsibility for spill cleanup. It's time that we insist that the Right to put in this pipeline includes the Responsibility to do no harm to any form of life. If the pipeline is actually as safe as TransCanada and all the welders advertize, there is little to zero risk in forfeiting their escrow. If the pipeline turns out to be like all other pipeline ever constructed, 'We the People' will have some resources to dip into for reparation. Seems like a fair way to back up their "no risk" claims to me.

2) This is a non-value added human effort.

I too am opposed to this \$7 billion project because it serves no value to humankind except to make a profit for a Canadian Corporation, a few temporary US pipelayers and the Gulf Coast refineries. It does not do one thing to help us transition from burning ancient hydrocarbons to renewable energy sources. With today's awareness, our top energy related priority must be to move away from burning hydrocarbons - not investing \$7 Billion in more of the same unsustainable behavior.

Make no mistake, 'We the People' of this planet will ultimately pay for the \$7 Billion cost of this project. The \$7 billion cost will be embedded in the selling price of the hydrocarbon products made from this bitumen. And in addition, 'We the People' will pay for all the externalities – for all the costs that TransCanada ignores (e.g. the cost to repair the damage to our environment, the cost of repairing the damage from extreme weather events exacerbated by continued burning of hydrocarbons, for the health care required by those exposed to the toxic chemicals used by TransCanada and spilled and vented into our common atmosphere, etc.)

3) No Discussion of Decommissioning the Pipeline

One glaring "externality" that was not addressed adequately during the public hearing was "Decommissioning the pipeline." This pipeline at some point will fail and will leak and it will be shut down. When the pipeline is ultimately shut down because it is no longer safe to operate, it will probably just be abandoned, the steel walls will continue to corrode from the inside and from the outside. Over time (maybe 50 years) the 36 inch diameter pipe will lose its structural integrity and the ground above it will collapse releasing the residual dilbit and all its toxic materials (benzene, etc) into the sand/soil and into the Ogallala aquifer with disastrous effects.

This catastrophic pollution of the aquifer will occur unless the pipeline is thoroughly cleaned of all these toxic materials while it is still in good operating condition and can be properly flushed. If the operator waits until the pipeline has failed before they shut it down and begin the decommissioning process, then the pipeline will have to be dug up, cut into moveable sections, capped to contain the bitumen/toxic materials and the steel pipe can be safely recycled. Recycling the steel is indeed the sustainable approach. I doubt that the cost of decommissioning is included in the \$7 Billion estimate.

Viable Alternatives to the Keystone XL Non-Value Added Project

So since 'We the People' are expected to ultimately pay the \$7 billion (plus externalities) for this energy related project (the cost of installing this pipeline will obviously be embedded in the price of hydrocarbon products made from the Canadian Bitumen), why not spend \$7 billion on developing a sustainable renewable energy capability?

There are many such so called 'green projects' we could envision. I will mention just one alternative to the Keystone XL a project that would be good for 'We the People' and for all other forms of life on the planet.

This alternative is real, it is shovel ready, it is based on personal experience of thousands of people around the world (including myself) and simply scales this personal experience up to a \$7 Billion project. The project is simple: Reinvent Fire. Convert an existing home that burns ancient hydrocarbons to a home that runs totally off the Sun. Let's see how far \$7 billion would go toward this goal.

Here's a brief summary of how it would come to fruition. ([a more detailed description is also available](#))

Use \$4 billion of the \$7 billion to buy solar photovoltaic modules. \$4 Billion would purchase enough solar PV modules to equip 500,000 homes so these households can harvest enough sunlight to bring the

household annual electrical energy bill to zero or near zero for the next 20 years. The remaining \$3 Billion would be used to generate real jobs and cover the labor cost to install these panels. That's \$3 Billion to small businesses for 50,000 good paying jobs (electrical, mechanical, business administration, permitting, etc.) These 500,000 homes would receive a FREE solar system and FREE utilities for the next 20 years.

After installing these solar PV systems, 500,000 households would no longer have to ask their utility company to burn coal, oil or natural gas to generate the electrical power they need for their home.

But it gets better. For most of the older homes (like mine), thermal insulation and other energy saving devices could be incorporated so that these solar PV systems would actually generate an excess of power (as in our case.) I ended up having an excess of solar generated electrical power so I then installed a geothermal/geoexchange heat pump that replaced our natural gas furnace. This eliminated our consumption of natural gas. So our home no longer burns any ancient hydrocarbons – sunlight provides ALL our household energy needs.

But it can get even better. If you think these free sustainable energy systems are overly generous offers to 500,000 households, imagine a scenario where the homeowners were asked to pay ½ the cost of their new solar PV system, then 1 million homes can be converted to solar that will further eliminate the burning of hydrocarbons – all for the cost of a Keystone XL pipeline.

And it gets better still. Each home owner would then have the option to invest about \$5000 to upgrade their solar PV system (e.g. add another 10-12 modules) so they could harvest 20% more sunlight. If they do so, they could produce enough electrical energy to charge a plug-in hybrid vehicle (We purchased a Chevy Volt made in the US) and drive 10,000 miles a year on free zero emission electric power – no gasoline burning involved. If we personally can do it, so can a million other people – for the cost of one Keystone XL pipeline.

This alternative way to spend \$7 billion DOES reduce our country's dependency on ancient hydrocarbons – including oil. Another pipeline does not.

Details of this transition project and suggested ways to fund it are described in the [attachment](#).

Conclusion.

- **No** to the Keystone XL pipeline project.
- **Yes** to alternative projects that support the transition to renewable energy.

Respectfully,

Milt Hetrick

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