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March 22, 2012

Oil-Shale Mining: Should We or Shouldn't we?

Mining of oil shale has been a long time topic for the United States (U.S.) government, going back to the 1900s when President Taft started the Office of Naval Petroleum and Oil Shale Reserves (NPOSR). The U.S. reserves were seen as a possible emergency source of fuel for the military, especially the Navy. President Woodrow Wilson set aside large tracts of land in Colorado, Wyoming, and Utah as the Naval Oil Shale Reserves. Before and during World War I, other countries such as Scotland, Spain, China, and Estonia were mining oil shale for its many uses. During World War II, the U.S. passed legislation to pursue oil shale as a secure oil supply and the Bureau of Mines Synthetic Liquid Fuels Program was started. In the 1970s with the oil embargo on, the U.S. decided the time was right for large-scale commercial development of oil shale, which lasted until the early 1980s when oil shale had a bust. It hasn't been until the Energy Policy Act of 2005 was enacted that again "identified oil shale as a strategically important domestic resource, among others, that should be developed" and it "directed the Secretary of Defense to develop a separate strategy to use oil shale in meeting the Department of Defense (DOD) requirements when doing so in the national interest" (Andrews). Oil shale mining has not taken off as predicted since the opponents and proponents argue over everything from the economics of mining and supply to the environmental aspects of large-scale mining.

If the U.S. did allow oil-shale mining, it could be ". . . promoted as a means of reducing dependence on foreign oil and improving national security" (Andrews). A U.S. Department of Energy report states that the most economically attractive deposits, which contain in excess of 1.2 trillion barrels of oil, are found in the Green River Formation consisting of Colorado, Utah,

and Wyoming (United States of America 4). ECCOS states that a vibrant domestic oil shale industry would reduce our vulnerability to energy shock caused by supply distribution, political unrest, and natural disasters; provide our military with a reliable source of fuel; reduce our trade deficits, protect the value of the dollar, and reduce the amount of wealth that leaves our shores; and offer a bridge to future energy technologies ("ECCOS"). On the reverse side, the Western Resource Advocates state that "Oil shale has never fulfilled its promise for providing a significant supply of transportation fuel and is not the key to American energy independence that its proponents suggest ("Lands"). But then the economic incentive for producing oil shale has long been tied to the price of crude oil (Andrews).

Other economic factors include the cost of building the mining facility, the processing plant, and other items needed for a surface mine that does retorting or has an in-situ mining site. Tax incentives may be given to the oil companies seeking to spend the money to build mining sites. Towns and cities should be economically and socioeconomically ready to handle the influx of workers and families. New houses, schools, hospitals, roads, etc. will need to be funded and should be funded by the oil companies and the federal government. As Colorado's former Governor, Richard Lamm, wrote about the 1982 bust: "We fought against local communities financing the new infrastructure and demanded that either industry or the federal government pay for the impact that was occurring. . . We insisted that energy 'pay its own way'. . .When oil shale busted, it was a tragedy but not the catastrophe that it could have been . . .There may be no way to prevent cycles in the economy of the West, but we can learn from our past and make sure that new growth pays for its impact. It is enough to live with the human tragedy without also having to live with the financial tragedy" (Gulliford, x). Western Resource Advocates write that if oil shale was produced on a large scale, it holds the potential to narrow

existing economic and environmental diversity by focusing economies and land use on a singular, dominant industry (Abelson, 29). Debate has led proponents and opponents to argue whether oil shale can be produced profitably and without all the environmental and economic problems created from past experience.

If oil shale is developed, it will have a large impact on the environment. One impact involves water, not only the use of water but the possible impacts to groundwater and surface water through mining. Water is and always will be a problem for oil-shale development. Water is a potential deal breaker for any extraction process that requires too much or poses too great of a risk of groundwater contamination ("What Every Westerner Should Know"). Western Resource Advocates believe oil shale development and mining would upset the traditional balance of water uses and deplete large amounts from rivers and streams ("Lands"). Industry is hoping that with the new technologies of in-situ processing, water usage would not be as great as a conventional retort mine. Industry cannot say for certain if groundwater contamination could be eliminated with the in-situ process.

Another impact is on the land and wildlife. The lands in the Green River Formation are beautiful and filled with wildlife. The Western Resource Advocates believe that commercial oil-shale operations will have to clear and level large swaths of land, fragmenting animal habitat, reducing the amount of food and water available, and making the region less habitable because of air, water, and noise pollution ("Lands"). Though groups like the Nature Conservancy believe that there is a way to have our cake and eat it too, if development proceeds with deliberation and a commitment to balancing the value of developing resources against the significant inherent values these ecosystems possess in their undisturbed state, we can take into consideration that

our modern standard of living requires the development of some natural resource ("What Every Westerner Should Know").

Politically, oil-shale development will be on the list of resources to be developed for a long time. Twice in the past century, the federal government has caused booms when the nation experienced anxiety over our energy supply. Despite those two booms, commercially viable technology wasn't produced and the federal government withdrew its support. With the Enactment of the Energy Policy Act of 2005, oil shale again came on the radar as a resource to be developed. In November of 2008, the Bureau of Land Management issued final oil-shale rules and regulations that would govern future commercial oil-shale industry. These rules and regulations encouraged the oil companies to invest in further research. In 2009 President Barrack Obama and the Department of Interior Secretary Ken Salazar halted the Research and Development leases and revoked the new regulations, leaving the oil companies uncertain what would happen. Again the federal government withdrew any hope of commercial mining. Then in 2011, Secretary Ken Salazar said he would take a fresh look at the oil-shale regulations as part of a legal settlement with environmental groups ("ECCOS"). As of March 2012, the Bureau of Land Management reissued the Programmatic Environmental Impact Statement (PEIS) from 2008 with changes in how many acres of land can be leased for Research and Development, but no commercial leasing will be made available as in the original PEIS.

More oil-shale research and development will need to be done so that we can go to full commercial development. Oil companies, the government, environmentalists, and the public all need to work together to make sure that oil shale will cause little socioeconomic and economic damage on communities that will receive the influx of workers and families. The Western Slope of Colorado learned many lessons when the bust happened in 1982, and we can learn from those

mistakes. As a nation independent from all others, oil shale would give us more leverage on the energy front line. We would no longer be dependent on others for oil, which could leave us open to export oil to others. If the U.S. was ever to have a war with foreign powers that would eliminate the importation of oil, where would we turn? Oil shale might be our only hope for the future. Should we push to develop it now? Yes, we should allow the oil companies to continue their research and development so that technologies will be better prepared for the day when we will really need to have commercial development. Even then, it could be years before oil is produced from oil shale. I believe environmentally there could be some damage. Oil-shale mining is not like coal mining where you can fully reclaim the land and not leave a mark on the surface. Oil shale is a rock, which must be processed with heat to get the oil out of it. The spent shale becomes hazardous waste and does not allow reclamation of soil and vegetation, which means leaving scars on the land. Could in-situ mining be a better option? Yes, in-situ mining needs less land since you are drilling into the ground to reach the area of shale. Can this technology be developed so that groundwater won't be damaged? Probably, but if there isn't any research and development allowed, then how can we find out for sure? Will this be an expensive venture? Yes. Be it now or later, I believe oil shale will be expensive to mine and process, though the outcome could be more beneficial to the U.S. in the long run. As Robert Wamsley, a retired Rifle, Colorado schoolteacher expressed after the 1982 bust, "Oil shale is here to stay. When you have companies which have committed a good many millions to development programs, they're not in here for fun. They're here for real." He goes on to say that oil shale is "badly needed by the nation. I have mixed emotions about what'll happen to the countryside, and you know they'll tear up the mountains and add pollution, but on the other had we need the economic stimulus of industry" (Gulliford 12).

Citations

Abelson, David M. *Oil Shale 2050*. Rep. Western Resource Advocates. Mar. 2012. Web. 21 Mar. 2012. <<http://www.westernresourceadvocates.org/oilshale2050/WRA-OilShale2050.pdf>>.

Andrews, Anthony. *Oil Shale: History, Incentives, and Policy*. Rep. no. RL33359. Congressional Research Service, The Library of Congress. 13 Apr. 2006. Web. 22 Mar. 2012. <<http://www.fas.org/sgp/crs/misc/RL33359.pdf>>.

"ECCOS." *Environmentally Conscious Consumers for Oil Shale*. ECCOS. 2011. Web. 22 Mar. 2012.

Gulliford, Andrew. *Boomtown Blues: Colorado Oil Shale, 1885-1985*. University Press of Colorado, 1989. *eBook Collection (EBSCOhost)*. Web. 8 Mar. 2012.

United States of America. U.S. Department of Energy. Fossil Energy Office of Communications. *Secure Fuels from Domestic Resources: The Continuing Evolution of America's Oil Shale and Tar Sands Industries*. U.S. Department of Energy. June 2007. Web. 8 Mar. 2012. <http://fossil.energy.gov/programs/reserves/npr/Secure_Fuels_from_Domestic_Resources_-_P.pdf>.

"What Every Westerner Should Know About Oil Shale." *What Every Westerner Should Know About Oil Shale*. Center of the American West, 2008. Web. 08 Mar. 2012.

"Lands." *Western Resource Advocates*. 15 May 2009. Web. 08 Mar. 2012.