southern utah wilderness alliance

Oil Shale on Federal Lands in Utah: Just Not Ready

Still not a Proven Energy Solution...

For decades, the oil industry has pointed to oil shale as a panacea for the United States' energy needs. While massive amounts of the oil like substance, kerogen, are contained within rock beneath millions of acres of public and private land in Utah, Colorado and Wyoming, the technology to extract and refine this potential energy resource has yet to be proven on a commercial scale. The main reason oil shale is difficult to extract is because the rock that contains it must be heated (or "cooked") to tremendously high temperatures – sometimes requiring five years before it gets hot enough to extract.

In Utah, several companies own or control tens of thousands of acres of private and state land, containing some of the richest shale acreage in the state. Additionally, the federal government has leased 640 acres in Utah to a private company for a Research Development and Demonstration project using one of the many proposed methods of cooking shale and extracting the synthetic fuel. The total estimated reserves from oil shale already available for production in Utah is over 50 billion barrels of oil, 2.7 billion barrels of which is on federal lands. Yet despite hundreds of millions of dollars in investment and full support of the Interior Department for this research process, no company has proven an ability to produce commercial quantities of oil from shale in an economically feasible or environmentally sound way.

Given the fact that tens of thousands of acres of state and private land are already under lease for oil shale development, combined with the slow progress of research and development, it is premature to establish regulations for commercial oil shale production on Utah's federally owned public lands.

Wilderness and Wildlife

Oil Shale development poses serious threats to wild land conservation, wildlife and habitat. Oil shale development on public lands in Utah is managed by the Bureau of Land Management which has not shown an intent to manage any energy leasing responsibly in areas where conflicts between the interests of energy developers, wilderness preservation and wildlife habitat occur. The Draft Programmatic Environmental Impact Statement for Oil Shale and Tar Sands indicates several areas that contain wilderness character but that would be available for oil shale and tar sands leasing. Many of these areas contain the best big-game wildlife habitats in the state, including large swaths of Utah's remote Book Cliffs.

"A number of areas that overlie the most geologically prospective oil shale area...have been recognized as having wilderness characteristics." – *Draft PEIS*

"There is a potential for commercial oil shale development projects to adversely affect most of the threatened, endangered, and sensitive species that occur in the counties where development could occur." -*Draft PEIS, p. 4-85*

Recent mining impacts associated with tar sands development in the Book Cliffs. (Photo: Ray Bloxham)

Emissions

The "surface retort" method of extracting oil shale requires intensive mining operations (think strip mine) followed by cooking the shale in mills to produce a synthetic crude that still needs considerable refining. The mining operations and processing plants alone in many cases use more energy and produce more greenhouse gas emissions per barrel of oil produced than conventional oil extraction methods. Barring the deployment of carbon sequestration technologies, surface retort methods will become obsolete in a carbon constrained environment.

"In sum, the greenhouse gas emissions from oil shale and tar sands leasing on almost 2.5 million acres of federal land constitutes a significant cumulative impact on the environment. The available data (which was ignored by BLM) does not support the agency's conclusion that the project will not have a significant impact on climate change." - *California Attorney General*

Water Quality

In-situ oil shale extraction requires intensive heating efforts lasting up to five years, using a subterranean freezewall to prevent groundwater contamination. While this method requires less surface disturbance, the companies utilizing this technology have yet to successfully demonstrate this freezewall technology. It is also extremely energy intensive, requiring the use of both massive heaters and freezers, 24 hours a day for several years.

The conventional method of mining and retorting oil shale and tar sands development also leaves behind a huge mess. Spent oil shale results in highly-saline runoff that could degrade water quality in the Green, Colorado, and White Rivers and their tributaries or require costly treatment for the indefinite future. A million-barrel per day oil shale industry could increase salinity in the Lower Colorado River Basin by up to 2.4 percent.

Water Consumption

Oil shale and tar sands development consumes a tremendous amount of scarce water resources. The conventional method of mining and retorting oil shale takes up to five barrels of water to produce just one barrel of oil. Nobody but the Shell Oil Company knows how much water will be needed for its experimental in-situ method being developed in Rio Blanco County, Colorado, though even Shell acknowledges that water supplies likely will be a limiting factor. The BLM has estimates that oil shale development would lead to as much as an 8.2 percent reduction in the annual flow of northeastern Utah's White River.

The White River proposed Wilderness is significantly threatened by oil shale development. (Photo: Ray Bloxham)

Climate change and the higher temperatures and drought associated with it is a serious problem in the western United States. The water requirements for oil shale extraction technology are still unknown, but need to be closely examined due to the potential for a devastatingly destructive impact on endangered species, sensitive wetlands and agriculture.

"We do not understand if there is sufficient physical water, let alone water rights, available to support the scale of development contemplated and the effects this level of water demand might have on agriculture or wildlife (especially endangered fish) inhabiting lands and waters in the area."
(*State of Utah Public Lands Policy Director's letter to BLM, 21 April 2008, http://ostseis.anl.gov/involve/draftcomments/act_displayfile.cfm?filename=OSTSD_53001.pdf*)

Inadequate Compensation to the American People

The Energy Policy Act of 2005 dictated that commercial leasing guidelines be finalized within an arbitrary two year timeline – forcing the government essentially to guess about what commercial oil shale production will look like and how it will impact other resources such as wildlife habitat, wilderness character and water.

Authorizing commercial leasing on federal public lands now would result in a few companies acquiring mineral rights for a fraction of the value of the same rights once extraction technology is proven. If oil shale does prove to be commercially viable, American taxpayers deserve to share in the profit from oil shale extracted on our public lands. With the amount of land already locked up and the resources already available, the American people deserve a more careful approach to oil shale production on their public lands.

"The government lacks important information about the costs and risks of development. It thus runs the risk of either being too lenient about lease bonus and royalty payments, allowing firms to have access without adequate compensation to the public, or too zealous, causing a loss of private-sector interest in oil shale development, especially for initial commercial plants." – *RAND Corporation, April 17, 2007*

Congress should continue the moratorium on the Bureau of Land Management's push to finalize commercial leasing regulations and should require companies to prove their oil shale technologies first.

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