



THE
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Oil Shale Fact Sheet

Status of Research & Development

*“Currently, there is no oil shale industry and the **oil shale extractive technology is still in its rudimentary stages**; as such, **commercial oil shale production does not exist anywhere in the world.**” – DOI draft rulemaking, 73 FR 42935*

- **Current federal policy supports a robust oil shale research and development program on federal lands managed by the BLM.** The purpose for the R&D program is to overcome significant technological obstacles and provide adequate information to evaluate the impacts of potential development prior to a commercial-scale leasing program. The following table indicates the status of various oil shale projects now taking place on federal lands in Colorado and Utah, which were authorized by Sec. 369 of the Energy Policy Act of 2005, and on a private tract in Colorado:

	Technology*		Commenced test operations?	Time to decision to proceed*	Time to initial commercial operations*	Time to production growth*	Federal Lands (acres)
Chevron	In-situ	ICP - Hot gas fracturing (<i>suspended</i>)	NO	10-15 years	12-16 years	>20 years	160
Shell #1	In-situ	ICP - Electrostatic heaters	NO	7-10 years	12-16 years	>20 years	160
Shell #2	In-situ	ICP - Bare electrode	NO	7-10 years	12-16 years	>20 years	160
Shell #3	In-situ	ICP - Nahcolite, then shale (<i>suspended</i>)	NO	7-10 years	12-16 years	>20 years	160
AMSO	In-situ	ICP - Natural gas heat source	NO	7-15 years	12-16 years	>20 years	160
OSEC	Surface retort	Petrosix surface retort	NO	Unknown	Unknown	Unknown	160
Shell Mahogany	In-situ	ICP	YES	7-10 years	12-16 years	>20 years	0

Petrosix – Brazilian petroleum giant Petrobras’ proprietary surface retort that has never been developed at a commercial scale.

ICP – In-situ Conversion Process, a technology that requires heating the earth over a period of years.

Suspended means that the project has been halted by the company for economic or technical reasons. Information drawn from public statements of corporate representatives.

- **Despite a significant investment, industry remains years away from establishing the economic viability, technical efficiency, and environmental performance of the technologies.** It will take a decade or more for companies experimenting with various technologies to demonstrate they can safely and economically extract oil from oil shale to determine if such technologies are viable.

“To be deemed successful, a technology must be demonstrated to be effective in producing desired products, energy efficient, economically competitive, scalable, and acceptable to the community.”

– Department of Energy’s Unconventional Fuels Task Force on oil shale, June 2007

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- **Research and development has only just begun.** Crude oil and natural gas are naturally created when kerogen is exposed to heat deep in the Earth. To extract fuel from oil shale, you have to supply the heat Nature failed to furnish over the past fifty million years. Companies have yet to demonstrate the economic viability, technical efficiency, and environmental performance of the various technologies, and no company has the technical information necessary to justify investment in a first-of-a-kind commercial-scale facility. Critical unanswered questions include:
 - extraction process performance
 - water consumption
 - energy demand
 - options for carbon sequestration and impacts on climate change
 - protection of wildlife resources
 - protection of air and water quality
 - feasibility of multi-mineral development
 - infrastructure demands (conversion facilities and transmission pipelines)

- **Knowledge must precede action, and the knowledge base is simply not there for Congress and the Administration to make informed decisions.** Some companies and lawmakers are calling for finalization of regulations for commercial leasing of two million acres of federal land for oil shale development. However, for regulations to ensure a fair rate of return to the federal taxpayer and ensure that development protects and promotes a broad range of national, state and local interests, it is imperative that regulations be tied to known extraction technologies and impacts, which cannot be done now.

“The lack of a domestic oil shale industry makes it speculative to project the demand for oil shale leases, the technical capability to develop the resource, and the economics of producing shale oil.” – DOI draft rulemaking, 73 FR 42946

“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

Endnotes

⁺ BLM presentation to the National Academy of Sciences, October 11, 2006.

^{*} RAND Corporation, *Oil Shale Development in the United States*, (2005) pages 21-23.

^{*} *Id.*

^{*} *Id.*