

# Oil Shale and Tar Sands Programmatic Environmental Impact Statement

*Argonne's Environmental Sciences Division has provided technical assistance to the Department of the Interior's Bureau of Land Management in the development of a programmatic environmental impact statement for a commercial leasing program for oil shale and tar sands resources on public lands, with an emphasis on the lands offering the best geologic prospects in Colorado, Utah, and Wyoming.*

## PROBLEM/OPPORTUNITY

The Energy Policy Act of 2005 (Public Law 109-58) declared that oil shale and tar sands are among the strategically important domestic energy resources that should be developed to reduce the nation's growing dependence on oil from foreign sources. To support this policy, Congress directed the Department of the Interior to extend the commercial leasing program on public lands for oil shale and tar sands; the directive included the completion of a programmatic environmental impact statement (PEIS). The Argonne Environmental Sciences Division (EVS) was asked to provide technical support for the development of the PEIS.

## APPROACH

Environmental and socioeconomic evaluations were conducted for action alternatives involving amendments to Bureau of Land Management (BLM) land use plans to make available areas for application for commercial oil shale and tar sands development.

Under the no action alternative in the PEIS, no amendments would be made to BLM land use plans to identify additional lands available for application for commercial oil shale leasing. Existing land use plans would continue to provide direction for limited commercial leasing of public lands. Under this alternative, two existing land use plans allow for oil shale leasing on approximately 350,000 acres of BLM-administered lands. Leasing in other land use plan areas would require case-by-case amendment of land use plans before leasing could be considered.

The preferred alternative considered in the PEIS analysis would amend nine BLM land use plans in Colorado, Utah, and Wyoming and would make available approximately 2 million acres of BLM administered lands for application for commercial oil shale leasing. These include areas that offer the best geologic prospects for oil shale development on

BLM-administered public lands, including lands where the federal government owns the mineral rights but not the surface estate. Certain lands are excluded from consideration because of existing legislative or land use plan decisions.



*Oil Shale Specimen*

Under the preferred alternative for tar sands development, the BLM would amend six existing land use plans in Utah by designating approximately 430,000 acres of BLM-administered lands within the previously identified Special Tar Sand Areas (STSAs) as available for application for commercial tar sands leasing. As in the case of oil shale, certain lands are excluded from consideration because of existing legislative or land use plan decisions. An additional alternative was evaluated that was similar to the preferred alternative but that excluded additional lands identified as requiring special management or resource protection in existing land use plans. This alternative would have made approximately 830,000 acres available for application for oil shale leasing and 230,000 acres for application for tar sand leasing.

---

## RESULTS

The land use plan amendments that open areas to application for future commercial leasing remove the administrative barrier preventing BLM from considering lease application. Because of major uncertainties regarding the potential impacts of both commercial oil shale and tar sand development, however, it was not possible to provide enough specificity in the PEIS to support actual leasing decisions that would authorize commercial development. With the exception of potential impacts on land values that may result from making these lands available for application for commercial leasing, the PEIS action alternatives would not result in any impacts on the environment or socioeconomic setting of the area under consideration.

The actual future development of oil shale and tar sands projects on lands identified in the alternatives would have impacts on the environment and socioeconomic setting. However, the level and degree of the potential impacts could not be quantified because such quantification would require many speculative assumptions regarding potential unproven technologies, project size, production levels, development time lines, or mitigation measures that might be employed. The PEIS evaluated in a non-site-specific manner, the potential effects of different technologies. The goal was to provide decision makers with information to assist in informing the decision to make lands available for leasing application.

These impact analyses conducted by Argonne included direct, indirect, and cumulative impacts on land use; soil, geologic, paleontological, water, and visual resources; noise; air and water quality; socioeconomics; environmental justice; hazardous materials and waste management; and health and safety.

## FUTURE

The decisions analyzed in the PEIS serve as the first step in the process to establish a commercial oil shale and tar sands program that meets the intent of Congress while taking advantage of the best available information and practices to minimize impacts and ensure that states, local communities, and the public have the opportunity to be involved. The application for leases in specific areas and the plans for subsequent construction, operation, and decommissioning of oil shale or tar sands facilities will require detailed environmental analysis that can be tiered from the information and results provided in the PEIS.

## REFERENCE

Oil Shale and Tar Sands Programmatic EIS  
Information Center; <http://ostseis.anl.gov>