



U.S. DEPARTMENT OF
ENERGY

Annual Report to Congress

Strategic Unconventional Fuels Activities and Accomplishments

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U.S. Department of Energy
Washington, D.C. 20585**

*This report is submitted to the Congress of the United States in response to the requirements of
Section 369(i) (3) of the Energy Policy Act of 2005 [P.L. 109-58]*

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BACKGROUND

Subsection 369(h) of the Energy Policy Act of 2005 (PL 109-58, or “EPACT 2005”) directed the Secretary of Energy to form a Task Force to develop a program to coordinate and accelerate commercial development of strategic unconventional fuels, and to make recommendations to the Congress and the President regarding development of the strategic unconventional fuels resources within the United States. This is the second annual report of the unconventional fuels activities of the Department of Energy’s Office of Petroleum Reserves (OPR). The report covers the period of time from November 2008 to November 2009.

Subsection 369(h) of the Act directed the Department to form a Task Force to:

- “develop a program to coordinate and accelerate commercial development of strategic unconventional fuels ...”
- “... make ... recommendations regarding promoting the development of the strategic unconventional fuels resources within the United States”
- “... make recommendations with respect to initiating a partnership with the Province of Alberta, Canada, ... and similar partnerships with other nations ...” and
- “... provide [to Congress and the President] an annual report describing the progress in developing the strategic unconventional fuels resources within the United States for ... five years”

Subsection 369(i) authorized and directed OPR to support the Task Force and to carry out additional responsibilities related to domestic unconventional fuels:

- Coordinate the creation and implementation of a commercial strategic fuels development program;
- Evaluate the importance of unconventional sources of strategic fuels;
- Promote and coordinate Federal actions that facilitate strategic fuels development;
- Identify, assess, and recommend appropriate Federal actions;
- Coordinate and facilitate appropriate relationships between industry and the Government;
- Work with the Task Force and coordinate its staff support; and
- Submit to Congress an annual report that describes OPR’s relevant activities.

In January 2006, the Secretary of Energy formed the Task Force on Strategic Unconventional Fuels, consisting of 11 members, representing three federal agencies, five states, and three local communities including: the Secretaries of Energy, Defense, and the Interior; the Governors of Colorado, Kentucky, Mississippi, Utah, and Wyoming; and community representatives from Mississippi, Colorado, and Utah.

In September 2007, the Task Force released a report of analyses and recommendations for developing an unconventional fuels industry. The Task Force defined unconventional fuels to be coal-derived liquids, oil shale, tar sands, heavy oil, and carbon dioxide enhanced oil recovery.

During 2008, the Task Force monitored government and industry activities in response to the 2007 recommendations. The Task Force reported on progress in unconventional fuels development in industry and research being conducted by the government and other institutions in a December 2008 report.

The Department of Energy's Office of Petroleum Reserves has been engaged in a broad range of activities that support and build on the Task Force's findings and recommendations since 2008.

CURRENT YEAR HIGHLIGHTS

This report summarizes OPR activities from November 2008 to November 2009. The focus of these activities was on oil shale and tar sands. Other activities within DOE's Office of Fossil Energy and the National Laboratories addressed carbon dioxide enhanced oil recovery, coal liquids, tar sands and heavy oils.

OPR's responsibilities were authorized by EPACT 2005, but were not funded by direct appropriations with the exception of a congressionally directed activity at Los Alamos National Laboratory (LANL) (Consolidated Appropriations Act, 2008; H.R. 2764; Public Law 110-161). OPR activities described in this report were funded with available program funds.

A. OPR Activities in Support of Task Force Activities

- OPR provided support to develop and publish the Task Force's first Annual Report in December 2008.
- OPR provided the staff support for three conference calls, and also for the formal meeting of the Task Force on April 30, 2009, which was conducted to assess the impact of its recommendations, to brief new Task Force members, and to begin scoping the next annual report.
- OPR assisted the Task Force in preparing an updated and streamlined briefing package for use with key audiences and stakeholders.
- OPR staff analyzed the Programmatic Environmental Impact Statement for oil shale leasing on federal lands in Colorado, Wyoming and Utah and briefed Task Force representatives.
- OPR analyzed new regulations for oil shale leasing in Colorado, Utah, and Wyoming released by the Bureau of Land Management (BLM) in November 2008 and briefed Task Force Representatives.

B. Other OPR Activities

- OPR participated in an ad hoc working group of industry, government (local, state, and federal, including National Laboratories), and universities to address Task Force recommendations. A Strategic Plan was developed for an initiative by

western universities and National Laboratories to study potential impacts of unconventional fuels development, especially environmental and socioeconomic impacts. As a first step:

- OPR is administering a congressionally-directed effort, to be completed in 2010, by the Los Alamos National Laboratory to develop an integrated modeling and analysis capability to assess potential environmental impacts (especially carbon and water) of oil shale development in the Piceance Basin in Colorado. (Consolidated Appropriations Act, 2008; H.R. 2764; Public Law 110–161)
- OPR is supporting a suite of activities at the Idaho National Laboratory to address critical issues associated with the potential impacts of oil shale development in the western United States.
- OPR facilitated the interaction of key industry participants and stakeholders in a variety of forums. OPR facilitated two meetings of the Ad Hoc Working Group and a separate meeting of representatives of the oil shale research community.
- OPR documented the activities of 35 companies developing new oil shale and tar sands technologies, providing an important information resource for industry, researchers, and policy makers.
- OPR prepared a review of 26 ongoing oil shale research and development projects at seven universities, geologic surveys, and National Laboratories related to protecting water resources, reducing carbon emissions, and reducing potential adverse socioeconomic impacts associated with industry development.
- OPR initiated a study to evaluate data on 25 industry-nominated tracts in Colorado, Utah, and Wyoming under the Department of Interior’s 1973 Prototype Oil Shale Leasing Program. The study includes life cycle energy efficiency analysis; quantification of the carbon to be disposed of (e.g., released to the atmosphere, sequestered, used for CO₂ Enhanced Oil Recovery, or put to other beneficial use); and an analysis of water supply, process water requirements, ground water production, and waste water treatment and recycling or disposal.
- OPR developed and maintained an integrated suite of models for assessing the potential public benefits of oil shale and other unconventional fuels development. The system has been used by the Task Force and OPR to estimate potential contributions of unconventional fuels to U.S. energy security and economic vitality in terms of incremental production, imports avoided, contributions to gross domestic product, state and federal revenues, direct and indirect jobs, and other economic measures. During the reporting period, OPR updated crude oil prices and capital and operating costs in the model.
- OPR participated in five technical conferences and symposia hosted by universities, professional societies, and other organizations during the reporting period. Over the course of the year five technical papers were prepared and 12 presentations were delivered to various professional and stakeholder audiences.

- OPR staff responded to approximately 55 requests for information from elements in the Department, other federal, state, and local government agencies, industry, and the general public.
- OPR provided support to the Department of the Interior for an energy efficiency study that was being conducted for Secretary Salazar. This effort included a briefing on the National Strategic Unconventional Resources Model.

SUMMARY OF FUTURE ACTIVITIES

OPR will continue to administer its responsibilities under Section 369 of EPACT 2005 as authorized using available prior year balances. No funds were appropriated by Congress in the FY 2010 budget and the President's FY 2011 budget does not propose any funds for this activity.