

proven technologies, and transferring those technologies for widespread use.

**(3) Long-term priorities**

The long-term priorities of the program include developing advanced techniques to recover oil not recoverable by other techniques.

**(c) Accelerated program plan**

Within 180 days after October 24, 1992, the Secretary shall prepare and submit to the Congress a plan for carrying out under this section the accelerated field testing of technologies to achieve the priorities stated in subsection (b) of this section. In preparing the plan, the Secretary shall consult with appropriate representatives of industry, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies, and with the Advisory Board established under section 13522 of this title.

**(d) Proposals**

Within 1 year after October 24, 1992, the Secretary shall solicit proposals for conducting activities under this section.

**(e) Consultation**

In carrying out the provisions of this section, the Secretary shall consult representatives of the oil and gas industry with respect to innovative research and development proposals to improve oil and gas recovery and shall consider relevant technical data from industry and other research and information centers and institutes.

**(f) Authorization of appropriations**

There are authorized to be appropriated to the Secretary for carrying out this section, including advanced extraction and process technology, \$57,250,000 for fiscal year 1993 and \$70,000,000 for fiscal year 1994.

(Pub. L. 102-486, title XX, § 2011, Oct. 24, 1992, 106 Stat. 3057.)

**§ 13412. Oil shale**

**(a) Program direction**

The Secretary shall conduct a 5-year program, in accordance with sections 13541 and 13542 of this title, on oil shale extraction and conversion, including research and development on both eastern and western shales, as provided in this section.

**(b) Program goals**

The goals of the program established under this section include—

- (1) supporting the development of economically competitive and environmentally acceptable technologies to produce domestic supplies of liquid fuels from oil shale;
- (2) increasing knowledge of environmentally acceptable oil shale waste disposal technologies and practices;
- (3) increasing knowledge of the chemistry and kinetics of oil shale retorting;
- (4) increasing understanding of engineering issues concerning the design and scale-up of oil shale extraction and conversion technologies;
- (5) improving techniques for oil shale mining systems; and

- (6) providing for cooperation with universities and other private sector entities.

**(c) Eastern oil shale program**

(1) As part of the program authorized by this section, the Secretary shall carry out a program on oil shale that includes applied research, in cooperation with universities and the private sector, on eastern oil shale that may have the potential to decrease United States dependence on energy imports.

(2) As part of the program authorized by this subsection, the Secretary shall consider the potential benefits of including in that program applied research carried out in cooperation with universities and other private sector entities that are, as of October 24, 1992, engaged in research on eastern oil shale retorting and associated processes.

(3) The program carried out under this subsection shall be cost-shared with universities and the private sector to the maximum extent possible.

**(d) Western oil shale program**

As part of the program authorized by this section, the Secretary shall carry out a program on extracting oil from western oil shales that includes, if appropriate, establishment and utilization of at least one field testing center for the purpose of testing, evaluating, and developing improvements in oil shale technology at the field test level. In establishing such a center, the Secretary shall consider sites with existing oil shale mining and processing infrastructure and facilities. Sixty days prior to establishing any such field testing center, the Secretary shall submit a report to Congress on the center to be established.

**(e) Authorization of appropriations**

There are authorized to be appropriated to the Secretary for carrying out this section \$5,250,000 for fiscal year 1993 and \$6,000,000 for fiscal year 1994.

(Pub. L. 102-486, title XX, § 2012, Oct. 24, 1992, 106 Stat. 3058.)

**§ 13413. Natural gas supply**

**(a) Program direction**

The Secretary shall conduct a 5-year program, in accordance with sections 13541 and 13542 of this title, to increase the recoverable natural gas resource base including, but not limited to—

- (1) more intensive recovery of natural gas from discovered conventional resources;
- (2) the extraction of natural gas from tight gas sands and devonian shales or other unconventional sources;
- (3) surface gasification of coal; and
- (4) recovery of methane from biofuels including municipal solid waste.

**(b) Proposals**

Within 1 year after October 24, 1992, the Secretary shall solicit proposals for conducting activities under this section.

**(c) Cofiring of natural gas and coal**

**(1) Program**

The Secretary shall establish and carry out a 5-year program, in accordance with sections

13541 and 13542 of this title, on cofiring natural gas with coal in utility and large industrial boilers in order to determine optimal natural gas injection levels for both environmental and operational benefits.

**(2) Financial assistance**

The Secretary shall enter into agreements with, and provide financial assistance to, appropriate parties for application of cofiring technologies to boilers to demonstrate this technology.

**(3) Report to Congress**

The Secretary shall, before December 31, 1995, submit to the Congress a report on the progress made in carrying out this subsection.

**(d) Authorization of appropriations**

There are authorized to be appropriated to the Secretary for carrying out this section and sections 13414 and 13415 of this title, \$29,745,000 for fiscal year 1993 and \$45,000,000 for fiscal year 1994.

(Pub. L. 102-486, title XX, § 2013, Oct. 24, 1992, 106 Stat. 3059.)

**§ 13414. Natural gas end-use technologies**

The Secretary shall carry out a 5-year program, in accordance with sections 13541 and 13542 of this title, on new and advanced natural gas utilization technologies including, but not limited to—

(1) stationary source emissions control and efficiency improvements including combustion systems, industrial processes, cogeneration, and waste fuels; and

(2) natural gas storage including increased deliverability from existing gas storage facilities and new capabilities for storage near demand centers, and on-site storage at major energy consuming facilities.

(Pub. L. 102-486, title XX, § 2014, Oct. 24, 1992, 106 Stat. 3060.)

**§ 13415. Midcontinent Energy Research Center**

**(a) Finding**

Congress finds that petroleum resources in the midcontinent region of the United States are very large but are being prematurely abandoned.

**(b) Purposes**

The purposes of this section are to—

(1) improve the efficiency of petroleum recovery;

(2) increase ultimate petroleum recovery; and

(3) delay the abandonment of resources.

**(c) Establishment**

The Secretary may establish the Midcontinent Energy Research Center (referred to in this section as the “Center”) to—

(1) conduct research in petroleum geology and engineering focused on improving the recovery of petroleum from existing fields and established plays in the upper midcontinent region of the United States; and

(2) ensure that the results of the research described in paragraph (1) are transferred to users.

**(d) Research**

**(1) In general**

In conducting research under this section, the Center shall, to the extent practicable, cooperate with agencies of the Federal Government, the States in the midcontinent region of the United States, and the affected industry.

**(2) Programs**

Research programs conducted by the Center may include—

(A) data base development and transfer of technology;

(B) reservoir management;

(C) reservoir characterization;

(D) advanced recovery methods; and

(E) development of new technology.

(Pub. L. 102-486, title XX, § 2015, Oct. 24, 1992, 106 Stat. 3060.)

PART B—OIL AND GAS DEMAND REDUCTION AND SUBSTITUTION

**§ 13431. General transportation**

**(a) Program direction**

The Secretary shall conduct a 5-year program, in accordance with sections 13541 and 13542 of this title, on cost effective technologies to reduce the demand for oil in the transportation sector for all motor vehicles, including existing vehicles, through increased energy efficiency and the use of alternative fuels. Such program shall include a broad range of technological approaches, and shall include field demonstrations of sufficient scale and number in operating environments to prove technical and economic viability to meet the goals stated in section 13401 of this title. Such program shall include the activities required under sections 13432 through 13437 of this title, and ongoing activities of a similar nature at the Department of Energy.

**(b) Program plan**

Within 180 days after October 24, 1992, the Secretary shall prepare and submit to the Congress a 5-year program plan to guide activities under this part. In preparing the program plan, the Secretary shall consult with appropriate representatives of industry, utilities, institutions of higher education, Federal agencies, including national laboratories, and professional and technical societies.

**(c) Proposals**

Within 1 year after October 24, 1992, the Secretary shall solicit proposals for conducting activities under this section.

**(d) “Alternative fuels” defined**

For purposes of this part, the term “alternative fuels” includes natural gas, liquefied petroleum gas, hydrogen, fuels other than alcohol that are derived from biological materials, and any fuel the content of which is at least 85 percent by volume methanol, ethanol, or other alcohol.

**(e) Authorization of appropriations**

(1) There are authorized to be appropriated to the Secretary for carrying out this part, including all transportation sector energy conserva-