

(b) Cooperation

In carrying out the program, the Secretary shall cooperate with appropriate Federal agencies, coal producers, trade associations, equipment manufacturers, institutions of higher education with mining engineering departments, and other relevant entities.

(c) Program

The research and development activities carried out under this section shall—

(1) be guided by the mining research and development priorities identified by the Mining Industry of the Future Program and in the recommendations from relevant reports of the National Academy of Sciences on mining technologies;

(2) include activities exploring minimization of contaminants in mined coal that contribute to environmental concerns including development and demonstration of electromagnetic wave imaging ahead of mining operations;

(3) develop and demonstrate coal bed electromagnetic wave imaging, spectroscopic reservoir analysis technology, and techniques for horizontal drilling in order to—

(A) identify areas of high coal gas content;

(B) increase methane recovery efficiency;

(C) prevent spoilage of domestic coal reserves; and

(D) minimize water disposal associated with methane extraction; and

(4) expand mining research capabilities at institutions of higher education.

(Pub. L. 109–58, title IX, §964, Aug. 8, 2005, 119 Stat. 892.)

§ 16295. Oil and gas research programs**(a) In general**

The Secretary shall conduct a program of research, development, demonstration, and commercial application of oil and gas, including—

(1) exploration and production;

(2) gas hydrates;

(3) reservoir life and extension;

(4) transportation and distribution infrastructure;

(5) ultraclean fuels;

(6) heavy oil, oil shale, and tar sands; and

(7) related environmental research.

(b) Objectives

The objectives of this program shall include advancing the science and technology available to domestic petroleum producers, particularly independent operators, to minimize the economic dislocation caused by the decline of domestic supplies of oil and natural gas resources.

(c) Natural gas and oil deposits report

Not later than 2 years after August 8, 2005, and every 2 years thereafter, the Secretary of the Interior, in consultation with other appropriate Federal agencies, shall submit to Congress a report on the latest estimates of natural gas and oil reserves, reserves growth, and undiscovered resources in Federal and State waters off the coast of Louisiana, Texas, Alabama, and Mississippi.

(d) Integrated clean power and energy research**(1) Establishment of center**

The Secretary shall establish a national center or consortium of excellence in clean energy and power generation, using the resources of the Clean Power and Energy Research Consortium in existence on August 8, 2005, to address the critical dependence of the United States on energy and the need to reduce emissions.

(2) Focus areas

The center or consortium shall conduct a program of research, development, demonstration, and commercial application on integrating the following 6 focus areas:

(A) Efficiency and reliability of gas turbines for power generation.

(B) Reduction in emissions from power generation.

(C) Promotion of energy conservation issues.

(D) Effectively using alternative fuels and renewable energy.

(E) Development of advanced materials technology for oil and gas exploration and use in harsh environments.

(F) Education on energy and power generation issues.

(Pub. L. 109–58, title IX, §965, Aug. 8, 2005, 119 Stat. 892.)

§ 16296. Low-volume oil and gas reservoir research program**(a) Definition of GIS**

In this section, the term “GIS” means geographic information systems technology that facilitates the organization and management of data with a geographic component.

(b) Program

The Secretary shall establish a program of research, development, demonstration, and commercial application to maximize the productive capacity of marginal wells and reservoirs.

(c) Data collection

Under the program, the Secretary shall collect data on—

(1) the status and location of marginal wells and oil and gas reservoirs;

(2) the production capacity of marginal wells and oil and gas reservoirs;

(3) the location of low-pressure gathering facilities and pipelines; and

(4) the quantity of natural gas vented or flared in association with crude oil production.

(d) Analysis

Under the program, the Secretary shall—

(1) estimate the remaining producible reserves based on variable pipeline pressures; and

(2) recommend measures that will enable the continued production of those resources.

(e) Study**(1) In general**

The Secretary may award a grant to an organization of States that contain significant

numbers of marginal oil and natural gas wells to conduct an annual study of low-volume natural gas reservoirs.

(2) Organization with no GIS capabilities

If an organization receiving a grant under paragraph (1) does not have GIS capabilities, the organization shall contract with an institution of higher education with GIS capabilities.

(3) State geologists

The organization receiving a grant under paragraph (1) shall collaborate with the State geologist of each State being studied.

(f) Public information

The Secretary may use the data collected and analyzed under this section to produce maps and literature to disseminate to States to promote conservation of natural gas reserves.

(Pub. L. 109–58, title IX, §966, Aug. 8, 2005, 119 Stat. 893.)

§ 16297. Complex Well Technology Testing Facility

The Secretary, in coordination with industry leaders in extended research drilling technology, shall establish a Complex Well Technology Testing Facility at the Rocky Mountain Oilfield Testing Center to increase the range of extended drilling technologies.

(Pub. L. 109–58, title IX, §967, Aug. 8, 2005, 119 Stat. 894.)

PART G—SCIENCE

§ 16311. Science

(a) In general

The Secretary shall conduct, through the Office of Science, programs of research, development, demonstration, and commercial application in high energy physics, nuclear physics, biological and environmental research, basic energy sciences, advanced scientific computing research, and fusion energy sciences, including activities described in this part. The programs shall include support for facilities and infrastructure, education, outreach, information, analysis, and coordination activities.

(b) Authorization of appropriations

There are authorized to be appropriated to the Secretary to carry out research, development, demonstration, and commercial application activities of the Office of Science, including activities authorized under this part (including the amounts authorized under the amendment made by section 976(b)¹ and including basic energy sciences, advanced scientific and computing research, biological and environmental research, fusion energy sciences, high energy physics, nuclear physics, research analysis, and infrastructure support)—

- (1) \$4,153,000,000 for fiscal year 2007;
- (2) \$4,586,000,000 for fiscal year 2008;
- (3) \$5,200,000,000 for fiscal year 2009;
- (4) \$5,814,000,000 for fiscal year 2010;
- (5) \$5,247,000,000 for fiscal year 2011;

- (6) \$5,614,000,000 for fiscal year 2012; and
- (7) \$6,007,000,000 for fiscal year 2013.

(c) Allocations

From amounts authorized under subsection (b), the following sums are authorized:

(1) For activities under the Fusion Energy Sciences program (including activities under section 16312 of this title)—

- (A) \$355,500,000 for fiscal year 2007;
- (B) \$369,500,000 for fiscal year 2008;
- (C) \$384,800,000 for fiscal year 2009; and

(D) in addition to the amounts authorized under subparagraphs (A), (B), and (C), such sums as may be necessary for ITER construction, consistent with the limitations of section 16312(c)(5) of this title.

(2) For activities under the catalysis research program under section 16313 of this title—

- (A) \$36,500,000 for fiscal year 2007;
- (B) \$38,200,000 for fiscal year 2008; and
- (C) such sums as may be necessary for fiscal year 2009.

(3) For activities under the Systems Biology Program under section 16317 of this title such sums as may be necessary for each of fiscal years 2007 through 2009.

(4) For activities under the Energy and Water Supplies program under section 16319 of this title, \$30,000,000 for each of fiscal years 2007 through 2009.

(5) For the energy research fellowships programs under section 16324 of this title, \$40,000,000 for each of fiscal years 2007 through 2009.

(6) For the advanced scientific computing activities under section 976—¹

- (A) \$270,000,000 for fiscal year 2007;
- (B) \$350,000,000 for fiscal year 2008; and
- (C) \$375,000,000 for fiscal year 2009.

(7) For the science and engineering education pilot program under section 16323 of this title—

- (A) \$4,000,000 for each of fiscal years 2007 and 2008; and
- (B) \$8,000,000 for fiscal year 2009.

(d) Integrated bioenergy research and development

In addition to amounts otherwise authorized by this section, there are authorized to be appropriated to the Secretary for integrated bioenergy research and development programs, projects, and activities, \$49,000,000 for each of the fiscal years 2005 through 2009. Activities funded under this subsection shall be coordinated with ongoing related programs of other Federal agencies, including the Plant Genome Program of the National Science Foundation. Of the funds authorized under this subsection, at least \$5,000,000 for each fiscal year shall be for training and education targeted to minority and socially disadvantaged farmers and ranchers.

(Pub. L. 109–58, title IX, §971, Aug. 8, 2005, 119 Stat. 898; Pub. L. 110–69, title V, §5007, Aug. 9, 2007, 121 Stat. 617; Pub. L. 111–358, title IX, §903, Jan. 4, 2011, 124 Stat. 4045.)

REFERENCES IN TEXT

This part, referred to in subsecs. (a) and (b), was in the original “this subtitle”, meaning subtitle G

¹ See References in Text note below.