

(g) Cost sharing

Activities carried out under this section shall be subject to the cost-sharing requirements of section 16352 of this title.

(h) Authorization of appropriations

There is authorized to be appropriated to the Secretary to carry out this section \$2,500,000,000 for the period of fiscal years 2022 through 2026.

(Pub. L. 109–58, title IX, § 963, Aug. 8, 2005, 119 Stat. 891; Pub. L. 110–140, title VII, § 702(a), Dec. 19, 2007, 121 Stat. 1704; Pub. L. 116–260, div. Z, title IV, § 4003(a), Dec. 27, 2020, 134 Stat. 2536; Pub. L. 117–58, div. D, title III, § 40305, Nov. 15, 2021, 135 Stat. 1001.)

Editorial Notes**AMENDMENTS**

2021—Subsec. (a)(1)(B). Pub. L. 117–58, § 40305(1), struck out “over a 10-year period” after “carbon dioxide”.

Subsec. (b)(1). Pub. L. 117–58, § 40305(2)(A), substituted “demonstration, and commercialization” for “and demonstration”.

Subsec. (b)(2)(I). Pub. L. 117–58, § 40305(2)(B), added subpar. (I).

Subsec. (e). Pub. L. 117–58, § 40305(3), (4), added subsec. (e) and redesignated former subsec. (e) as (f).

Subsec. (f). Pub. L. 117–58, § 40305(3), redesignated subsec. (e) as (f). Former subsec. (f) redesignated (g).

Subsec. (f)(1). Pub. L. 117–58, § 40305(5), inserted “with respect to the research, development, demonstration program components described in subsections (b) through (d)” before “give preference”.

Subsec. (g). Pub. L. 117–58, § 40305(3), redesignated subsec. (f) as (g). Former subsec. (g) redesignated (h).

Subsec. (h). Pub. L. 117–58, § 40305(6), added subsec. (h) and struck out former subsec. (h) which authorized appropriations for fiscal years 2021 to 2025.

Pub. L. 117–58, § 40305(3), redesignated subsec. (g) as (h).

2020—Pub. L. 116–260, § 4003(a)(4), substituted “Carbon storage validation and testing” for “Carbon capture and sequestration research, development, and demonstration program” in section catchline.

Subsecs. (a), (b). Pub. L. 116–260, § 4003(a)(4), added subsecs. (a) and (b) and struck out former subsecs. (a) and (b) which related to the establishment of a carbon capture and sequestration research, development, and demonstration program and program objectives.

Subsec. (c). Pub. L. 116–260, § 4003(a)(4), added subsec. (c) and struck out pars. (1) to (3) of former subsec. (c) which related to fundamental science and engineering research and development and demonstration supporting carbon capture and sequestration technologies and carbon use activities, field validation testing activities, and large-scale carbon dioxide sequestration testing, respectively.

Subsec. (c)(4). Pub. L. 116–260, § 4003(a)(2)(B), redesignated par. (4) as subsec. (e).

Subsec. (c)(5), (6). Pub. L. 116–260, § 4003(a)(2)(A), struck out pars. (5) and (6) which related to cost sharing and program review and report.

Subsec. (d). Pub. L. 116–260, § 4003(a)(4), added subsec. (d).

Pub. L. 116–260, § 4003(a)(1), struck out subsec. (d) which authorized appropriations for fiscal years 2008 to 2012.

Subsec. (e). Pub. L. 116–260, § 4003(a)(3), redesignated subpars. (A) and (B) as pars. (1) and (2), respectively, substituted “section” for “subsection” in introductory provisions and in par. (2), and realigned margins.

Pub. L. 116–260, § 4003(a)(2)(B), redesignated par. (4) of subsec. (c) as (e).

Subsec. (f). Pub. L. 116–260, § 4003(a)(2)(A), added subsec. (f).

Subsec. (g). Pub. L. 116–260, § 4003(a)(1), added subsec. (g).

2007—Pub. L. 110–140, § 702(a)(1), substituted “and sequestration research, development, and demonstration” for “research and development” in section catchline.

Subsec. (a). Pub. L. 110–140, § 702(a)(2), in introductory provisions, substituted “and sequestration research, development, and demonstration” for “research and development” and “capture and sequestration technologies related to industrial sources of carbon dioxide” for “capture technologies on combustion-based systems”.

Subsec. (b)(5). Pub. L. 110–140, § 702(a)(3), added par. (5).

Subsecs. (c), (d). Pub. L. 110–140, § 702(a)(4), added subsecs. (c) and (d) and struck out former subsec. (c). Text of former subsec. (c) read as follows: “From amounts authorized under section 16291(b) of this title, the following sums are authorized for activities described in subsection (a)(2):

“(1) \$25,000,000 for fiscal year 2006;

“(2) \$30,000,000 for fiscal year 2007; and

“(3) \$35,000,000 for fiscal year 2008.”

Statutory Notes and Related Subsidiaries**EFFECTIVE DATE OF 2007 AMENDMENT**

Amendment by Pub. L. 110–140 effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub. L. 110–140, set out as an Effective Date note under section 1824 of Title 2, The Congress.

WAGE RATE REQUIREMENTS

For provisions relating to rates of wages to be paid to laborers and mechanics on projects for construction, alteration, or repair work funded under div. D or an amendment by div. D of Pub. L. 117–58, including authority of Secretary of Labor, see section 18851 of this title.

§ 16294. Research and development for coal mining technologies**(a) Establishment**

The Secretary shall carry out a program for research and development on coal mining technologies.

(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,