(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.)

§ 16298. Carbon utilization program

(a) In general

The Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall carry out a program of research, development, demonstration, and commercialization relating to carbon utilization.

(b) Activities

Under the program described in subsection (a), the Secretary shall—

(1) assess and monitor—

(A) potential changes in lifecycle carbon dioxide and other greenhouse gas emissions; and

(B) other environmental safety indicators of new technologies, practices, processes, or methods used in enhanced hydrocarbon recovery as part of the activities authorized under section 16293 of this title;

(2) identify and evaluate novel uses for carbon (including conversion of carbon oxides) that, on a full lifecycle basis, achieve a permanent reduction, or avoidance of a net increase, in carbon dioxide in the atmosphere, for use in commercial and industrial products such as—

(A) chemicals;

(B) plastics;

(C) building materials;

(D) fuels;

(E) cement;

(F) products of coal utilization in power systems or in other applications; and

(G) other products with demonstrated market value;

(3) identify and assess carbon capture technologies for industrial systems; and

(4) identify and assess alternative uses for coal that result in zero net emissions of carbon dioxide or other pollutants, including products derived from carbon engineering, carbon fiber, and coal conversion methods.

(c) Prioritization

In supporting demonstration and commercialization research under the program described in subsection (a), the Secretary shall prioritize consideration of projects that—

(1) have access to a carbon dioxide emissions stream generated by a stationary source in the United States that is capable of supplying not less than 250 metric tons per day of carbon dioxide for research;

(2) have access to equipment for testing small-scale carbon dioxide utilization technologies, with onsite access to larger test bays for scale-up; and

(3) have 1 or more existing partnerships with a National Laboratory, an institution of higher education, a private company, or a State or other government entity.

(d) Coordination

The Secretary shall coordinate the activities authorized under this section with the activities authorized in section 16298a of this title as part of a single consolidated program of the Department.

(e) Authorization of appropriations

There is authorized to be appropriated to the Secretary to carry out this section $50,000,000, to remain available until expended.

(Pub. L. 109–58, title IX, § 969, as added Pub. L. 116–260, div. S, § 102(c)(1), Dec. 27, 2020, 134 Stat. 2248.)

§ 16298a. Carbon utilization program

(a) In general

The Secretary shall establish a program of research, development, and demonstration for carbon utilization—

(1) to assess and monitor—

(A) potential changes in lifecycle carbon dioxide and other greenhouse gas emissions; and

(B) other environmental safety indicators of new technologies, practices, processes, or methods used in enhanced hydrocarbon recovery as part of the activities authorized under section 16293 of this title;

(2) to identify and assess novel uses for carbon, including the conversion of carbon and carbon oxides for commercial and industrial products and other products with potential market value;

(3) to develop or obtain, in coordination with other applicable Federal agencies and standard-setting organizations, standards and certifications, as appropriate, to facilitate the commercialization of the products and technologies described in paragraph (2);

(4) to identify and assess carbon capture technologies for industrial systems; and

(5) to identify and assess alternative uses for raw coal and processed coal products in all phases that result in no significant emissions of carbon dioxide or other pollutants, including products derived from carbon engineering, carbon fiber, and coal conversion methods.

(b) Demonstration programs for the purpose of commercialization

(1) In general

Not later than 180 days after December 27, 2020, as part of the program established under subsection (a), the Secretary shall establish a 2-year demonstration program in each of the 2 major coal-producing regions of the United States for the purpose of partnering with private institutions in coal mining regions to accelerate the commercial deployment of coal-carbon products.

(2) Grant program

(A) In general

Not later than 1 year after November 15, 2021, the Secretary shall establish a program to provide grants to eligible entities to use in accordance with subparagraph (D).

(B) Eligible entities

To be eligible to receive a grant under this paragraph, an entity shall be—

(i) a State;