

SUBCHAPTER IX—RESEARCH AND
DEVELOPMENT

§ 16181. Goals

(a) In general

In order to achieve the purposes of this subchapter, the Secretary shall conduct a balanced set of programs of energy research, development, demonstration, and commercial application with the general goals of—

- (1) increasing the efficiency of all energy intensive sectors through conservation and improved technologies;
- (2) promoting diversity of energy supply;
- (3) decreasing the dependence of the United States on foreign energy supplies;
- (4) improving the energy security of the United States; and
- (5) decreasing the environmental impact of energy-related activities.

(b) Goals

The Secretary shall publish measurable cost and performance-based goals, comparable over time, with each annual budget submission in at least the following areas:

- (1) Energy efficiency for buildings, energy-consuming industries, and vehicles.
- (2) Electric energy generation (including distributed generation), transmission, and storage.
- (3) Renewable energy technologies, including wind power, photovoltaics, solar thermal systems, geothermal energy, hydrogen-fueled systems, biomass-based systems, biofuels, and hydropower.
- (4) Fossil energy, including power generation, onshore and offshore oil and gas resource recovery, and transportation fuels.
- (5) Nuclear energy, including programs for existing and advanced reactors, and education of future specialists.

(c) Public comment

The Secretary shall provide mechanisms for input on the annually published goals from industry, institutions of higher education, and other public sources.

(d) Effect of goals

Nothing in subsection (a) or the annually published goals creates any new authority for any Federal agency, or may be used by any Federal agency, to support the establishment of regulatory standards or regulatory requirements.

(Pub. L. 109-58, title IX, §902, Aug. 8, 2005, 119 Stat. 856.)

Editorial Notes

REFERENCES IN TEXT

This subchapter, referred to in subsec. (a), was in the original “this title”, meaning title IX of Pub. L. 109-58, Aug. 8, 2005, 119 Stat. 856, which enacted this subchapter, amended sections 8101 and 8102 of Title 7, Agriculture, and section 5523 of Title 15, Commerce and Trade, enacted provisions set out as notes under section 15801 of this title, section 8102 of Title 7, and section 2001 of Title 30, Mineral Lands and Mining, and amended provisions set out as notes under section 8101 of Title 7 and section 1902 of Title 30. For complete classification of title IX to the Code, see Short Title note set out under section 15801 of this title and Tables.

Statutory Notes and Related Subsidiaries

SHORT TITLE

For short title of title IX of Pub. L. 109-58, which enacted this subchapter, as the “Energy Research, Development, Demonstration, and Commercial Application Act of 2005”, see section 431 of Pub. L. 109-58, set out as a note under section 15801 of this title.

§ 16182. Definitions

In this subchapter:

(1) Departmental mission

The term “departmental mission” means any of the functions vested in the Secretary by the Department of Energy Organization Act (42 U.S.C. 7101 et seq.) or other law.

(2) Hispanic-serving institution

The term “Hispanic-serving institution” has the meaning given the term in section 1101a(a) of title 20.

(3) Nonmilitary energy laboratory

The term “nonmilitary energy laboratory” means a National Laboratory other than a National Laboratory listed in subparagraph (G), (H), or (N) of section 15801(3) of this title.

(4) Part B institution

The term “part B institution” has the meaning given the term in section 1061 of title 20.

(5) Single-purpose research facility

The term “single-purpose research facility” means—

- (A) any of the primarily single-purpose entities owned by the Department; or
- (B) any other organization of the Department designated by the Secretary.

(6) University

The term “university” has the meaning given the term “institution of higher education” in section 1001 of title 20.

(Pub. L. 109-58, title IX, §903, Aug. 8, 2005, 119 Stat. 856.)

Editorial Notes

REFERENCES IN TEXT

This subchapter, referred to in text, was in the original “this title”, meaning title IX of Pub. L. 109-58, Aug. 8, 2005, 119 Stat. 856, which enacted this subchapter, amended sections 8101 and 8102 of Title 7, Agriculture, and section 5523 of Title 15, Commerce and Trade, enacted provisions set out as notes under section 15801 of this title, section 8102 of Title 7, and section 2001 of Title 30, Mineral Lands and Mining, and amended provisions set out as notes under section 8101 of Title 7 and section 1902 of Title 30. For complete classification of title IX to the Code, see Short Title note set out under section 15801 of this title and Tables.

The Department of Energy Organization Act, referred to in par. (1), is Pub. L. 95-91, Aug. 4, 1977, 91 Stat. 565, which is classified principally to chapter 84 (§7101 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 7101 of this title and Tables.

§ 16183. Energy and water for sustainability

(a) Nexus of energy and water for sustainability

(1) Definitions

In this section:

(A) Department

The term “Department” means the Department of Energy.

(B) Energy-water nexus

The term “energy-water nexus” means the links between—

- (i) the water needed to produce fuels, electricity, and other forms of energy; and
- (ii) the energy needed to transport, reclaim, and treat water and wastewater.

(C) Interagency RD&D Coordination Committee

The term “Interagency RD&D Coordination Committee” means the Interagency RD&D Coordination Committee on the Nexus of Energy and Water for Sustainability (or the “NEWS RD&D Committee”) established under paragraph (3)(A).

(D) Nexus of Energy and Water Sustainability RD&D Office; NEWS RD&D Office

The term “Nexus of Energy and Water Sustainability RD&D Office” or the “NEWS RD&D Office” means an office located at the Department and managed in cooperation with the Department of the Interior pursuant to an agreement between the 2 agencies to carry out leadership and administrative functions for the Interagency RD&D Coordination Committee.

(E) RD&D

The term “RD&D” means research, development, and demonstration.

(F) Secretary

The term “Secretary” means the Secretary of Energy.

(2) Statement of policy

Recognizing States’ primacy over allocation and administration of water resources (except in specific instances where preempted under Federal law) and the siting of energy infrastructure within State boundaries on non-Federal lands, it is the national policy that the Federal government, in all energy-water nexus management activities, shall maximize coordination and consultation among Federal agencies and with State and local governments, and disseminate information to the public in the most effective manner.

(3) Interagency RD&D Coordination Committee**(A) Establishment**

Not later than 180 days after December 27, 2020, the Secretary and the Secretary of the Interior shall establish the joint NEWS RD&D Office and Interagency RD&D Coordination Committee on the Nexus of Energy and Water for Sustainability (or the “NEWS RD&D Committee”) to carry out the duties described in subparagraph (C).

(B) Administration**(i) Chairs**

The Secretary and the Secretary of the Interior shall jointly manage the NEWS RD&D Office and serve as co-chairs of the Interagency RD&D Coordination Committee.

(ii) Membership; staffing

Membership and staffing shall be determined by the co-chairs.

(C) Duties

The Interagency RD&D Coordination Committee shall—

(i) serve as a forum for developing common Federal goals and plans on energy-water nexus RD&D activities, in coordination with the National Science and Technology Council;

(ii) not later than 1 year after December 27, 2020, and biennially thereafter, issue a strategic plan on energy-water nexus RD&D activities, priorities, and objectives pursuant to subparagraph (D), which shall be developed in consultation with relevant State and local governments;

(iii) convene and promote coordination of RD&D activities of relevant Federal departments and agencies on energy-water nexus;

(iv)(I) coordinate and develop capabilities and methodologies related to RD&D activities for data collection, data communication protocols (including models and modeling results), data management, and dissemination of validated data and results related to energy-water nexus RD&D activities to requesting Federal departments and agencies; and

(II) promote information exchange between Federal departments and agencies—

(aa) to identify and document Federal and non-Federal RD&D programs and funding opportunities that support basic and applied RD&D proposals to advance energy-water nexus related science and technologies;

(bb) to leverage existing RD&D programs by encouraging joint solicitations, block grants, and matching programs with non-Federal entities; and

(cc) to identify opportunities for domestic and international public-private partnerships, innovative financing mechanisms, and information and data exchange with respect to RD&D activities;

(v) identify ways to leverage existing RD&D programs, including programs at the State and local level;

(vi) make publicly available the results of RD&D activities on the energy water nexus;

(vii) with regard to RD&D programs, recommend improvements and best practices for the collection and dissemination of federal water use data and the use of monitoring networks; and

(viii) promote coordination on RD&D with non-Federal interests by—

(I) consulting with representatives of research and academic institutions, State, local, and Tribal governments, public utility commissions, and industry, who have expertise in technologies, technological innovations, or practices relating to the energy-water nexus; and

(II) considering conducting technical workshops.

(D) Strategic plan

In developing the strategic plan pursuant to (C)(ii), the Interagency RD&D Coordination Committee shall—

(i) to the maximum extent possible, avoid duplication with other Federal RD&D programs, and projects, including with those of the National Laboratories;

(ii) consider inclusion of specific research, development and demonstration needs, including—

(I) innovative practices, technologies and other advancements improving water efficiency, treatment, recovery, or reuse associated with energy generation, including cooling, and fuel production;

(II) innovative practices, technologies and other advancements associated with energy use in water collection, supply, delivery, distribution, treatment, or reuse;

(III) innovative practices, technologies and other advancements associated with generation or production of energy from water or wastewater systems; and

(IV) modeling and systems analysis related to energy-water nexus; and

(iii) submit the plan to the Committee on Energy and Natural Resources of the Senate and the Committees on Science, Space, and Technology, Energy and Commerce, and Natural Resources of the House of Representatives.

(E) Rules of construction

(i) Nothing in this section grants to the Interagency RD&D Coordination Committee the authority to promulgate regulations or set standards.

(ii) Notwithstanding any other provision of law, nothing in this section shall be construed to require State, Tribal, or local governments to take any action that may result in an increased financial burden to such governments.

(F) Additional participation

In developing the strategic plan described in subparagraph (C)(ii), the Secretary shall consult and coordinate with a diverse group of representatives from research and academic institutions, industry, public utility commissions, and State and local governments who have expertise in technologies and practices relating to the energy-water nexus.

(G) Review; report

At the end of the 5-year period beginning on the date on which the Interagency RD&D Coordination Committee and NEWS RD&D Office are established, the NEWS RD&D Office shall—

(i) review the activities, relevance, and effectiveness of the Interagency RD&D Coordination Committee; and

(ii) submit to the Committee on Energy and Natural Resources of the Senate and the Committees on Science, Space, and Technology, Energy and Commerce, and Natural Resources of the House of Representatives a report that—

(I) describes the results of the review conducted under clause (i); and

(II) includes a recommendation on whether the Interagency RD&D Coordination Committee should continue.

(4) Crosscut budget

Not later than 30 days after the President submits the budget of the United States Government under section 1105 of title 31, the co-chairs of the Interagency RD&D Coordination Committee (acting through the NEWS RD&D Office) shall submit to the Committee on Energy and Natural Resources of the Senate and the Committees on Science, Space, and Technology, Energy and Commerce, and Natural Resources of the House of Representatives, an interagency budget crosscut report that displays at the program-, project-, and activity-level for each of the Federal agencies that carry out or support (including through grants, contracts, interagency and intraagency transfers, and multiyear and no-year funds) basic and applied RD&D activities to advance the energy-water nexus related science and technologies, including—

(A) the budget proposed in the budget request of the President for the upcoming fiscal year;

(B) expenditures and obligations for the prior fiscal year; and

(C) estimated expenditures and obligations for the current fiscal year.

(5) Termination**(A) In general**

The authority provided to the NEWS RD&D Office and NEWS RD&D Committee under this subsection shall terminate on the date that is 7 years after December 27, 2020.

(B) Effect

The termination of authority under subparagraph (A) shall not affect ongoing interagency planning, coordination, or other RD&D activities relating to the energy-water nexus.

(b) Integrating energy and water research

The Secretary shall integrate the following considerations into energy RD&D programs and projects of the Department by—

(1) advancing RD&D for energy and energy efficiency technologies and practices that meet the objectives of—

(A) minimizing freshwater withdrawal and consumption;

(B) increasing water use efficiency; and

(C) utilizing nontraditional water sources;

(2) considering the effects climate variability may have on water supplies and quality for energy generation and fuel production; and

(3) improving understanding of the energy-water nexus (as defined in subsection (a)(1)).

(c) Additional activities

The Secretary may provide for such additional RD&D activities as appropriate to integrate the considerations described in subsection (b) into the RD&D activities of the Department.

(Pub. L. 116-260, div. Z, title I, §1010, Dec. 27, 2020, 134 Stat. 2438.)

Editorial Notes

CODIFICATION

Section was enacted as part of the Energy Act of 2020, and not as part of the Energy Policy Act of 2005 which comprises this chapter.

PART A—ENERGY EFFICIENCY

§ 16191. Energy efficiency**(a) In general****(1) Objectives**

The Secretary shall conduct programs of energy efficiency research, development, demonstration, and commercial application, including activities described in this part. Such programs shall take into consideration the following objectives:

- (A) Increasing the energy efficiency of vehicles, buildings, and industrial processes.
- (B) Reducing the demand of the United States for energy, especially energy from foreign sources.
- (C) Reducing the cost of energy and making the economy more efficient and competitive.
- (D) Improving the energy security of the United States.
- (E) Reducing the environmental impact of energy-related activities.

(2) Programs

Programs under this part shall include research, development, demonstration, and commercial application of—

- (A) advanced, cost-effective technologies to improve the energy efficiency and environmental performance of vehicles, including—
 - (i) hybrid and electric propulsion systems;
 - (ii) plug-in hybrid systems;
 - (iii) advanced combustion engines;
 - (iv) weight and drag reduction technologies;
 - (v) whole-vehicle design optimization; and
 - (vi) advanced drive trains;
- (B) cost-effective technologies, for new construction and retrofit, to improve the energy efficiency and environmental performance of buildings, using a whole-buildings approach, including onsite renewable energy generation;
- (C) advanced technologies to improve the energy efficiency, environmental performance, and process efficiency of energy-intensive and waste-intensive industries;
- (D) advanced control devices to improve the energy efficiency of electric motors, including those used in industrial processes, heating, ventilation, and cooling; and
- (E) technologies to improve the energy efficiency of appliances and mechanical systems for buildings in cold climates, including combined heat and power units and increased use of renewable resources, including fuel.

(b) Authorization of appropriations

There are authorized to be appropriated to the Secretary to carry out energy efficiency and

conservation research, development, demonstration, and commercial application activities, including activities authorized under this part—

- (1) \$783,000,000 for fiscal year 2007;
- (2) \$865,000,000 for fiscal year 2008; and
- (3) \$952,000,000 for fiscal year 2009.

(c) Allocations

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

- (1) For activities under section 16192 of this title, \$50,000,000 for each of fiscal years 2007 through 2009.
- (2) For activities under section 16195 of this title, \$7,000,000 for each of fiscal years 2007 through 2009.
- (3) For activities under subsection (a)(2)(A)—
 - (A) \$200,000,000 for fiscal year 2007;
 - (B) \$270,000,000 for fiscal year 2008; and
 - (C) \$310,000,000 for fiscal year 2009.
- (4) For activities under subsection (a)(2)(D), \$2,000,000 for each of fiscal years 2007 and 2008.

(d) Extended authorization

There are authorized to be appropriated to the Secretary to carry out section 16192 of this title \$50,000,000 for each of fiscal years 2010 through 2013.

(e) Limitations

None of the funds authorized to be appropriated under this section may be used for—

- (1) the issuance or implementation of energy efficiency regulations;
- (2) the weatherization program established under part A of title IV of the Energy Conservation and Production Act (42 U.S.C. 6861 et seq.);
- (3) a State energy conservation plan established under part D of title III of the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.); or
- (4) a Federal energy management measure carried out under part 3 of title V of the National Energy Conservation Policy Act (42 U.S.C. 8251 et seq.).

(Pub. L. 109-58, title IX, §911, Aug. 8, 2005, 119 Stat. 857; Pub. L. 110-140, title III, §315(a), Dec. 19, 2007, 121 Stat. 1571.)

Editorial Notes

REFERENCES IN TEXT

The Energy Conservation and Production Act, referred to in subsec. (e)(2), is Pub. L. 94-385, Aug. 14, 1976, 90 Stat. 1125. Part A of title IV of the Act is classified generally to part A (§6861 et seq.) of subchapter III of chapter 81 of this title. For complete classification of this Act to the Code, see Short Title note set out under section 6801 of this title and Tables.

The Energy Policy and Conservation Act, referred to in subsec. (e)(3), is Pub. L. 94-163, Dec. 22, 1975, 89 Stat. 871. Part D of title III of the Act is classified generally to part B (§6321 et seq.) of subchapter III of chapter 77 of this title. For complete classification of this Act to the Code, see Short Title note set out under section 6201 of this title and Tables.

The National Energy Conservation Policy Act, referred to in subsec. (e)(4), is Pub. L. 95-619, Nov. 9, 1978, 92 Stat. 3206. Part 3 of title V of the Act is classified generally to part B (§8251 et seq.) of subchapter III of chapter 91 of this title. For complete classification of this Act to the Code, see Short Title note set out under section 8201 of this title and Tables.