

(B) research to develop and demonstrate technologies and processes that utilize alternative energy sources to supply heat, power, and new feedstocks for energy-intensive industries;

(C) research to achieve energy efficiency in steam, power, control system, and process heat technologies, and in other manufacturing processes; and

(D) industrial and commercial energy efficiency and sustainability assessments to—

(i) assist individual industrial and commercial sectors in developing tools, techniques, and methodologies to assess—

(I) the unique processes and facilities of the sectors;

(II) the energy utilization requirements of the sectors; and

(III) the application of new, more energy efficient technologies; and

(ii) conduct energy savings assessments;

(E) the incorporation of technologies and innovations that would significantly improve the energy efficiency and utilization of energy-intensive commercial applications; and

(F) any other activities that the Secretary determines to be appropriate.

(3) Proposals

(A) In general

To be eligible for funding under this subsection, a partnership shall submit to the Secretary a proposal that describes the proposed research, development, or demonstration activity to be conducted by the partnership.

(B) Review

After reviewing the scientific, technical, and commercial merit of a proposals¹ submitted under subparagraph (A), the Secretary shall approve or disapprove the proposal.

(C) Competitive awards

The provision of funding under this subsection shall be on a competitive basis.

(4) Cost-sharing requirement

In carrying out this section, the Secretary shall require cost sharing in accordance with section 16352 of this title.

(d) Grants

The Secretary may award competitive grants for innovative technology research, development and demonstrations to universities, individual inventors, and small companies, based on energy savings potential, commercial viability, and technical merit.

(e) Authorization of appropriations

(1) In general

There are authorized to be appropriated to the Secretary to carry out this section—

(A) \$184,000,000 for fiscal year 2008;

(B) \$190,000,000 for fiscal year 2009;

(C) \$196,000,000 for fiscal year 2010;

(D) \$202,000,000 for fiscal year 2011;

(E) \$208,000,000 for fiscal year 2012; and

(F) such sums as are necessary for fiscal year 2013 and each fiscal year thereafter.

(2) Partnership activities

Of the amounts made available under paragraph (1), not less than 50 percent shall be used to pay the Federal share of partnership activities under subsection (c).

(3) Coordination and nonduplication

The Secretary shall coordinate efforts under this section with other programs of the Department and other Federal agencies to avoid duplication of effort.

(Pub. L. 110-140, title IV, § 452, Dec. 19, 2007, 121 Stat. 1634; Pub. L. 117-58, div. D, title V, § 40521(a)(1), Nov. 15, 2021, 135 Stat. 1062.)

Editorial Notes

AMENDMENTS

2021—Pub. L. 117-58, § 40521(a)(1)(A), substituted “Future of industry program” for “Energy-intensive industries program” in section catchline.

Subsec. (a)(2)(E), (F). Pub. L. 117-58, § 40521(a)(1)(B), added subpar. (E) and redesignated former subpar. (E) as (F).

Subsecs. (e), (f). Pub. L. 117-58, § 40521(a)(1)(C), (D), redesignated subsec. (f) as (e) and struck out former subsec. (e) which related to institution of higher education-based industrial research and assessment centers.

Statutory Notes and Related Subsidiaries

EFFECTIVE DATE

Section effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub. L. 110-140, set out as a 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.

§ 17112. Energy efficiency for data center buildings

(a) Definitions

In this section:

(1) Data center

The term “data center” means any facility that primarily contains electronic equipment used to process, store, and transmit digital information, which may be—

(A) a free-standing structure; or

(B) a facility within a larger structure, that uses environmental control equipment to maintain the proper conditions for the operation of electronic equipment.

(2) Data center operator

The term “data center operator” means any person or government entity that builds or operates a data center or purchases data center services, equipment, and facilities.

(b) Voluntary national information program

(1) In general

Not later than 90 days after December 19, 2007, the Secretary and the Administrator of

¹ So in original.

the Environmental Protection Agency shall, after consulting with information technology industry and other interested parties, initiate a voluntary national information program for those types of data centers and data center equipment and facilities that are widely used and for which there is a potential for significant data center energy savings as a result of the program.

(2) Requirements

The program described in paragraph (1) shall—

(A) address data center efficiency holistically, reflecting the total energy consumption of data centers as whole systems, including both equipment and facilities;

(B) consider prior work and studies undertaken in this area, including by the Environmental Protection Agency and the Department of Energy;

(C) consistent with the objectives described in paragraph (1), determine the type of data center and data center equipment and facilities to be covered under the program;

(D) produce specifications, measurements, best practices, and benchmarks that will enable data center operators to make more informed decisions about the energy efficiency and costs of data centers, and that take into account—

(i) the performance and use of servers, data storage devices, and other information technology equipment;

(ii) the efficiency of heating, ventilation, and air conditioning, cooling, and power conditioning systems, provided that no modification shall be required of a standard then in effect under the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.) for any covered heating, ventilation, air-conditioning, cooling or power-conditioning product;

(iii) energy savings from the adoption of software and data management techniques; and

(iv) other factors proposed by the stakeholders described in subsection (c);

(E) allow for creation of separate specifications, measurements, and benchmarks based on data center size and function, as well as other appropriate characteristics;

(F) advance the design and implementation of efficiency technologies to the maximum extent economically practical;

(G) provide to data center operators in the private sector and the Federal Government information about best practices and purchasing decisions that reduce the energy consumption of data centers; and

(H) publish the information described in subparagraph (G), which may be disseminated through catalogs, trade publications, the Internet, or other mechanisms, that will allow data center operators to assess the energy consumption and potential cost savings of alternative data centers and data center equipment and facilities.

(c) Stakeholder involvement

(1) In general

The Secretary and the Administrator shall carry out subsection (b) in collaboration with the information technology industry and other key stakeholders, with the goal of producing results that accurately reflect the most relevant and useful information.

(2) Considerations

In carrying out the collaboration described in paragraph (1), the Secretary and the Administrator shall pay particular attention to organizations that—

(A) have members with expertise in energy efficiency and in the development, operation, and functionality of data centers, information technology equipment, and software, including representatives of hardware manufacturers, data center operators, and facility managers;

(B) obtain and address input from the National Laboratories (as that term is defined in section 15801) of this title, or any institution of higher education, research institution, industry association, company, or public interest group with applicable expertise;

(C) follow—

(i) commonly accepted procedures for the development of specifications; and

(ii) accredited standards development processes; or

(D) have a mission to promote energy efficiency for data centers and information technology.

(d) Measurements and specifications

The Secretary and the Administrator shall consider and assess the adequacy of the specifications, measurements, best practices, and benchmarks described in subsection (b) for use by the Federal Energy Management Program, the Energy Star Program, and other efficiency programs of the Department of Energy or the Environmental Protection Agency.

(e) Study

(1) Definition of report

In this subsection, the term “report” means the report of the Lawrence Berkeley National Laboratory entitled “United States Data Center Energy Usage Report” and dated June 2016, which was prepared as an update to the “Report to Congress on Server and Data Center Energy Efficiency”, published on August 2, 2007, pursuant to section 1 of Public Law 109-431 (120 Stat. 2920).

(2) Study

Not later than 4 years after December 27, 2020, the Secretary, in collaboration with the Administrator, shall make available to the public an update to the report that provides—

(A) a comparison and gap analysis of the estimates and projections contained in the report with new data regarding the period from 2015 through 2019;

(B) an analysis considering the impact of information technologies, including virtualization and cloud computing, in the public and private sectors;

(C) an evaluation of the impact of the combination of cloud platforms, mobile devices, social media, and big data on data center energy usage;

(D) an evaluation of water usage in data centers and recommendations for reductions in that water usage; and

(E) updated projections and recommendations for best practices through fiscal year 2025.

(f) Data center energy practitioner program

(1) In general

The Secretary, in collaboration with key stakeholders and the Director of the Office of Management and Budget, shall maintain a data center energy practitioner program that provides for the certification of energy practitioners qualified to evaluate the energy usage and efficiency opportunities in federally owned and operated data centers.

(2) Evaluations

Each Federal agency shall consider having the data centers of the agency evaluated once every 4 years by energy practitioners certified pursuant to the program, whenever practicable using certified practitioners employed by the agency.

(g) Open data initiative

(1) In general

The Secretary, in collaboration with key stakeholders and the Director of the Office of Management and Budget, shall establish an open data initiative relating to energy usage at federally owned and operated data centers, with the purpose of making the data available and accessible in a manner that encourages further data center innovation, optimization, and consolidation.

(2) Consideration

In establishing the initiative under paragraph (1), the Secretary shall consider using the online Data Center Maturity Model.

(h) International specifications and metrics

The Secretary, in collaboration with key stakeholders, shall actively participate in efforts to harmonize global specifications and metrics for data center energy and water efficiency.

(i) Data center utilization metric

The Secretary, in collaboration with key stakeholders, shall facilitate in the development of an efficiency metric that measures the energy efficiency of a data center (including equipment and facilities).

(j) Protection of proprietary information

The Secretary and the Administrator shall not disclose any proprietary information or trade secrets provided by any individual or company for the purposes of carrying out this section or the programs and initiatives established under this section.

(Pub. L. 110-140, title IV, §453, Dec. 19, 2007, 121 Stat. 1637; Pub. L. 116-260, div. Z, title I, §1003, Dec. 27, 2020, 134 Stat. 2426.)

Editorial Notes

REFERENCES IN TEXT

The Energy Policy and Conservation Act, referred to in subsec. (b)(2)(D)(ii), is Pub. L. 94-163, Dec. 22, 1975, 89 Stat. 871, which is classified principally to chapter 77 (§6201 et seq.) 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.

Section 1 of Public Law 109-431 (120 Stat. 2920), referred to in subsec. (e)(1), is section 1 of Pub. L. 109-431, Dec. 20, 2006, 120 Stat. 2920, which is not classified to the Code.

AMENDMENTS

2020—Subsec. (b)(2)(D)(iv), Pub. L. 116-260, §1003(1)(A), substituted “proposed by the stakeholders” for “determined by the organization”.

Subsec. (b)(3), Pub. L. 116-260, §1003(1)(B), struck out par. (3). Text read as follows: “The program described in paragraph (1) shall be developed in consultation with and coordinated by the organization described in subsection (c) according to commonly accepted procedures for the development of specifications, measurements, and benchmarks.”

Subsecs. (c) to (j), Pub. L. 116-260, §1003(2), added subsecs. (c) to (j) and struck out former subsecs. (c) to (g) which related to consultation with a data center efficiency organization to coordinate the voluntary national information program, including the requirements of such coordination, measurements and specifications, monitoring, alternate systems, and protection of proprietary information.

Statutory Notes and Related Subsidiaries

EFFECTIVE DATE

Section effective on the date that is 1 day after Dec. 19, 2007, see section 1601 of Pub. L. 110-140, set out as a note under section 1824 of Title 2, The Congress.

§ 17113. Industrial emissions reduction technology development program

(a) Definitions

In this section:

(1) Director

The term “Director” means the Director of the Office of Science and Technology Policy.

(2) Eligible entity

The term “eligible entity” means—

(A) a scientist or other individual with knowledge and expertise in emissions reduction;

(B) an institution of higher education;

(C) a nongovernmental organization;

(D) a National Laboratory;

(E) a private entity; and

(F) a partnership or consortium of 2 or more entities described in subparagraphs (B) through (E).

(3) Emissions reduction

(A) In general

The term “emissions reduction” means the reduction, to the maximum extent practicable, of net nonwater greenhouse gas emissions to the atmosphere by energy services and industrial processes.

(B) Exclusion

The term “emissions reduction” does not include the elimination of carbon embodied in the principal products of industrial manufacturing.