

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 proposals<sup>1</sup> 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) Institution of higher education-based industrial research and assessment centers**

The Secretary shall provide funding to institution of higher education-based industrial research and assessment centers, whose purpose shall be—

(1) to identify opportunities for optimizing energy efficiency and environmental performance;

(2) to promote applications of emerging concepts and technologies in small- and medium-sized manufacturers;

(3) to promote research and development for the use of alternative energy sources to supply heat, power, and new feedstocks for energy-intensive industries;

(4) to coordinate with appropriate Federal and State research offices, and provide a clearinghouse for industrial process and energy efficiency technical assistance resources; and

(5) to coordinate with State-accredited technical training centers and community colleges, while ensuring appropriate services to all regions of the United States.

**(f) 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.)

**§ 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 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 en-

<sup>1</sup> So in original.

able 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 determined by the organization 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.

### **(3) Procedures**

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.

### **(c) Data center efficiency organization**

#### **(1) In general**

After the establishment of the program described in subsection (b), the Secretary and the Administrator shall jointly designate an information technology industry organization to consult with and to coordinate the program.

#### **(2) Requirements**

The organization designated under paragraph (1), whether preexisting or formed specifically for the purposes of subsection (b), shall—

(A) consist of interested parties that have expertise in energy efficiency and in the development, operation, and functionality of computer data centers, information technology equipment, and software, as well as representatives of hardware manufacturers, data center operators, and facility managers;

(B) obtain and address input from Department of Energy National Laboratories or any college, university, research institution, industry association, company, or public interest group with applicable expertise in any of the areas listed in paragraph (1);

(C) follow commonly accepted procedures for the development of specifications and accredited standards development processes;

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

(E) have the primary responsibility to consult in the development and publishing of the information, measurements, and benchmarks described in subsection (b) and transmission of the information to the Secretary and the Administrator for consideration under subsection (d).

### **(d) Measurements and specifications**

#### **(1) In general**

The Secretary and the Administrator shall consider the specifications, measurements, 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 and Environmental Protection Agency, respectively.

#### **(2) Rejections**

If the Secretary or the Administrator rejects 1 or more specifications, measurements, or benchmarks described in subsection (b), the rejection shall be made consistent with section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note; Public Law 104-113).

#### **(3) Determination of impracticability**

A determination that a specification, measurement, or benchmark described in subsection (b) is impractical may include consideration of the maximum efficiency that is technologically feasible and economically justified.

### **(e) Monitoring**

The Secretary and the Administrator shall—

(1) monitor and evaluate the efforts to develop the program described in subsection (b); and

(2) not later than 3 years after December 19, 2007, make a determination as to whether the program is consistent with the objectives of subsection (b).

### **(f) Alternative system**

If the Secretary and the Administrator make a determination under subsection (e) that a voluntary national information program for data centers consistent with the objectives of subsection (b) has not been developed, the Secretary and the Administrator shall, after consultation with the National Institute of Standards and Technology and not later than 2 years after the determination, develop and implement the program under subsection (b).

### **(g) Protection of proprietary information**

The Secretary, the Administrator, or the data center efficiency organization 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 program established under this section.

(Pub. L. 110-140, title IV, § 453, Dec. 19, 2007, 121 Stat. 1637.)

#### 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.

#### PART E—GENERAL PROVISIONS

### § 17121. Demonstration project

#### (a) In general

The Federal Director and the Commercial Director shall establish guidelines to implement a demonstration project to contribute to the research goals of the Office of Commercial High-Performance Green Buildings and the Office of Federal High-Performance Green Buildings.

#### (b) Projects

In accordance with guidelines established by the Federal Director and the Commercial Director under subsection (a) and the duties of the Federal Director and the Commercial Director described in this title,<sup>1</sup> the Federal Director or the Commercial Director shall carry out—

(1) for each of fiscal years 2009 through 2014, 1 demonstration project per year of green features in a Federal building selected by the Federal Director in accordance with relevant agencies and described in subsection (c)(1), that—

(A) provides for instrumentation, monitoring, and data collection related to the green features, for study of the impact of the features on overall energy use and operational costs, and for the evaluation of the information obtained through the conduct of projects and activities under this title;<sup>1</sup> and

(B) achieves the highest rating offered by the high performance green building system identified pursuant to section 17092(h) of this title;

(2) no fewer than 4 demonstration projects at 4 universities, that, as competitively selected by the Commercial Director in accordance with subsection (c)(2), have—

(A) appropriate research resources and relevant projects to meet the goals of the demonstration project established by the Office of Commercial High-Performance Green Buildings; and

(B) the ability—

(i) to serve as a model for high-performance green building initiatives, including research and education<sup>2</sup> by achieving the highest rating offered by the high performance green building system identified pursuant to section 17092(h) of this title;

(ii) to identify the most effective ways to use high-performance green building and

landscape technologies to engage and educate undergraduate and graduate students;

(iii) to effectively implement a high-performance green building education program for students and occupants;

(iv) to demonstrate the effectiveness of various high-performance technologies, including their impacts on energy use and operational costs, in each of the 4 climatic regions of the United States described in subsection (c)(2)(B); and

(v) to explore quantifiable and nonquantifiable beneficial impacts on public health and employee and student performance;

(3) demonstration projects to evaluate replicable approaches of achieving high performance in actual building operation in various types of commercial buildings in various climates; and

(4) deployment activities to disseminate information on and encourage widespread adoption of technologies, practices, and policies to achieve zero-net-energy commercial buildings or low energy use and effective monitoring of energy use in commercial buildings.

#### (c) Criteria

##### (1) Federal facilities

With respect to the existing or proposed Federal facility at which a demonstration project under this section is conducted, the Federal facility shall—

(A) be an appropriate model for a project relating to—

(i) the effectiveness of high-performance technologies;

(ii) analysis of materials, components, systems, and emergency operations in the building, and the impact of those materials, components, and systems, including the impact on the health of building occupants;

(iii) life-cycle costing and life-cycle assessment of building materials and systems; and

(iv) location and design that promote access to the Federal facility through walking, biking, and mass transit; and

(B) possess sufficient technological and organizational adaptability.

##### (2) Universities

With respect to the 4 universities at which a demonstration project under this section is conducted—

(A) the universities should be selected, after careful review of all applications received containing the required information, as determined by the Commercial Director, based on—

(i) successful and established public-private research and development partnerships;

(ii) demonstrated capabilities to construct or renovate buildings that meet high indoor environmental quality standards;

(iii) organizational flexibility;

(iv) technological adaptability;

(v) the demonstrated capacity of at least 1 university to replicate lessons learned

<sup>1</sup> See References in Text note below.

<sup>2</sup> So in original. A comma probably should appear.