

SUBCHAPTER V—ACCELERATED RESEARCH
AND DEVELOPMENT

PART A—SOLAR ENERGY

§ 17171. Thermal energy storage research and development program

(a) Establishment

The Secretary shall establish a program of research and development to provide lower cost and more viable thermal energy storage technologies to enable the shifting of electric power loads on demand and extend the operating time of concentrating solar power electric generating plants.

(b) Authorization of appropriations

There are authorized to be appropriated to the Secretary for carrying out this section \$5,000,000 for fiscal year 2008, \$7,000,000 for fiscal year 2009, \$9,000,000 for fiscal year 2010, \$10,000,000 for fiscal year 2011, and \$12,000,000 for fiscal year 2012.

(Pub. L. 110-140, title VI, §602, Dec. 19, 2007, 121 Stat. 1674.)

SHORT TITLE

This part known as the “Solar Energy Research and Advancement Act of 2007”, see Short Title note set out under section 17001 of this title.

§ 17172. Solar energy curriculum development and certification grants

(a) Establishment

The Secretary shall establish in the Office of Solar Energy Technologies a competitive grant program to create and strengthen solar industry workforce training and internship programs in installation, operation, and maintenance of solar energy products. The goal of this program is to ensure a supply of well-trained individuals to support the expansion of the solar energy industry.

(b) Authorized activities

Grant funds may be used to support the following activities:

(1) Creation and development of a solar energy curriculum appropriate for the local educational, entrepreneurial, and environmental conditions, including curriculum for community colleges.

(2) Support of certification programs for individual solar energy system installers, instructors, and training programs.

(3) Internship programs that provide hands-on participation by students in commercial applications.

(4) Activities required to obtain certification of training programs and facilities by an industry-accepted quality-control certification program.

(5) Incorporation of solar-specific learning modules into traditional occupational training and internship programs for construction-related trades.

(6) The purchase of equipment necessary to carry out activities under this section.

(7) Support of programs that provide guidance and updates to solar energy curriculum instructors.

(c) Administration of grants

Grants may be awarded under this section for up to 3 years. The Secretary shall award grants to ensure sufficient geographic distribution of training programs nationally. Grants shall only be awarded for programs certified by an industry-accepted quality-control certification institution, or for new and growing programs with a credible path to certification. Due consideration shall be given to women, underrepresented minorities, and persons with disabilities.

(d) Report

The Secretary shall make public, on the website of the Department or upon request, information on the name and institution for all grants awarded under this section, including a brief description of the project as well as the grant award amount.

(e) Authorization of appropriations

There are authorized to be appropriated to the Secretary for carrying out this section \$10,000,000 for each of the fiscal years 2008 through 2012.

(Pub. L. 110-140, title VI, §604, Dec. 19, 2007, 121 Stat. 1675.)

§ 17173. Daylighting systems and direct solar light pipe technology

(a) Establishment

The Secretary shall establish a program of research and development to provide assistance in the demonstration and commercial application of direct solar renewable energy sources to provide alternatives to traditional power generation for lighting and illumination, including light pipe technology, and to promote greater energy conservation and improved efficiency. All direct solar renewable energy devices supported under this program shall have the capability to provide measurable data on the amount of kilowatt-hours saved over the traditionally powered light sources they have replaced.

(b) Reporting

The Secretary shall transmit to Congress an annual report assessing the measurable data derived from each project in the direct solar renewable energy sources program and the energy savings resulting from its use.

(c) Definitions

For purposes of this section—

(1) the term “direct solar renewable energy” means energy from a device that converts sunlight into useable light within a building, tunnel, or other enclosed structure, replacing artificial light generated by a light fixture and doing so without the conversion of the sunlight into another form of energy; and

(2) the term “light pipe” means a device designed to transport visible solar radiation from its collection point to the interior of a building while excluding interior heat gain in the nonheating season.

(d) Authorization of appropriations

There are authorized to be appropriated to the Secretary for carrying out this section \$3,500,000 for each of the fiscal years 2008 through 2012.

(Pub. L. 110-140, title VI, §605, Dec. 19, 2007, 121 Stat. 1676.)

§ 17174. Solar air conditioning research and development program

(a) Establishment

The Secretary shall establish a research, development, and demonstration program to promote less costly and more reliable decentralized distributed solar-powered air conditioning for individuals and businesses.

(b) Authorized activities

Grants made available under this section may be used to support the following activities:

(1) Advancing solar thermal collectors, including concentrating solar thermal and electric systems, flat plate and evacuated tube collector performance.

(2) Achieving technical and economic integration of solar-powered distributed air-conditioning systems with existing hot water and storage systems for residential applications.

(3) Designing and demonstrating mass manufacturing capability to reduce costs of modular standardized solar-powered distributed air conditioning systems and components.

(4) Improving the efficiency of solar-powered distributed air-conditioning to increase the effectiveness of solar-powered absorption chillers, solar-driven compressors and condensers,¹ and cost-effective precooling approaches.

(5) Researching and comparing performance of solar-powered distributed air conditioning systems in different regions of the country, including potential integration with other on-site systems, such as solar, biogas, geothermal heat pumps, and propane assist or combined propane fuel cells, with a goal to develop site-specific energy production and management systems that ease fuel and peak utility loading.

(c) Cost sharing

Section 16352 of this title shall apply to a project carried out under this section.

(d) Authorization of appropriations

There are authorized to be appropriated to the Secretary for carrying out this section \$2,500,000 for each of the fiscal years 2008 through 2012.

(Pub. L. 110-140, title VI, §606, Dec. 19, 2007, 121 Stat. 1676.)

§ 17175. Photovoltaic demonstration program

(a) In general

The Secretary shall establish a program of grants to States to demonstrate advanced photovoltaic technology.

(b) Requirements

(1) Ability to meet requirements

To receive funding under the program under this section, a State must submit a proposal that demonstrates, to the satisfaction of the Secretary, that the State will meet the requirements of subsection (f).

(2) Compliance with requirements

If a State has received funding under this section for the preceding year, the State must demonstrate, to the satisfaction of the Secretary, that it complied with the requirements of subsection (f) in carrying out the program during that preceding year, and that it will do so in the future, before it can receive further funding under this section.

(c) Competition

The Secretary shall award grants on a competitive basis to the States with the proposals the Secretary considers most likely to encourage the widespread adoption of photovoltaic technologies. The Secretary shall take into consideration the geographic distribution of awards.

(d) Proposals

Not later than 6 months after December 19, 2007, and in each subsequent fiscal year for the life of the program, the Secretary shall solicit proposals from the States to participate in the program under this section.

(e) Competitive criteria

In awarding funds in a competitive allocation under subsection (c), the Secretary shall consider—

(1) the likelihood of a proposal to encourage the demonstration of, or lower the costs of, advanced photovoltaic technologies; and

(2) the extent to which a proposal is likely to—

(A) maximize the amount of photovoltaics demonstrated;

(B) maximize the proportion of non-Federal cost share; and

(C) limit State administrative costs.

(f) State program

A program operated by a State with funding under this section shall provide competitive awards for the demonstration of advanced photovoltaic technologies. Each State program shall—

(1) require a contribution of at least 60 percent per award from non-Federal sources, which may include any combination of State, local, and private funds, except that at least 10 percent of the funding must be supplied by the State;

(2) endeavor to fund recipients in the commercial, industrial, institutional, governmental, and residential sectors;

(3) limit State administrative costs to no more than 10 percent of the grant;

(4) report annually to the Secretary on—

(A) the amount of funds disbursed;

(B) the amount of photovoltaics purchased; and

(C) the results of the monitoring under paragraph (5);

(5) provide for measurement and verification of the output of a representative sample of the photovoltaics systems demonstrated throughout the average working life of the systems, or at least 20 years; and

(6) require that applicant buildings must have received an independent energy efficiency audit during the 6-month period preceding the filing of the application.

¹ So in original.