### § 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.)

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.

### § 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 condensors,[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.)

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.

### § 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.

[1] So in original.