§ 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.

(g) Unexpended funds

If a State fails to expend any funds received under this section within 3 years of receipt, such remaining funds shall be returned to the Treasury.

(h) Reports

The Secretary shall report to Congress 5 years after funds are first distributed to the States under this section—

(1) the amount of photovoltaics demonstrated;

(2) the number of projects undertaken;

(3) the administrative costs of the program;

(4) the results of the monitoring under subsection (f)(5); and

(5) the total amount of funds distributed, including a breakdown by State.

(i) Authorization of appropriations

There are authorized to be appropriated to the Secretary for the purposes of carrying out this section—

(1) $15,000,000 for fiscal year 2008;
(2) $30,000,000 for fiscal year 2009;
(3) $45,000,000 for fiscal year 2010;
(4) $60,000,000 for fiscal year 2011; and
(5) $70,000,000 for fiscal year 2012.

(Pub. L. 110–140, title VI, § 607, Dec. 19, 2007, 121 Stat. 1677.)

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.

PART B—GEOTHERMAL ENERGY

§ 17191. Definitions

For purposes of this part:

(1) Engineered

When referring to enhanced geothermal systems, the term ''engineered'' means subjected to intervention, including intervention to address one or more of the following issues:

(A) Lack of effective permeability or porosity or open fracture connectivity within the reservoir.

(B) Insufficient contained geofluid in the reservoir.

(C) A low average geothermal gradient, which necessitates deeper drilling.

(2) Enhanced geothermal systems

The term ''enhanced geothermal systems'' means geothermal reservoir systems that are engineered, as opposed to occurring naturally.

(3) Geofluid

The term ''geofluid'' means any fluid used to extract thermal energy from the Earth which is transported to the surface for direct use or electric power generation, except that such term shall not include oil or natural gas.

(4) Geopressured resources

The term ''geopressured resources'' mean geothermal deposits found in sedimentary rocks under higher than normal pressure and saturated with gas or methane.

(5) Geothermal

The term ''geothermal'' refers to heat energy stored in the Earth's crust that can be accessed for direct use or electric power generation.

(6) Hydrothermal

The term ''hydrothermal'' refers to naturally occurring subsurface reservoirs of hot water or steam.

(7) Systems approach

The term ''systems approach'' means an approach to solving problems or designing systems that attempts to optimize the performance of the overall system, rather than a particular component of the system.

(Pub. L. 110–140, title VI, §612, Dec. 19, 2007, 121 Stat. 1679.)

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.

SHORT TITLE

This part known as the ''Advanced Geothermal Energy Research and Development Act of 2007'', see Short Title note set out under section 17001 of this title.

§ 17192. Hydrothermal research and development

(a) In general

The Secretary shall support programs of research, development, demonstration, and commercial application to expand the use of geothermal energy production from hydrothermal systems, including the programs described in subsection (b).

(b) Programs

(1) Advanced hydrothermal resource tools

The Secretary, in consultation with other appropriate agencies, shall support a program to develop advanced geophysical, geochemical, and geologic tools to assist in locating hidden hydrothermal resources, and to increase the reliability of site characterization before, during, and after initial drilling. The program shall develop new prospecting techniques to assist in prioritization of targets for characterization. The program shall include a field component.

(2) Industry coupled exploratory drilling

The Secretary shall support a program of cost-shared field demonstration programs, to be pursued, simultaneously and independently, in collaboration with industry partners, for the demonstration of advanced technologies and techniques of siting and exploratory drilling for undiscovered resources in a variety of geologic settings. The program shall include incentives to encourage the use of advanced technologies and techniques.

(Pub. L. 110–140, title VI, §613, Dec. 19, 2007, 121 Stat. 1679.)

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.

§ 17193. General geothermal systems research and development

(a) Subsurface components and systems

The Secretary shall support a program of research, development, demonstration, and commercial application of components and systems capable of withstanding extreme geothermal environments and necessary to cost-effectively develop, produce, and monitor geothermal reservoirs and produce geothermal energy. These components and systems shall include advanced casing systems (expandable tubular casing, low-clearance casing designs, and others), high-temperature cements, high-temperature submersible pumps, and high-temperature packers, as well as technologies for under-reaming, multilateral completions, high-temperature and high-pressure logging, logging while drilling, deep fracture stimulation, and reservoir system diagnostics.

(b) Reservoir performance modeling

The Secretary shall support a program of research, development, demonstration, and commercial application of models of geothermal reservoir performance, with an emphasis on accurately modeling performance over time. Models shall be developed to assist both in the development of geothermal reservoirs and to more accurately account for stress-related effects in stimulated hydrothermal and enhanced geothermal systems production environments.

(c) Environmental impacts

The Secretary shall—

(1) support a program of research, development, demonstration, and commercial application of technologies and practices designed to mitigate or preclude potential adverse environmental impacts of geothermal energy development, production or use, and seek to ensure that geothermal energy development is consistent with the highest practicable standards of environmental stewardship;

(2) in conjunction with the Assistant Administrator for Research and Development at the Environmental Protection Agency, support a research program to identify potential environmental impacts of geothermal energy development, production, and use, and ensure that the program described in paragraph (1) addresses such impacts, including effects on groundwater and local hydrology; and

(3) support a program of research to compare the potential environmental impacts identified as part of the development, production, and use of geothermal energy with the potential emission reductions of greenhouse gases