

(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 gained by geothermal energy development, production, and use.

(Pub. L. 110–140, title VI, §614, Dec. 19, 2007, 121 Stat. 1680.)

§ 17194. Enhanced geothermal systems research and development

(a) In general

The Secretary shall support a program of research, development, demonstration, and commercial application for enhanced geothermal systems, including the programs described in subsection (b).

(b) Programs

(1) Enhanced geothermal systems technologies

The Secretary shall support a program of research, development, demonstration, and commercial application of the technologies and knowledge necessary for enhanced geothermal systems to advance to a state of commercial readiness, including advances in—

- (A) reservoir stimulation;
- (B) reservoir characterization, monitoring, and modeling;
- (C) stress mapping;
- (D) tracer development;
- (E) three-dimensional tomography; and
- (F) understanding seismic effects of reservoir engineering and stimulation.

(2) Enhanced geothermal systems reservoir stimulation

(A) Program

In collaboration with industry partners, the Secretary shall support a program of research, development, and demonstration of enhanced geothermal systems reservoir stimulation technologies and techniques. A minimum of 4 sites shall be selected in locations that show particular promise for enhanced geothermal systems development. Each site shall—

- (i) represent a different class of subsurface geologic environments; and
- (ii) take advantage of an existing site where subsurface characterization has been conducted or existing drill holes can be utilized, if possible.

(B) Consideration of existing site

The Desert Peak, Nevada, site, where a Department of Energy and industry cooperative enhanced geothermal systems project is already underway, may be considered for inclusion among the sites selected under subparagraph (A).

(Pub. L. 110–140, title VI, §615, Dec. 19, 2007, 121 Stat. 1680.)

§ 17195. Geothermal energy production from oil and gas fields and recovery and production of geopressured gas resources

(a) In general

The Secretary shall establish a program of research, development, demonstration, and com-

mercial application to support development of geothermal energy production from oil and gas fields and production and recovery of energy, including electricity, from geopressured resources. In addition, the Secretary shall conduct such supporting activities including research, resource characterization, and technology development as necessary.

(b) Geothermal energy production from oil and gas fields

The Secretary shall implement a grant program in support of geothermal energy production from oil and gas fields. The program shall include grants for a total of not less than three demonstration projects of the use of geothermal techniques such as advanced organic rankine cycle systems at marginal, unproductive, and productive oil and gas wells. The Secretary shall, to the extent practicable and in the public interest, make awards that—

- (1) include not less than five oil or gas well sites per project award;
- (2) use a range of oil or gas well hot water source temperatures from 150 degrees Fahrenheit to 300 degrees Fahrenheit;
- (3) cover a range of sizes up to one megawatt;
- (4) are located at a range of sites;
- (5) can be replicated at a wide range of sites;
- (6) facilitate identification of optimum techniques among competing alternatives;
- (7) include business commercialization plans that have the potential for production of equipment at high volumes and operation and support at a large number of sites; and
- (8) satisfy other criteria that the Secretary determines are necessary to carry out the program and collect necessary data and information.

The Secretary shall give preference to assessments that address multiple elements contained in paragraphs (1) through (8).

(c) Grant awards

Each grant award for demonstration of geothermal technology such as advanced organic rankine cycle systems at oil and gas wells made by the Secretary under subsection (b) shall include—

- (1) necessary and appropriate site engineering study;
- (2) detailed economic assessment of site specific conditions;
- (3) appropriate feasibility studies to determine whether the demonstration can be replicated;
- (4) design or adaptation of existing technology for site specific circumstances or conditions;
- (5) installation of equipment, service, and support;
- (6) operation for a minimum of 1 year and monitoring for the duration of the demonstration; and
- (7) validation of technical and economic assumptions and documentation of lessons learned.

(d) Geopressured gas resource recovery and production

(1) The Secretary shall implement a program to support the research, development, dem-