

solar thermal technology is cost-competitive with conventional energy sources, and to promote the integration of this technology into the production of industrial process heat and the conventional utility network. Research and development shall emphasize development of a thermal storage technology to provide capacity for shifting power to periods of demand when full insolation is not available; improvement in receivers, energy conversion devices, and innovative concentrators using stretch membranes, lenses, and other materials; and exploration of advanced manufacturing techniques.

(B) Specific goals of the Solar Thermal Energy Systems Program shall be to—

(i) reduce solar thermal costs for industrial process heat to \$9.00 per million Btu by 1995; and

(ii) reduce average solar thermal costs for electricity to 4 to 5 cents per kilowatt hour by 1995.

#### (4) Alcohol from biomass

(A) In general, the goal of the Alcohol From Biomass Program shall be to advance research and development to a point where alcohol from biomass technology is cost-competitive with conventional hydrocarbon transportation fuels, and to promote the integration of this technology into the transportation fuel sector of the economy.

(B)(i) Specific goals for producing ethanol from biomass shall be to—

(I) reduce the cost of alcohol to 70 cents per gallon;

(II) improve the overall biomass carbohydrate conversion efficiency to 91 percent;

(III) reduce the capital cost component of the cost of alcohol to 23 cents per gallon; and

(IV) reduce the operating and maintenance component of the cost of alcohol to 47 cents per gallon.

(ii) Specific goals for producing methanol from biomass shall be to—

(I) reduce the cost of alcohol to 47 cents per gallon; and

(II) reduce the capital component of the cost of alcohol to 16 cents per gallon.

#### (5) Other technologies

The Secretary shall submit to the Congress, as part of the first report submitted under section 12006 of this title, recommendations for specific cost goals and other pertinent goals for 1995 for Department of Energy research, development, and demonstration programs in Biofuels Energy Systems, Biodiesel Energy Systems, Hydrogen Energy Systems, Solar Buildings Energy Systems, Ocean Energy Systems, Geothermal Energy Systems, Low-Head Hydro, and Energy Storage Systems.

#### (b) Amended goals

Whenever the Secretary determines that any of the goals established under this section is no longer appropriate, the Secretary shall notify Congress, as part of a report submitted under section 12006 of this title, of the reason for the determination and provide an amended goal that is consistent with the purpose stated in section 12001(b) of this title.

#### (c) Authorizations

There are authorized to be appropriated to the Secretary for the following renewable energy research, development, and demonstration programs: the Wind Energy Research Program, the Photovoltaic Energy Systems Program, the Solar Thermal Energy Systems Program, the Biofuels Energy Systems Program, the Hydrogen Energy Systems Program, the Solar Buildings Energy Systems Program, the Ocean Energy Systems Program, and the Geothermal Energy Systems Program—

(1) not to exceed \$113,000,000 for fiscal year 1991, of which—

(A) not to exceed \$39,000,000 shall be available for the Photovoltaic Energy Systems Program;

(B) not to exceed \$19,000,000 shall be available for the Geothermal Energy Systems Program; and

(C) not to exceed \$4,000,000 shall be available for the Hydrogen Energy Systems Program; and

(2) not to exceed \$121,000,000 for fiscal year 1992, of which—

(A) not to exceed \$40,000,000 shall be available for the Photovoltaic Energy Systems Program;

(B) not to exceed \$20,500,000 shall be available for the Geothermal Energy Systems Program; and

(C) not to exceed \$5,000,000 shall be available for the Hydrogen Energy Systems Program.

Each of the President's annual budget requests submitted to Congress after December 11, 1989, shall include as separate line items each of the categories of renewable energy programs described in this subsection.

(Pub. L. 101-218, § 4, Dec. 11, 1989, 103 Stat. 1860; Pub. L. 102-486, title XII, § 1202(b), title XXI, § 2125(1)-(3), Oct. 24, 1992, 106 Stat. 2958, 3085.)

#### AMENDMENTS

1992—Subsec. (a)(4), (5). Pub. L. 102-486, § 1202(b)(1), added par. (4), redesignated former par. (4) as (5), and inserted "Biodiesel Energy Systems," after "Biofuels Energy Systems,".

Subsec. (c)(3). Pub. L. 102-486, § 2125(1)-(3), struck out par. (3) which read as follows: "not to exceed \$124,000,000 for fiscal year 1993, of which—

"(A) not to exceed \$40,000,000 shall be available for the Photovoltaic Energy Systems Program;

"(B) not to exceed \$23,000,000 shall be available for the Geothermal Energy Systems Program; and

"(C) not to exceed \$6,000,000 shall be available for the Hydrogen Energy Systems Program."

#### § 12004. Energy efficiency authorizations

There are authorized to be appropriated to the Secretary for the following energy efficiency research, development, and demonstration programs: transportation, industrial, buildings and community systems, multi-sector, and policy and management—

(1) not to exceed \$201,100,000 for fiscal year 1991, of which—

(A) not to exceed \$68,300,000 shall be available for the transportation program; and

(B) not to exceed \$53,500,000 shall be available for the industrial program; and

(2) not to exceed \$210,600,000 for fiscal year 1992, of which—

(A) not to exceed \$71,000,000 shall be available for the transportation program; and

(B) not to exceed \$54,700,000 shall be available for the industrial program.

(Pub. L. 101-218, § 5, Dec. 11, 1989, 103 Stat. 1862; Pub. L. 102-486, title XXI, § 2125(4)-(6), Oct. 24, 1992, 106 Stat. 3085.)

#### AMENDMENTS

1992—Par. (3). Pub. L. 102-486 struck out par. (3) which read as follows: “not to exceed \$225,000,000 for fiscal year 1993, of which—

“(A) not to exceed \$73,900,000 shall be available for the transportation program; and

“(B) not to exceed \$56,900,000 shall be available for the industrial program.”

### § 12005. Demonstration and commercial application projects

#### (a) Purpose

The purpose of this section is to direct the Secretary to further the commercialization of renewable energy and energy efficiency technologies through a five-year program.

#### (b) Demonstration and commercial application projects

##### (1) Establishment

(A) The Secretary shall solicit proposals for demonstration and commercial application projects for renewable energy and energy efficiency technologies pursuant to subsection (c). Such projects may include projects for—

(i) the production and sale of electricity, thermal energy, or other forms of energy using a renewable energy technology;

(ii) increasing the efficiency of energy use; and

(iii) improvements in, or expansion of, facilities for the manufacture of renewable energy or energy efficiency technologies.

(B) REQUIREMENTS.—Each project selected under this section shall include at least one for-profit business. Activities supported under this section shall be performed in the United States. Each project under this section shall require the manufacture and reproduction substantially within the United States for commercial sale of any invention or product that may result from the project.

##### (2) Forms of financial assistance

(A) In supporting projects selected under subsection (c), the Secretary may choose from among the forms of agreements described in section 13541 of this title.

(B) In supporting projects selected under subsection (c), the Secretary may also enter into agreements with private lenders to pay a portion of the interest on loans made for such projects.

##### (3) Cost sharing

Cost sharing for projects under this section shall be conducted according to the procedures described in section 13542(b) and (c) of this title.

##### (4) Advisory Committee

(A) The Secretary shall establish an Advisory Committee on Demonstration and Com-

mercial Application of Renewable Energy and Energy Efficiency Technologies (in this chapter referred to as the “Advisory Committee”) to advise the Secretary on the development of the solicitation and evaluation criteria for projects under this section, and on otherwise carrying out his responsibilities under this section. The Secretary shall appoint members to the Advisory Committee, including at least one member representing—

(i) the Secretary of Commerce;

(ii) the National Laboratories of the Department of Energy;

(iii) the Solar Energy Research Institute;

(iv) the Electric Power Research Institute;

(v) the Gas Research Institute;

(vi) the National Institute of Building Sciences;

(vii) the National Institute of Standards and Technology;

(viii) associations of firms in the major renewable energy manufacturing industries; and

(ix) associations of firms in the major energy efficiency manufacturing industries.

Nothing in this subparagraph shall be construed to require the Secretary to reestablish the Advisory Committee in place under this subsection as of October 24, 1992, or to perform again any duties performed by such advisory committee before October 24, 1992.

(B) Not later than 18 months after October 24, 1992, the Advisory Committee shall provide the Secretary with a report assessing the implementation of the program under this section, including specific recommendations for improvements or changes to the program and solicitation process. The Secretary shall transmit such report and, if any, the Secretary’s recommendations to the Congress.

#### (c) Selection of projects

##### (1) Solicitation

(A) Not later than 9 months after October 24, 1992, the Secretary shall solicit proposals for projects under this section. The Secretary may make additional solicitations for proposals if the Secretary determines that such solicitations are necessary to carry out this section.

(B) A solicitation for proposals under this paragraph shall establish a closing date for receipt of proposals. The Secretary may, if necessary, extend the closing date for receipt of proposals for a period not to exceed 90 days.

(C) Each solicitation under this paragraph shall include a description of the criteria, developed by the Secretary, according to which proposals will be evaluated. In developing such criteria, the Secretary shall consider—

(i) the need for Federal involvement to commercialize the technology or speed commercialization of the technology;

(ii) the potential for the technology to have significant market penetration;

(iii) the potential energy efficiency gains or energy supply contributions of the technology;

(iv) potential environmental improvements associated with the technology;

(v) the export potential of the technology;