

(3) establish a program—

(A) to develop optimized concentrating solar power devices that may be used for the production of both electricity and hydrogen; and

(B) to evaluate the use of thermochemical cycles for hydrogen production at the temperatures attainable with concentrating solar power devices;

(4) coordinate with activities sponsored by the Department's Office of Nuclear Energy, Science, and Technology on high-temperature materials, thermochemical cycles, and economic issues related to solar energy;

(5) provide for the construction and operation of new concentrating solar power devices or solar power cogeneration facilities that produce hydrogen either concurrently with, or independently of, the production of electricity;

(6) support existing facilities and programs of study related to concentrating solar power devices; and

(7) establish a program—

(A) to develop methods that use electricity from photovoltaic devices for the onsite production of hydrogen, such that no intermediate transmission or distribution infrastructure is required or used and future demand growth may be accommodated;

(B) to evaluate the economics of small-scale electrolysis for hydrogen production; and

(C) to study the potential of modular photovoltaic devices for the development of a hydrogen infrastructure, the security implications of a hydrogen infrastructure, and the benefits potentially derived from a hydrogen infrastructure.

(b) Wind energy technologies

The Secretary shall—

(1) prepare a detailed roadmap for carrying out the provisions in this subchapter related to wind energy technologies and for implementing the recommendations related to wind energy technologies that are included in the report transmitted under subsection (e); and

(2) provide for the establishment of 5 projects in geographic areas that are regionally and climatically diverse to demonstrate the production of hydrogen at existing wind energy facilities, including one demonstration project at a National Laboratory or institution of higher education.

(c) Program support

The Secretary shall support programs at institutions of higher education for the development of solar energy technologies and wind energy technologies for the production of hydrogen. The programs supported under this subsection shall—

(1) enhance fellowship and faculty assistance programs;

(2) provide support for fundamental research;

(3) encourage collaborative research among industry, National Laboratories, and institutions of higher education;

(4) support communication and outreach; and

(5) to the greatest extent possible—

(A) be located in geographic areas that are regionally and climatically diverse; and

(B) be located at part B institutions, minority institutions, and institutions of higher education located in States participating in the Experimental Program to Stimulate Competitive Research of the Department.

(d) Institutions of higher education and National Laboratory interactions

In conjunction with the programs supported under this section, the Secretary shall develop sabbatical, fellowship, and visiting scientist programs to encourage National Laboratories and institutions of higher education to share and exchange personnel.

(e) Report

The Secretary shall transmit to the Congress not later than 120 days after August 8, 2005, a report containing detailed summaries of the roadmaps prepared under subsections (a)(1) and (b)(1), descriptions of the Secretary's progress in establishing the projects and other programs required under this section, and recommendations for promoting the availability of advanced solar and wind energy technologies for the production of hydrogen.

(f) Definitions

For purposes of this section—

(1) the term "concentrating solar power devices" means devices that concentrate the power of the sun by reflection or refraction to improve the efficiency of a photovoltaic or thermal generation process;

(2) the term "minority institution" has the meaning given to that term in section 1067k of title 20;

(3) the term "part B institution" has the meaning given to that term in section 1061 of title 20; and

(4) the term "photovoltaic devices" means devices that convert light directly into electricity through a solid-state, semiconductor process.

(g) Authorization of appropriations

There is authorized to be appropriated such sums as are necessary for carrying out the activities under this section for each of fiscal years 2006 through 2020.

(Pub. L. 109-58, title VIII, §812, Aug. 8, 2005, 119 Stat. 853.)

§ 16162. Technology transfer

In carrying out this subchapter, the Secretary shall carry out programs that—

(1) provide for the transfer of critical hydrogen and fuel cell technologies to the private sector;

(2) accelerate wider application of those technologies in the global market;

(3) foster the exchange of generic, nonproprietary information; and

(4) assess technical and commercial viability of technologies relating to the production, distribution, storage, and use of hydrogen energy and fuel cells.

(Pub. L. 109-58, title VIII, §813, Aug. 8, 2005, 119 Stat. 855.)

§ 16163. Miscellaneous provisions**(a) Representation**

The Secretary may represent the United States interests with respect to activities and programs under this subchapter, in coordination with the Department of Transportation, the National Institute of Standards and Technology, and other relevant Federal agencies, before governments and nongovernmental organizations including—

- (1) other Federal, State, regional, and local governments and their representatives;
- (2) industry and its representatives, including members of the energy and transportation industries; and
- (3) in consultation with the Department of State, foreign governments and their representatives including international organizations.

(b) Regulatory authority

Nothing in this subchapter shall be construed to alter the regulatory authority of the Department.

(Pub. L. 109–58, title VIII, §814, Aug. 8, 2005, 119 Stat. 855.)

§ 16164. Cost sharing

The costs of carrying out projects and activities under this subchapter shall be shared in accordance with section 16352 of this title.

(Pub. L. 109–58, title VIII, §815, Aug. 8, 2005, 119 Stat. 855.)

§ 16165. Savings clause

Nothing in this subchapter shall be construed to affect the authority of the Secretary of Transportation that may exist prior to August 8, 2005, with respect to—

- (1) research into, and regulation of, hydrogen-powered vehicles fuel systems integrity, standards, and safety under subtitle VI of title 49;
- (2) regulation of hazardous materials transportation under chapter 51 of title 49;
- (3) regulation of pipeline safety under chapter 601 of title 49;
- (4) encouragement and promotion of research, development, and deployment activities relating to advanced vehicle technologies under section 5506¹ of title 49;
- (5) regulation of motor vehicle safety under chapter 301 of title 49;
- (6) automobile fuel economy under chapter 329 of title 49; or
- (7) representation of the interests of the United States with respect to the activities and programs under the authority of title 49.

(Pub. L. 109–58, title VIII, §816, Aug. 8, 2005, 119 Stat. 855.)

REFERENCES IN TEXT

Section 5506 of title 49, referred to in par. (4), was repealed by Pub. L. 112–141, div. E, title II, §2010(a), July 6, 2012, 126 Stat. 887.

¹ See References in Text note below.

SUBCHAPTER IX—RESEARCH AND DEVELOPMENT

§ 16181. Goals**(a) In general**

In order to achieve the purposes of this subchapter, the Secretary shall conduct a balanced set of programs of energy research, development, demonstration, and commercial application with the general goals of—

- (1) increasing the efficiency of all energy intensive sectors through conservation and improved technologies;
- (2) promoting diversity of energy supply;
- (3) decreasing the dependence of the United States on foreign energy supplies;
- (4) improving the energy security of the United States; and
- (5) decreasing the environmental impact of energy-related activities.

(b) Goals

The Secretary shall publish measurable cost and performance-based goals, comparable over time, with each annual budget submission in at least the following areas:

- (1) Energy efficiency for buildings, energy-consuming industries, and vehicles.
- (2) Electric energy generation (including distributed generation), transmission, and storage.
- (3) Renewable energy technologies, including wind power, photovoltaics, solar thermal systems, geothermal energy, hydrogen-fueled systems, biomass-based systems, biofuels, and hydropower.
- (4) Fossil energy, including power generation, onshore and offshore oil and gas resource recovery, and transportation fuels.
- (5) Nuclear energy, including programs for existing and advanced reactors, and education of future specialists.

(c) Public comment

The Secretary shall provide mechanisms for input on the annually published goals from industry, institutions of higher education, and other public sources.

(d) Effect of goals

Nothing in subsection (a) or the annually published goals creates any new authority for any Federal agency, or may be used by any Federal agency, to support the establishment of regulatory standards or regulatory requirements.

(Pub. L. 109–58, title IX, §902, Aug. 8, 2005, 119 Stat. 856.)

REFERENCES IN TEXT

This subchapter, referred to in subsec. (a), was in the original “this title”, meaning title IX of Pub. L. 109–58, Aug. 8, 2005, 119 Stat. 856, which enacted this subchapter, amended sections 8101 and 8102 of Title 7, Agriculture, and section 5523 of Title 15, Commerce and Trade, enacted provisions set out as notes under section 15801 of this title, section 8102 of Title 7, and section 2001 of Title 30, Mineral Lands and Mining, and amended provisions set out as notes under section 8101 of Title 7 and section 1902 of Title 30. For complete classification of title IX to the Code, see Short Title note set out under section 15801 of this title and Tables.

SHORT TITLE

For short title of title IX of Pub. L. 109–58, which enacted this subchapter, as the “Energy Research, Devel-