

terms ‘portable’ and ‘storage’, when” for “The terms ‘stationary’ and ‘portable’, when” in introductory provisions.

Pars. (6) to (8). Pub. L. 117–58, §40312(2), redesignated pars. (5) to (7) as (6) to (8), respectively.

Statutory Notes and Related Subsidiaries

WAGE RATE REQUIREMENTS

For provisions relating to rates of wages to be paid to laborers and mechanics on projects for construction, alteration, or repair work funded under div. D or an amendment by div. D of Pub. L. 117–58, including authority of Secretary of Labor, see section 18851 of this title.

§ 16153. Plan

Not later than 6 months after August 8, 2005, the Secretary shall transmit to Congress a coordinated plan for the programs described in this subchapter and any other programs of the Department that are directly related to fuel cells or hydrogen. The plan shall describe, at a minimum—

- (1) the agenda for the next 5 years for the programs authorized under this subchapter, including the agenda for each activity enumerated in section 16154(e) of this title;
- (2) the types of entities that will carry out the activities under this subchapter and what role each entity is expected to play;
- (3) the milestones that will be used to evaluate the programs for the next 5 years;
- (4) the most significant technical and non-technical hurdles that stand in the way of achieving the goals described in section 16154 of this title, and how the programs will address those hurdles; and
- (5) the policy assumptions that are implicit in the plan, including any assumptions that would affect the sources of hydrogen or the marketability of hydrogen-related products.

(Pub. L. 109–58, title VIII, §804, Aug. 8, 2005, 119 Stat. 845.)

§ 16154. Clean hydrogen research and development program

(a) In general

The Secretary, in consultation with other Federal agencies and the private sector, shall conduct a crosscutting research and development program (referred to in this section as the “program”) on technologies relating to the production, processing, purification, distribution, storage, and use of hydrogen energy, fuel cells, and related infrastructure.

(b) Goals

The goals of the program shall be—

- (1) to advance research and development to demonstrate and commercialize the use of clean hydrogen in the transportation, utility, industrial, commercial, and residential sectors; and
- (2) to demonstrate a standard of clean hydrogen production in the transportation, utility, industrial, commercial, and residential sectors by 2040.

(c) Focus

In carrying out activities under this section, the Secretary shall focus on factors that are

common to the development of hydrogen infrastructure and the supply of vehicle and electric power for critical consumer and commercial applications, and that achieve continuous technical evolution and cost reduction, particularly for hydrogen production, the supply of hydrogen, storage of hydrogen, and end uses of hydrogen that—

- (1) steadily increase production, distribution, and end use efficiency and reduce life-cycle emissions;
- (2) resolve critical problems relating to catalysts, membranes, storage, lightweight materials, electronic controls, manufacturability, and other problems that emerge from the program;
- (3) enhance sources of fossil fuels with carbon capture, utilization, and sequestration, renewable fuels, biofuels, and nuclear energy for hydrogen production; and
- (4) enable widespread use of distributed electricity generation and storage.

(d) Public education and research

In carrying out this section, the Secretary shall support enhanced public education and research conducted at institutions of higher education in fundamental sciences, application design, and systems concepts (including education and research relating to materials, subsystems, manufacturability, maintenance, and safety) relating to hydrogen and fuel cells.

(e) Activities

In carrying out the program, the Secretary, in partnership with the private sector, shall conduct activities to advance and support—

- (1) the establishment of a series of technology cost goals oriented toward achieving the standard of clean hydrogen production developed under section 16166(a) of this title;
- (2) the production of clean hydrogen from diverse energy sources, including—
 - (A) fossil fuels with carbon capture, utilization, and sequestration;
 - (B) hydrogen-carrier fuels (including ethanol and methanol);
 - (C) renewable energy resources, including biomass;
 - (D) nuclear energy; and
 - (E) any other methods the Secretary determines to be appropriate;

(3) the use of clean hydrogen for commercial, industrial, and residential electric power generation;

(4) the use of clean hydrogen in industrial applications, including steelmaking, cement, chemical feedstocks, and process heat;

(5) the use of clean hydrogen for use as a fuel source for both residential and commercial comfort heating and hot water requirements;

(6) the safe and efficient delivery of hydrogen or hydrogen-carrier fuels, including—

- (A) transmission by pipelines, including retrofitting the existing natural gas transportation infrastructure system to enable a transition to transport and deliver increasing levels of clean hydrogen, clean hydrogen blends, or clean hydrogen carriers;
- (B) tanks and other distribution methods; and