

§ 16152. Definitions

In this subchapter:

(1) Fuel cell

The term “fuel cell” means a device that directly converts the chemical energy of a fuel, which is supplied from an external source, and an oxidant into electricity by electrochemical processes occurring at separate electrodes in the device.

(2) Heavy-duty vehicle

The term “heavy-duty vehicle” means a motor vehicle that—

- (A) is rated at more than 8,500 pounds gross vehicle weight;
- (B) has a curb weight of more than 6,000 pounds; or
- (C) has a basic vehicle frontal area in excess of 45 square feet.

(3) Infrastructure

The term “infrastructure” means the equipment, systems, or facilities used to produce, distribute, deliver, or store hydrogen (except for onboard storage).

(4) Light-duty vehicle

The term “light-duty vehicle” means a motor vehicle that is rated at 8,500 or less pounds gross vehicle weight.

(5) Stationary; portable

The terms “stationary” and “portable”, when used in reference to a fuel cell, include—

- (A) continuous electric power; and
- (B) backup electric power.

(6) Task Force

The term “Task Force” means the Hydrogen and Fuel Cell Technical Task Force established under section 16155 of this title.

(7) Technical Advisory Committee

The term “Technical Advisory Committee” means the independent Technical Advisory Committee established under section 16156 of this title.

(Pub. L. 109–58, title VIII, §803, Aug. 8, 2005, 119 Stat. 844.)

§ 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. Programs**(a) In general**

The Secretary, in consultation with other Federal agencies and the private sector, shall conduct a research and development program on technologies relating to the production, purification, distribution, storage, and use of hydrogen energy, fuel cells, and related infrastructure.

(b) Goal

The goal of the program shall be to demonstrate and commercialize the use of hydrogen for transportation (in light-duty vehicles and heavy-duty vehicles), utility, industrial, commercial, and residential applications.

(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 renewable fuels and biofuels 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

The Secretary, in partnership with the private sector, shall conduct programs to address—

- (1) production of hydrogen from diverse energy sources, including—
 - (A) fossil fuels, which may include carbon capture and sequestration;
 - (B) hydrogen-carrier fuels (including ethanol and methanol);
 - (C) renewable energy resources, including biomass; and
 - (D) nuclear energy;
- (2) use of hydrogen for commercial, industrial, and residential electric power generation;