

(ii) can demonstrate the efficient production, processing, delivery, and use of clean hydrogen;

(iii) include transportation corridors and modes of transportation, including transportation of clean hydrogen by pipeline and rail and through ports; and

(iv) where appropriate, could serve as joint clean hydrogen and carbon capture, utilization, and storage hubs;

(G) prioritizing activities that improve the ability of the Department to develop tools to model, analyze, and optimize single-input, multiple-output integrated hybrid energy systems and multiple-input, multiple-output integrated hybrid energy systems that maximize efficiency in providing hydrogen, high-value heat, electricity, and chemical synthesis services;

(H) identifying the appropriate points of interaction between and among Federal agencies involved in the production, processing, delivery, storage, and use of clean hydrogen and clarifying the responsibilities of those Federal agencies, and potential regulatory obstacles and recommendations for modifications, in order to support the deployment of clean hydrogen; and

(I) identifying geographic zones or regions in which clean hydrogen technologies could efficiently and economically be introduced in order to transition existing infrastructure to rely on clean hydrogen, in support of decarbonizing all relevant sectors of the economy.

## (b) Reports to Congress

### (1) In general

Not later than 180 days after November 15, 2021, the Secretary shall submit to Congress the clean hydrogen strategy and roadmap developed under subsection (a).

### (2) Updates

The Secretary shall submit to Congress updates to the clean hydrogen strategy and roadmap under paragraph (1) not less frequently than once every 3 years after the date on which the Secretary initially submits the report and roadmap.

(Pub. L. 109-58, title VIII, §814, as added Pub. L. 117-58, div. D, title III, §40314(2), Nov. 15, 2021, 135 Stat. 1010.)

## Editorial Notes

### PRIOR PROVISIONS

A prior section 814 of Pub. L. 109-58 was renumbered section 819 and is classified to section 16163 of this title.

## 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.

## § 16161c. Clean hydrogen manufacturing and recycling

### (a) Clean hydrogen manufacturing initiative

#### (1) In general

In carrying out the programs established under sections 16154 and 16161a of this title, the Secretary shall award multiyear grants to, and enter into contracts, cooperative agreements, or any other agreements authorized under this Act or other Federal law with, eligible entities (as determined by the Secretary) for research, development, and demonstration projects to advance new clean hydrogen production, processing, delivery, storage, and use equipment manufacturing technologies and techniques.

#### (2) Priority

In awarding grants or entering into contracts, cooperative agreements, or other agreements under paragraph (1), the Secretary, to the maximum extent practicable, shall give priority to clean hydrogen equipment manufacturing projects that—

(A) increase efficiency and cost-effectiveness in—

(i) the manufacturing process; and

(ii) the use of resources, including existing energy infrastructure;

(B) support domestic supply chains for materials and components;

(C) identify and incorporate nonhazardous alternative materials for components and devices;

(D) operate in partnership with tribal energy development organizations, Indian Tribes, Tribal organizations, Native Hawaiian community-based organizations, or territories or freely associated States; or

(E) are located in economically distressed areas of the major natural gas-producing regions of the United States.

#### (3) Evaluation

Not later than 3 years after November 15, 2021, and not less frequently than once every 4 years thereafter, the Secretary shall conduct, and make available to the public and the relevant committees of Congress, an independent review of the progress of the projects carried out through grants awarded, or contracts, cooperative agreements, or other agreements entered into, under paragraph (1).

### (b) Clean hydrogen technology recycling research, development, and demonstration program

#### (1) In general

In carrying out the programs established under sections 16154 and 16161a of this title, the Secretary shall award multiyear grants to, and enter into contracts, cooperative agreements, or any other agreements authorized under this Act or other Federal law with, eligible entities for research, development, and demonstration projects to create innovative and practical approaches to increase the reuse and recycling of clean hydrogen technologies, including by—

(A) increasing the efficiency and cost-effectiveness of the recovery of raw materials

from clean hydrogen technology components and systems, including enabling technologies such as electrolyzers and fuel cells;

(B) minimizing environmental impacts from the recovery and disposal processes;

(C) addressing any barriers to the research, development, demonstration, and commercialization of technologies and processes for the disassembly and recycling of devices used for clean hydrogen production, processing, delivery, storage, and use;

(D) developing alternative materials, designs, manufacturing processes, and other aspects of clean hydrogen technologies;

(E) developing alternative disassembly and resource recovery processes that enable efficient, cost-effective, and environmentally responsible disassembly of, and resource recovery from, clean hydrogen technologies; and

(F) developing strategies to increase consumer acceptance of, and participation in, the recycling of fuel cells.

### (2) Dissemination of results

The Secretary shall make available to the public and the relevant committees of Congress the results of the projects carried out through grants awarded, or contracts, cooperative agreements, or other agreements entered into, under paragraph (1), including any educational and outreach materials developed by the projects.

### (c) Authorization of appropriations

There is authorized to be appropriated to the Secretary to carry out this section \$500,000,000 for the period of fiscal years 2022 through 2026.

(Pub. L. 109-58, title VIII, §815, as added Pub. L. 117-58, div. D, title III, §40314(2), Nov. 15, 2021, 135 Stat. 1011.)

## Editorial Notes

### REFERENCES IN TEXT

This Act, referred to subsecs. (a)(1) and (b)(1), is Pub. L. 109-58, Aug. 8, 2005, 119 Stat. 594, known as the Energy Policy Act of 2005, which enacted this chapter and enacted, amended, and repealed numerous other sections and notes in the Code. For complete classification of this Act to the Code, see Short Title note set out under section 15801 of this title and Tables.

### PRIOR PROVISIONS

A prior section 815 of Pub. L. 109-58 was renumbered section 820 and is classified to section 16164 of this title.

## 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.

## § 16161d. Clean hydrogen electrolysis program

### (a) Definitions

In this section:

#### (1) Electrolysis

The term “electrolysis” means a process that uses electricity to split water into hydrogen and oxygen.

#### (2) Electrolyzer

The term “electrolyzer” means a system that produces hydrogen using electrolysis.

#### (3) Program

The term “program” means the program established under subsection (b).

#### (b) Establishment

Not later than 90 days after November 15, 2021, the Secretary shall establish a research, development, demonstration, commercialization, and deployment program for purposes of commercialization to improve the efficiency, increase the durability, and reduce the cost of producing clean hydrogen using electrolyzers.

#### (c) Goals

The goals of the program are—

(1) to reduce the cost of hydrogen produced using electrolyzers to less than \$2 per kilogram of hydrogen by 2026; and

(2) any other goals the Secretary determines are appropriate.

#### (d) Demonstration projects

In carrying out the program, the Secretary shall fund demonstration projects—

(1) to demonstrate technologies that produce clean hydrogen using electrolyzers; and

(2) to validate information on the cost, efficiency, durability, and feasibility of commercial deployment of the technologies described in paragraph (1).

#### (e) Focus

The program shall focus on research relating to, and the development, demonstration, and deployment of—

(1) low-temperature electrolyzers, including liquid-alkaline electrolyzers, membrane-based electrolyzers, and other advanced electrolyzers, capable of converting intermittent sources of electric power to clean hydrogen with enhanced efficiency and durability;

(2) high-temperature electrolyzers that combine electricity and heat to improve the efficiency of clean hydrogen production;

(3) advanced reversible fuel cells that combine the functionality of an electrolyzer and a fuel cell;

(4) new highly active, selective, and durable electrolyzer catalysts and electro-catalysts that—

(A) greatly reduce or eliminate the need for platinum group metals; and

(B) enable electrolysis of complex mixtures with impurities, including seawater;

(5) modular electrolyzers for distributed energy systems and the bulk-power system (as defined in section 824o(a) of title 16);

(6) low-cost membranes or electrolytes and separation materials that are durable in the presence of impurities or seawater;

(7) improved component design and material integration, including with respect to electrodes, porous transport layers and bipolar plates, and balance-of-system components, to allow for scale-up and domestic manufacturing of electrolyzers at a high volume;

(8) clean hydrogen storage technologies;

(9) technologies that integrate hydrogen production with—