

operative 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, 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 subssecs. (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 8240(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—

(A) clean hydrogen compression and drying technologies;

(B) clean hydrogen storage; and

(C) transportation or stationary systems; and

(10) integrated systems that combine hydrogen production with renewable power or nuclear power generation technologies, including hybrid systems with hydrogen storage.

(f) Grants, contracts, cooperative agreements

(1) Grants

In carrying out the program, the Secretary shall award grants, on a competitive basis, to eligible entities for projects that the Secretary determines would provide the greatest progress toward achieving the goal of the program described in subsection (c).

(2) Contracts and cooperative agreements

In carrying out the program, the Secretary may enter into contracts and cooperative agreements with eligible entities and Federal agencies for projects that the Secretary determines would further the purpose of the program described in subsection (b).

(3) Eligibility; applications

(A) In general

The eligibility of an entity to receive a grant under paragraph (1), to enter into a contract or cooperative agreement under paragraph (2), or to receive funding for a demonstration project under subsection (d) shall be determined by the Secretary.

(B) Applications

An eligible entity desiring to receive a grant under paragraph (1), to enter into a contract or cooperative agreement under paragraph (2), or to receive funding for a demonstration project under subsection (d) shall submit to the Secretary an application at such time, in such manner, and containing such information as the Secretary may require.

(g) Authorization of appropriations

There is authorized to be appropriated to the Secretary to carry out the program \$1,000,000,000

for the period of fiscal years 2022 through 2026, to remain available until expended.

(Pub. L. 109–58, title VIII, §816, as added Pub. L. 117–58, div. D, title III, §40314(2), Nov. 15, 2021, 135 Stat. 1013.)

Editorial Notes

PRIOR PROVISIONS

A prior section 816 of Pub. L. 109–58 was renumbered section 821 and is classified to section 16165 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.

§ 16161e. Laboratory management

(a) In general

The National Energy Technology Laboratory, the Idaho National Laboratory, and the National Renewable Energy Laboratory shall continue to work in a crosscutting manner to carry out the programs established under sections 16161a and 16161c of this title.

(b) Coordination; clearinghouse

In carrying out subsection (a), the National Energy Technology Laboratory shall—

(1) coordinate with—

(A) the Idaho National Laboratory, the National Renewable Energy Laboratory, and other National Laboratories in a cross-cutting manner;

(B) institutions of higher education;

(C) research institutes;

(D) industrial researchers; and

(E) international researchers; and

(2) act as a clearinghouse to collect information from, and distribute information to, the National Laboratories and other entities described in subparagraphs (B) through (E) of paragraph (1).

(Pub. L. 109–58, title VIII, §817, as added Pub. L. 117–58, div. D, title III, §40314(2), Nov. 15, 2021, 135 Stat. 1014.)

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.

§ 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