



**FCHEA**

Fuel Cell & Hydrogen  
Energy Association

**SUMMARY OF HYDROGEN  
PROVISIONS IN THE  
INFRASTRUCTURE  
INVESTMENT AND JOBS ACT**

Updated March 2023

## Table of Contents

Overview .....	3
Clean Hydrogen Programs .....	4
Regional Clean Hydrogen Hubs.....	4
Clean Hydrogen Electrolysis Program.....	4
Clean Hydrogen Manufacturing and Recycling Programs .....	4
Clean Hydrogen National Roadmap.....	5
Clean Hydrogen Carbon Standard: .....	5
Additional Hydrogen Opportunities: Transportation Electrification .....	5
Grants for Charging & Fueling Infrastructure .....	5
Low or No Emission Bus Grants .....	6
Advanced Technology Vehicles Manufacturing.....	6
Congestion Mitigation and Air Quality Improvement Program.....	6
Clean School Bus Program .....	7
Energy Efficiency and Conservation Block Grant Program .....	7
Carbon Reduction Program.....	7
Report on Alternative Fuel Vehicle Owners and Infrastructure .....	8
Additional Hydrogen Opportunities: Ship and Port Related Programs .....	8
Electric or Low-Emitting Ferry Program.....	8
Reduction of Truck Emissions at Port Facilities Program.....	8
Port Infrastructure Development Program Grants.....	9
Additional Hydrogen Opportunities: Grid Resiliency and Energy Efficiency .....	9
Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency Program.....	9
Preventing Outages and Enhancing the Resilience of the Electric Grid Grants Program .....	10
Deployment of Technologies to Enhance Grid Flexibility Program .....	10
Energy Storage Demonstration Pilot Grants.....	<b>Error! Bookmark not defined.</b>
Natural Gas Distribution Infrastructure Safety and Modernization Grants .....	11
Appalachian Regional Energy Hub Initiative .....	12
National Energy Modeling System Update.....	12

## Overview

The Infrastructure Investment and Jobs Act (IIJA), colloquially known as the bipartisan infrastructure law (BIL), was signed into law by President Joe Biden on November 15, 2021, and provided \$1.2 trillion for a range of transportation and infrastructure programs, including significant funding for hydrogen technology development. In total, the IIJA provided \$9.5 billion specifically for clean hydrogen programs, with a range of other initiatives in the bill containing opportunities for further support of hydrogen energy, vehicles, infrastructure, and more.

One of the most important programs in the bill is the Regional Clean Hydrogen Hubs program, which seeks to establish at least four clean hydrogen hubs, with the potential for more. This is supported with funding for clean hydrogen manufacturing and recycling, as well as a program to support hydrogen electrolyzer research, development, and deployment. Finally, the legislation also requires the Department of Energy (DOE) to develop a clean hydrogen roadmap and strategy by May 2022, which will detail the federal government's plans to enable wide scale clean hydrogen production, processing, delivery, storage, and use across the economy.

In addition to these clean hydrogen specific programs, there are a wide variety of initiatives that provide further opportunities for deployment of hydrogen and fuel cell technologies, including those focused on reducing carbon emissions in the transportation sector via zero emission cars, trucks, ferries, and port equipment, as well as grant programs to improve grid reliability and resilience via low-or no-carbon emission sources. Many of these programs are trying to achieve goals that hydrogen is uniquely suited to solve.

The following document provides additional information on these programs, including a brief program description, agency responsible for implementation, amount of funding provided, entities eligible to apply for this program, as well as expected timeline and next steps for engagement, including a listing of requests for information (RFIs), requests for proposals (RFPs), and funding opportunity announcements (FOAs).

For more detailed information on a particular proposal, the White House [Build.gov](https://www.build.gov) website provides access to the administration's BIL Guidebook detailing a roadmap and program-by-program information. In addition, the DOE has provided a BIL program summary [website](#) to offer quick access to more information on specific programs under the department's purview.

---

## Clean Hydrogen Programs

### Regional Clean Hydrogen Hubs

- **Program Description:** The DOE will establish the **Regional Clean Hydrogen Hubs** program which will focus on creating at least four clean hydrogen hubs to demonstrate the production, processing, delivery, storage, and end-use of clean hydrogen. The bill requires that there be at least 4 hubs, diversity of production pathways, diversity of end-use applications, and diversity of geographic location. Different hubs will focus on different energy sources to produce hydrogen, and the bill mandates that the different hubs draw from a wide variety of energy inputs, like renewables, gas, and nuclear. At least 4 hubs, with initial DOE plans to fund between 6 - 10 hubs, will be selected a year after the release of the RFP.
- **Agency Responsible:** Department of Energy, Office of Clean Energy Demonstration.
- **Funding provided:** \$8 Billion has been allocated and is available until expended through a grant program.
- **Entities Eligible to Apply:** Technology Developers, Industry, Utilities, Universities, National Laboratories, Engineering and Construction Firms, State and Local Governments, Tribal Environmental Group, and Community Based Organizations.
- **Timeline and Next Steps:** The DOE Funding Opportunity Announcement for \$6-7 billion to support 6-10 hubs can be found [here](#). Concept Papers for proposals were due November 7, 2022, and full applications are due April 7, 2023.

### Clean Hydrogen Electrolysis Program

- **Program Description:** The DOE will establish a demonstration, commercialization, and deployment program called the **Clean Hydrogen Electrolysis Program** to decrease the costs of clean hydrogen production from electrolyzers.
- **Agency Responsible:** Department of Energy, Energy Efficiency and Renewable Energy.
- **Funding Provided:** \$1 billion has been allocated and is available until expended through cooperative agreements.
- **Entities Eligible to Apply:** Industry Partners
- **Timeline and Next Steps:** DOE issued a Notice of Intent on December 16, 2022, [here](#).

### Clean Hydrogen Manufacturing and Recycling Programs

- **Program Description:** The DOE will establish the **Clean Hydrogen Manufacturing and Recycling** program to support the domestic hydrogen supply chain. The goal is to support projects that increase efficiency and cost-effectiveness, address any barriers to research, development, demonstration, and commercialization, and developing alternative disassembly and resource recovery processes. The plan also includes

development of strategies to increase consumer acceptance of and participation in the recycling of fuel cells.

- **Agency Responsible:** Department of Energy, Energy Efficiency and Renewable Energy.
- **Funding Provided:** \$500 million has been allocated and is available until expended through grants, contracts, cooperative agreements, and any other agreements authorized under this act or other federal law.
- **Entities Eligible to Apply:** Industry Partners
- **Timeline and Next Steps:** DOE issued a Notice of Intent on December 16, 2022, [here](#).

### Clean Hydrogen National Roadmap

- **Program Description:** The DOE has been directed to develop a national strategy and roadmap to facilitate a clean hydrogen economy. The plan will focus on facilitating widescale production, processing, delivery, storage, and use of clean hydrogen. The plan will define natural gas, coal, renewable energy sources, nuclear energy, and biomass as potential sources of clean hydrogen.
- **Timeline and Next Steps:** The [draft roadmap](#) was released September 22, 2022.

### Clean Hydrogen Carbon Standard:

- **Program Description:** The Department of Energy (DOE) Secretary has been directed to work in consultation with the Environmental Protection Agency (EPA) Administrator and outside stakeholders to develop an initial standard for the manufac intensity of clean hydrogen production from renewables, fossil fuels with carbon capture, utilization and storage (CCUS), nuclear, and other fuel sources. The IJJA details that this standard begins at 2 kilograms carbon dioxide per kilogram hydrogen (kg-CO<sub>2</sub>/kg-H<sub>2</sub>), and it will be adjusted after five years while accounting for technological and economic feasibility.
- **Timeline and Next Steps:** The [draft standard](#) was released September 22, 2022.

---

## Additional Hydrogen Opportunities: Transportation Electrification

### Grants for Charging & Fueling Infrastructure

- **Program Description:** The Secretary of Transportation has been directed to establish a **Grants for Charging & Fueling Infrastructure** program. Half of the program focuses on corridor charging, and will be designed to strategically deploy charging infrastructure, including hydrogen fueling infrastructure along designated alternative fuel corridors. The other half of the program focuses on community charging; and priority will be given to projects who prioritize rural areas, low-and moderate-income neighborhoods, and communities with low ratios of private parking or high ratios of multiunit dwellings.

- **Agency Responsible:** Administered by the Department of Transportation, Federal Highway Administration.
- **Funding Provided:** \$2.5 billion has been allocated through a competitive grant program, 1.25 billion for each half of the grant program.
- **Entities Eligible to Apply:** A State or political subdivision of a State; a Metropolitan Planning Organization; a Unit of Local Government; a Special Purpose District or Public Authority with a transportation function; or an Indian Tribe.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

### Low or No Emission Bus Grants

- **Program Description:** The DOT has received more funding for the **Low or No Emission Bus Grants** program. The program allows for the purchase or lease of zero emission and low-emission transit buses and to purchase, construct, or lease bus related facilities.
- **Agency Responsible:** Administered by the Department of Transportation, Federal Transit Administration.
- **Funding Provided:** \$5.6 billion has been allocated through a grant program.
- **Entities Eligible to Apply:** States, Countries, Cities, Townships, Special Districts and federally recognized Tribal Governments.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

### Advanced Technology Vehicles Manufacturing

- **Program Description:** The DOE has expanded the eligibility of the **Advanced Technology Vehicles Manufacturing** loan program to include medium and heavy-duty vehicles, trains, maritime vessels, aircraft, and hyperloop technology.
- **Agency Responsible:** Department of Energy, Loan Program Office.
- **Funding Provided:** \$1.7 billion has been allocated for the grant program.
- **Entities Eligible to Apply:** Relevant manufacturers.
- **Timeline and Next Steps:** The program has been funded until depletion of currently allocated funds.

### Congestion Mitigation and Air Quality Improvement Program

- **Program Description:** The **Congestion Mitigation and Air Quality Improvement Program** has been improved to add eligibility for the purchase of medium and heavy duty zero emission vehicles and related charging equipment. The goal of the act is to help states meet the requirements of the Clean Air Act.
- **Agency Responsible:** Administered by the Department of Transportation, Federal Highway Administration.

- **Funding Provided:** \$13.2 billion has been allocated through a formula grant program.
- **Entities Eligible to Apply:** States, including the District of Columbia.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

### Clean School Bus Program

- **Program Description:** The **Clean School Bus Program** has been created and will be managed by the Administrator of the EPA. The program will replace polluting school buses with electric and alternatively fueled versions via grants. Fifty percent of the funds are authorized for alternative fuels and zero-emission school buses.
- **Agency Responsible:** Administered by the Environmental Protection Agency, State and Tribal Assistance Grants
- **Funding Provided:** \$5 Billion has been allocated through a grant, rebate, and contract program.
- **Entities Eligible to Apply:** State or Local Governments, eligible Contractors, and Nonprofit School Transportation Association.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

### Energy Efficiency and Conservation Block Grant Program

- **Program Description:** The **Energy Efficiency and Conservation Block Grant Program** has been amended to allow funding for programs that finance energy efficiency, zero-emission transportation, and associated infrastructure.
- **Agency Responsible:** Department of Energy, Energy Efficiency and Renewable Energy
- **Funding Provided:** \$550 million has been authorized and is available until expended through blocks and competitive grants.
- **Entities Eligible to Apply:** State, Local Governments, and Tribes.
- **Timeline and Next Steps:** Pre-Application Information Checklist Due April 28, 2023, [here](#).

### Carbon Reduction Program

- **Program Description:** A **Carbon Reduction Program** has been established with a focus on transportation emissions. Eligible proposals include projects that support the development of alternative fuel vehicles, including the acquisition, installation, and operation of electric vehicle charging or hydrogen fueling as well as the purchase or lease of zero emission vehicles.
- **Agency Responsible:** Administered by the Department of Transportation, Federal Highway Administration.
- **Funding Provided:** \$6.4 billion has been allocated through a formula grant program.

- **Entities Eligible to Apply:** States, including the District of Columbia.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

## Report on Alternative Fuel Vehicle Owners and Infrastructure

- **Program Description:** The Secretary of Transportation has been directed to create a publicly available report that includes an evaluation of emerging alternative fuel vehicles and projections for potential locations of emerging alternative fuel vehicle owners. This report will identify pipeline infrastructure, concentrations of emerging alternative fuel vehicles, the current future needs of alternative fueling infrastructure, and a tool to allow states to compare and evaluate different adoption and use scenarios.
- **Timeline and Next Steps:** No information has been released, but law stated report to be submitted to Congress by November 15, 2022.

---

## Additional Hydrogen Opportunities: Ship and Port Related Programs

### Electric or Low-Emitting Ferry Program

- **Program Description:** The Secretary of Transportation has been directed create the **Electric or Low-Emitting Ferry Pilot Program** that provides grants for the purchase of electric or low-emitting ferries. Hydrogen is defined as a potential fuel that meets the low-emitting criterion.
- **Agency Responsible:** Administered by the Department of Transportation, Federal Transit Administration.
- **Funding Provided:** \$250 million has been allocated for the project overall through a competitive grant program.
- **Stipulations Regarding the Distribution of Funds:** At least one grant must be awarded to the State with the largest Marine Highway System and a bi-ferry service with an aging fleet.
- **Timeline and Next Steps:** A Notice of Funding Opportunity was released, available [here](#). Applications are now closed.

### Reduction of Truck Emissions at Port Facilities Program

- **Program Description:** The Secretary of Transportation has been directed to establish a new program called the **Reduction of Truck Emissions at Port Facilities**. The program will study how ports can benefit from electrification and to study technologies that reduce truck idling and emissions from them. A grant program has also been developed that will fund projects that reduce emissions from idling trucks.



- **Agency Responsible:** Administered by the Department of Transportation, Federal Highway Administration.
- **Funding Provided:** \$50 million has been allocated through a competitive grant program.
- **Entities Eligible to Apply:** None specified.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

### Port Infrastructure Development Program Grants

- **Program Description:** The **Port Infrastructure Development Program Grants** received a significant amount of funding for infrastructure upgrades like port electrification, microgrids, and hydrogen refueling infrastructure for medium or heavy-duty trucks that service the port.
- **Agency Responsible:** Department of Transportation, Maritime Administration.
- **Funding Provided:** \$2.25 billion has been allocated and is available through a competitive grant program.
- **Entities Eligible to Apply:** Eligible Entities include Public and Private Ports and Port Authorities.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2032.

---

## Additional Hydrogen Opportunities: Grid Resiliency and Energy Efficiency

### Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency Program

- **Program Description:** The DOE has been authorized to create the **Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency** which is designed to improve electric grid resilience. Eligible projects include microgrids, and the goal is to demonstrate innovative approaches to transmission, storage, and distribution to harden and enhance grid resilience and reliability.
- **Agency Responsible:** Department of Energy, Office of Clean Energy Demonstration.
- **Funding Provided:** \$5 billion has been allocated through cooperative agreements or grants.
- **Entities Eligible to Apply:** States, combination of 2 or more States, Indian Tribes, units of local government, and public utility commissions.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

## Preventing Outages and Enhancing the Resilience of the Electric Grid Grants Program

- **Program Description:** The DOE has established the new **Preventing Outages and Enhancing the Resilience of the Electric Grid Grants** program. Grants are focused on preventing outages and enhancing the resilience of the electric grid through hardening efforts or reducing the likelihood and consequence of disruptive events.
- **Agency Responsible:** Department of Energy, Electricity.
- **Funding Provided:** \$5 billion has been allocated through a competitive grant program.
- **Entities Eligible to Apply:** Electric Grid Operators, Electricity Storage Operators, Electricity Generators, Transmission Owners and Operators, Distribution Providers, Fuel Suppliers, States, Tribes.
- **Timeline and Next Steps:** The funding announcement was released, available [here](#) and applications were due by September 30, 2022.

## Deployment of Technologies to Enhance Grid Flexibility Program

- **Program Description:** The Energy Independence and Security Act of 2007 has been amended to include Smart Grid investments through the **Deployment of Technologies to Enhance Grid Flexibility** program. This funding comes through the Smart Grid Investment Matching Grant Program.
- **Agency Responsible:** Department of Energy, Electricity.
- **Funding Provided:** \$3 Billion has been allocated overall, \$600 million has been allocated annually for the FY 2022-2026, and this funding is to remain available until expended through a grant program.
- **Entities Eligible to Apply:** Utilities.
- **Timeline and Next Steps:** Applications are expected to open by the end of 2022.

## Clean Energy Demonstration Program on Current and Former Mine Lands

- **Program Description:** This program is designed to demonstrate the technical and economic viability of carrying out clean energy projects on current and former mine land. Up to five 5 clean energy projects are to be carried out in geographically diverse regions, at least 2 of which shall be solar projects.
- **Agency Responsible:** Department of Energy, Office of Clean Energy Demonstrations.
- **Funding Provided:** \$500 million
- **Timeline and Next Steps:** The Request for Information, available [here](#), was open until August 15, 2022. Funding applications are expected to be accepted in 2023.

## Funding for Decarbonizing the Industrial Sector

- **Program Description:** This program is designed to support DOE's efforts to decarbonize the American industrial sector and move the U.S. toward net-zero carbon emissions.
- **Agency Responsible:** Department of Energy, Advanced Manufacturing Office.
- **Funding Provided:** \$500 million

- **Timeline and Next Steps:** Funding applications opened on September 7, 2022, [here](#). Concept papers were due by October 12, 2022, and full applications were due by December 20, 2022.

### Long Duration Energy Storage Demonstration Projects

- **Program Description:** The **Energy Storage Demonstration Pilot Grant Program** has been created to improve the security of critical infrastructure and emergency response systems. Some eligible uses include supplying energy at peak periods of demand on the electric grid, providing grid stability, integrating renewable energy resource production, and enabling the use of stored energy in forms other than electricity to support the natural gas system and other industrial processes.
- **Agency Responsible:** Department of Energy, Office of Clean Energy Demonstrations.
- **Funding Provided:** \$355 million has been authorized for FY 2022 and is available until expended through grants or cooperative agreements.
- **Entities Eligible to Apply:** Technology Developers, Industry, State and local governments, Tribal Organizations, Community Based organizations, National Laboratories, Universities, and Utilities.
- **Timeline and Next Steps:** Funding applications opened on November 14, 2022, [here](#). Letters of Intent were due by December 22, 2022, and full applications are due by March 3, 2023.

### Grants for Energy Efficiency and Renewable Energy Improvements at Public School Facilities

- **Program Description:** Provides competitive grants to make energy efficiency, renewable energy, and alternative fueled vehicle upgrades and improvements at public schools.
- **Agency Responsible:** DOE Office of State and Community Energy Programs
- **Funding Provided:** \$500 million
- **Entities Eligible to Apply:** Consortium of One Local Education Agency and one or more Schools, Non-Profits, For-Profits, and Community Partners.
- **Timeline and Next Steps:** \$80 million was made available through the Renew America's Schools grant program, [here](#).

### Natural Gas Distribution Infrastructure Safety and Modernization Grants

- **Program Description:** \$1 Billion has been allocated under the new **Natural Gas Distribution Infrastructure Safety and Modernization Grants** program. This program will fund the replacement of distribution pipes, which will prepare infrastructure for clean fuels, such as hydrogen and bio-blends
- **Agency Responsible:** Administered by the Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

- **Funding Provided:** \$1 billion has been allocated through a competitive grant program.
- **Entities Eligible to Apply:** Eligible entities include Municipal or Community-Owned Utilities (Not-for-profit).
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2033.

### Appalachian Regional Energy Hub Initiative

- **Program Description:** The DOE has been authorized to provide grants and technical assistance through the **Appalachian Regional Energy Hub Initiative** to help establish a regional energy hub in the Appalachian region. The focus is on natural gas and natural gas liquids, including hydrogen produced from the steam methane reforming.
- **Agency Responsible:** Administered by the Appalachian Regional Commission.
- **Funding Provided:** \$5 million has been allocated through a grant program.
- **Entities Eligible to Apply:** individuals, organizations, and companies with the capability to conduct research and analysis, contribute to the economic resilience of the area, or help establish a regional energy hub.
- **Timeline and Next Steps:** The program has been funded for the duration of FY 2022-2026.

### State Energy Program

- **Program Description:** The DOE has been authorized to provide funding to states to support electric transmission distribution planning.
- **Agency Responsible:** Department of Energy, Office of Energy Efficiency and Renewable Energy
- **Funding Provided:** \$500 million
- **Entities Eligible to Apply:** U.S. states
- **Timeline and Next Steps:** TBD

### National Energy Modeling System Update

- **Program Description:** The Energy Information Administration (EIA) has been directed to develop a plan to update the National Energy Modeling System, with a focus on technologies that are ideal for large-scale demonstration projects such as hydrogen production.
- **Timeline and Next Steps:** No information has been released at this time on when the report will be finished.