Appalachian Hydrogen Hub

Proposed Action

In the Infrastructure Investment and Jobs Act, commonly known as the Bipartisan Infrastructure Law (BIL), Congress directed DOE to establish a Regional Clean Hydrogen Hubs (H2Hubs) program to create regional networks of hydrogen producers, consumers, and local connective infrastructure to accelerate the use of hydrogen as a clean energy carrier. The Office of Clean Energy Demonstrations (OCED) within DOE is implementing the Regional Clean Hydrogen Hubs program and will use the NEPA process to help it decide whether to provide financial assistance for the H2Hubs.

The Appalachian Hydrogen Hub has the potential to demonstrate the production of clean hydrogen from fossil fuels. The Appalachian Hydrogen Hub proposes to use clean hydrogen in a diversity of end uses, including but not limited to industry, power generation, and transportation. Further, the Appalachian Hydrogen Hub would create opportunities for skilled training and long-term employment for residents of the region. In addition, the location of the Appalachian Hydrogen Hub in the Appalachian Region that includes Ohio, Pennsylvania, and West Virginia meets the criterion requiring geographic diversity within the Regional Clean Hydrogen Hubs program. The Appalachian Hydrogen Hub also satisfies the criterion that DOE select a Hub in a region of the United States with the greatest natural gas resources.

Hub Description

The Appalachian Hydrogen Hub is proposed to consist of a suite of demonstration projects involving clean hydrogen production, transportation, and end uses located within the Appalachian Region that includes Ohio, Pennsylvania, and West Virginia. Battelle is the primary funding recipient and lead Appalachian Hydrogen Hub manager. As currently proposed, the Appalachian Hydrogen Hub would encompass 12 proposed projects, including hydrogen production facilities that could produce at least 1,700 metric tons per day of clean hydrogen (autothermal reformation facilities with carbon capture, biomass pyrolysis facilities, electrolysis facilities, and facilities for recovering hydrogen from waste gases), hydrogen liquefiers, and a range of end uses including residential fuel cells, materials handling equipment, mobility, and industrial uses, including production of ammonia, urea, and low-carbon aviation fuel.

Environmental Impact Statement

DOE will prepare an EIS (DOE/EIS-0569) to evaluate the potential impacts to the human environment associated with funding the Appalachian Hydrogen Hub. The EIS will evaluate the potential impacts associated with the types of hydrogen infrastructure and technologies proposed in the Appalachian Hydrogen Hub, such as impacts from electricity and water usage and rates of emissions, that are inherent to the technologies and infrastructure regardless of where they may be deployed. The EIS will help inform DOE’s decision as to whether to carry the Appalachian Hydrogen Hub forward for project-specific funding decisions but will not directly authorize funding for specific Appalachian Hydrogen Hub projects.

If DOE decides to provide funding for the construction and operation of the Appalachian Hydrogen Hub, DOE will complete additional NEPA reviews to evaluate the potential site-specific impacts of individual proposed projects to make site-specific funding decisions. In addition to being subject to DOE’s NEPA review, with associated public scoping and comment periods as appropriate, individual projects will be required to adhere to the requirements of all applicable Federal, State, and local laws and regulations.