

## Infrastructure Bill Provides Billions in Funding for Hydrogen and Carbon Capture, Utilization, and Storage

On November 15, 2021, President Biden signed the bipartisan \$1.2 trillion Infrastructure Investment and Jobs Act ([H.R. 3684](#)). This *Alert* reviews the key provisions related to hydrogen and carbon capture, utilization, and storage (CCUS). Babst Calland has also issued a companion [Alert](#) on other renewable energy-related provisions in the Infrastructure Bill.

### Hydrogen

- **Regional Clean Hydrogen Hubs (Sec. 40314):** In perhaps the most impactful provision, the Bill authorizes an \$8 billion program to support the development of at least four regional clean hydrogen hubs to network hydrogen producers, storage, offtakers and transport infrastructure. DOE must solicit proposals for regional clean hydrogen hubs by May 15, 2022, and select the four hubs by May 15, 2023. DOE will solicit at least one hub proposal for each of the following hydrogen production technologies: fossil fuels, renewables or nuclear. And, DOE will solicit at least one hub to provide hydrogen to each of the following sectors: power generation, industrial, residential and commercial heating, and transportation.
- **Clean Hydrogen Definition and Production Qualifications (Secs. 40312 & 40315):** Defines “clean hydrogen” and “hydrogen” in a technology neutral way, and requires DOE and EPA to develop an initial carbon standard for projects to qualify as clean hydrogen production, eligible for the variety of incentives throughout the Bill. Clean hydrogen means “hydrogen produced with a carbon intensity equal to or less than 2 kilograms of carbon dioxide (CO<sub>2</sub>)-equivalent produced at the site of production per kilogram of hydrogen produced.” The standard must consider technological and economic feasibility and allow production from fossil fuels with CCUS, hydrogen carrier fuels, renewables, nuclear and other methods that DOE determines are appropriate.
- **Research and Development Program and National Clean Hydrogen Strategy and Roadmap (Secs. 40313 and 40314):** Requires DOE to establish an R&D program with the private sector to commercialize clean hydrogen production in a variety of applications by May 15, 2022. This provision includes \$500 million in grant funding for clean hydrogen manufacturing and recycling.
- **Clean Hydrogen Electrolysis Program (Sec. 40314):** Requires DOE to establish a program to improve the efficiency, increase the durability, and reduce the cost of producing clean hydrogen using electrolyzers (commonly called “green hydrogen”) and authorizes \$1 billion for grants and demonstration projects. The goal is to reduce the cost of green hydrogen to less than \$2 per kilogram by 2026.
- **Appalachian Regional Energy Hub (Sec. 14511):** Provides the Appalachian Region Commission with \$5 million to establish an Appalachian Region hub for natural gas, natural gas liquids, and hydrogen produced through steam methane reforming.
- **Grants for Hydrogen Fueling Infrastructure (Sec. 11401):** Authorizes the Federal Highway Administration to award \$2.5 billion in grants for the acquisition or installation of publicly accessible electric vehicle charging, or hydrogen, propane, or natural gas fueling infrastructure along an alternative fuel corridor.

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## Carbon Capture, Utilization, and Storage

- **Carbon Utilization (Sec. 40302):** Requires DOE, through its Carbon Utilization Program, to develop standards to facilitate the commercialization of carbon-based technologies. The Bill also requires DOE to establish a grant program for states and governmental entities to procure and use products that are derived from carbon and reduce greenhouse gas emissions. The Bill authorizes \$310 million for this program.
- **Carbon Capture Technology (Sec. 40303):** Authorizes \$100 million for DOE grants under its Carbon Capture Technology Program, including an engineering and design program for CO<sub>2</sub> transportation.
- **CO<sub>2</sub> Transportation Infrastructure Finance and Innovation (Sec. 40304):** Creates a CO<sub>2</sub> transportation infrastructure finance and innovation (CIFIA) program in DOE and provides \$2.7 billion in funding. CIFIA is a federal credit instrument that will provide funding for certain CO<sub>2</sub> transportation projects anticipated to cost \$100 million or more. In selecting projects, DOE will give priority to large-capacity common carrier pipeline projects, projects with clear demand, and projects sited adjacent to existing pipelines. Grants are also available for upsizing infrastructure to meet increase in future demand. All iron, steel, and manufactured goods used in a project must be produced in the U.S., with some exceptions.
- **Carbon Storage Validation and Testing (Sec. 40305):** Authorizes \$2.5 billion for DOE to provide funding for large-scale carbon sequestration projects and associated transportation infrastructure.
- **Secure Geologic Storage Permitting (Sec. 40306):** Authorizes \$25 million for EPA's Class VI UIC well permit program for the geologic sequestration of CO<sub>2</sub>, and \$50 million for grants to states seeking Class VI primacy.
- **Geologic Carbon Sequestration on the Outer Continental Shelf (Sec. 40307):** Allows DOI to grant a lease, easement, or right-of-way on the outer continental shelf for the injection of CO<sub>2</sub> into sub-seabed geologic formation, for the purpose of long-term carbon sequestration. The Bill requires DOI to issue regulations by November 15, 2022.
- **Carbon Removal (Sec. 40308):** Authorizes \$3.5 billion for a DOE program to develop four regional air capture hubs. The hubs will facilitate the deployment of direct air capture projects; have the capacity to capture, sequester, or utilize at least one million metric tons of CO<sub>2</sub> annually; demonstrate the capture, processing, delivery, and sequestration of captured carbon; and have potential for developing a regional or inter-regional network to facilitate CCUS.
- **Carbon Capture Large-Scale Pilot Projects (Sec. 41004(a)):** Authorizes \$937 million for DOE to carry out a large-scale CCUS technology program.
- **Carbon Capture Demonstration Projects Program (Sec. 41004(b)):** Authorizes \$2 billion for DOE to carry out CCUS demonstration projects.
- **Carbon Removal (Sec. 41005).** Authorizes \$15 million for DOE to award a competitive technology prize for the precommercial capture of CO<sub>2</sub> from dilute media and \$100 million for commercial applications of direct air capture technologies.

If you have any questions about these developments, please contact Jim Curry at 202.853.3461 or [jcurry@babstcalland.com](mailto:jcurry@babstcalland.com), Ashleigh Krick at 202.853.3466 or [akrick@babstcalland.com](mailto:akrick@babstcalland.com), or Chris Kuhman at 202.853.3467 or [ckuhman@babstcalland.com](mailto:ckuhman@babstcalland.com).

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