



A Climeworks plant in Iceland can capture 4,000 tons of carbon annually. Business Wire/AP Photo

Details Still Sketchy on Regional Direct Air Capture Hubs

By Mark Fogarty

To be determined. That seems to be the most descriptive answer to the question of what the four direct air capture hubs, authorized in the Bipartisan Infrastructure Act, specifically will look like, exactly where will they be located, and other questions.

A query from Tribal Carbon Solutions to the Department of Energy for specifics went unanswered. But there are some generalized descriptions. The Department of Energy's Office of Clean Energy Demonstrations (OCED) does have a web page on the DAC Hubs [here](#) and so there are a few things that can be gathered about the \$3.5 billion program. Title 42 of the U.S. Code also has some relevant language.

Areas that score high according to DOE's four generalized recommendations, include the Gulf Coast (especially Louisiana), parts of California and Arizona, and a broad area of the Midwest and Northeast.

For instance, the Code specifies the hubs will be in areas where there is a lot of existing carbon-intensive infrastructure.

The BIL also authorizes a series of clean hydrogen hubs but there is not much specificity about them, either.

Celina Scott-Buehler at Data for Progress said at an Institute for Carbon Removal Law and Policy webinar that Carbon180 has taken the DOE's four generalized recommendations where the DAC hubs should be and plotted them on a map of the United States to get an idea of which areas make a better match.

She said in general the DOE "wants there to be a match between economic need and economic opportunity."

Areas that score high according to DOE's four generalized recommendations, which include Economic Opportunity Zones, places viable for carbon storage, places of low-carbon intensity electricity emissions, and places with a high density of oil and gas wells, include the Gulf Coast (especially Louisiana), parts of California and Arizona, and a broad



Celina Scott-Buehler

area of the Midwest and Northeast.

The DOE OCED and the Office of Fossil Energy and Carbon Management (FECM) are the hub program's administrators. Seven hundred million dollars a year will be available for each of five years. The period of availability is fiscal 2022 to 2026 or until monies are spent (Fiscal 2022 is already over, for instance). The funding mechanism is listed as a "grant, cooperative agreement, or other."

When will funding be announced? "Not later than three years after the date of the deadline for the submission of proposals," according to Title 42 (March 23, 2026).



The U.S. Code says the term “regional direct air capture hub” means “a network of direct air capture projects, potential carbon dioxide utilization off-takers, connective carbon dioxide transport infrastructure, subsurface resources, and sequestration infrastructure located within a region.”

Tribes will be able to access the program, along with many others. The full list: “technology developers, industry, utilities, universities, national laboratories, engineering and construction firms, state and local governments, tribal, environmental groups, and community-based organizations.”

What will go on at such a hub? The U.S. Code says the term “regional direct air capture hub” means “a network of direct air capture projects, potential carbon dioxide utilization off-takers, connective carbon dioxide transport infrastructure, subsurface resources, and sequestration infrastructure located within a region.”

Eligible uses are for a DAC hub that:

- Facilitates the deployment of direct air capture projects.
- Has the capacity to capture and sequester, utilize, or sequester and utilize at least 1,000,000 metric tons of carbon dioxide from the atmosphere annually from a single unit or multiple interconnected units.
- Demonstrates the capture, processing, delivery, and sequestration or end-use of captured carbon.
- Could be developed into a regional or interregional carbon network to facilitate sequestration or carbon utilization.

DOE released the first notice of funding availability for the hubs last December. It “makes available more than \$1.2 billion to begin the process for conceptualizing, designing, planning, constructing, and operating direct air capture hubs, with additional opportunities expected to follow in the coming years.”

Full applications are due on March 13, 2023.

Though there is no specification of where the hubs will be or how they will operate, there is some generalized language on eligible projects in Title 42:

- Each shall be located in a region with existing carbon-intensive fuel production or industrial capacity, or
- Carbon-intensive fuel production or industrial capacity that has retired or closed in the preceding 10 years.
- Each shall contribute to the development of hubs located in different regions of the United States.
- Each shall contribute to the development of hubs located in regions with high potential for carbon sequestration or utilization.
- Each shall contribute to the development of at least two hubs in economically distressed communities in the regions of the United States with high levels of coal, oil, or natural gas resources.
- The Secretary shall give priority to projects that, as compared to others, will contribute to the development of hubs with larger initial capacity, greater potential for expansion, and lower levelized cost per ton of carbon dioxide removed from the atmosphere.
- The Secretary shall give priority to projects that are likely to create opportunities for skilled training and long-term employment to the greatest number of residents of the region.

The OCED has developed guidance for creating a Community Benefits Plan (CBP) in connection with a successful DAC application. It is located here.

CBPs are based on a set of four core interdependent policy priorities: engaging communities and labor; investing in America's workforce; advancing diversity, equity, inclusion, and accessibility; and implementing Justice40.

FECM has advertised for a program manager to run the hubs. This person will:

- Lead the program, with specific responsibilities on planning, budget, management, and administration of the program. This includes stakeholder engagement, technical development, directing analysis, and interagency and intra-agency coordination to support development and implementation.
- Apply technical understanding of DAC technologies and potential business models to support the development of the program and guide the investments of the BIL program.
- Coordinate between the Department's efforts on other BIL provisions that are complementary to the execution of the DAC Hubs Program. This includes coordination with other DOE offices, such as the Office of Clean Energy Demonstrations, and departmental initiatives focused on implementation of the Justice40 Initiative.
- Coordinate with the FECM research and development programs to ensure that the BIL program leverages existing research, development, and demonstration investments.
- Serve as technical and programmatic support for FECM and the Department's senior leadership as necessary.

