



Regional Direct Air Capture Hubs

Topic Areas 1 and 2

- \$99 million invested in 19 projects across the country, in over 15 states.
- Projects will support early-stage efforts to explore the feasibility of a potential direct air capture hub location, ownership structure, and business model.
- Several projects will also perform front-end engineering and design studies that establish and define technical requirements focused on project scope, schedule, and costs to reduce risk during later project phases.
- Projects could provide economic and social benefits for local communities including:
 - Training existing workforces and creating new jobs.
 - Ensuring communities are engaged and a part of project decisions.

Carbon Dioxide Removal Technology Program Overview

Projects will begin the process of conceptualizing, designing, and planning regional direct air capture hubs that demonstrate a direct air capture technology or suite of technologies at commercial scale. The regional direct air capture hubs will have the potential to capture at least one million metric tons of carbon dioxide annually from the atmosphere and then store that carbon dioxide permanently in a geologic formation or convert it into products.

Projects will focus on conducting relevant analysis, executing front-end engineering design studies, and advancing permitting, as well as networking and stakeholder engagement, necessary to advance them from the concept and design stages to viable demonstration projects.

Investing in America:

Carbon dioxide is a greenhouse gas, and its emissions are fueling global warming, which has increased the threat of droughts, severe fires, rising sea levels, floods, catastrophic storms, and declining biodiversity. Large-scale deployment of carbon management technologies is crucial to addressing climate change and meeting President Biden's goal of a net-zero greenhouse gas emissions economy by 2050.

These investments can help to eliminate hundreds of millions of tons of carbon dioxide emissions every year through the capture, transport, and use or permanent storage of carbon dioxide emissions. These efforts will not only help mitigate the impacts of climate change—they will also benefit communities across the nation by improving air quality, protecting existing industrial jobs, and creating new ones.

Selections

Lead Organization	Purpose	Planned DAC Hub Location(s)	DOE Cost Share
Aera Federal LLC	Execute a feasibility study for a regional direct air capture hub at Aera Energy’s Belridge oil field	Kern County, California	\$2,785,578
Arizona Board of Regents on behalf of Arizona State University	Advance the design of a regional direct air capture hub by developing the Southwest Regional Direct Air Capture Hub	4 Corners (UT, CO, AZ, NM)	\$11,586,146
ASRC Energy Services, LLC	Conduct a pre-feasibility study that evaluates direct air capture locations across Alaska, as well as reviews existing technologies operating range to identify modification required to operate in the Arctic	North Slope, the Interior (Fairbanks), and South Central (Anchorage, Kenai Peninsula, Mat-Su)	\$3,000,000
Board of Trustees of the University of Illinois	Coordinate regional efforts to capture carbon dioxide from the atmosphere and store it in the Illinois Basin	Illinois	\$2,938,528
Board of Trustees of the University of Illinois	Coordinate regional efforts to capture carbon dioxide from the atmosphere and store it underground, including advancing a direct air capture hub that builds upon previous geological studies conducted on the Denver-Julesburg Basin	Pueblo, Colorado	\$2,999,992
Board of Trustees of the University of Illinois	Coordinate regional efforts to capture carbon dioxide from the atmosphere and store it underground in the Tuscaloosa Group, a permeable saline aquifer 4,920-7,050 feet deep	Florida	\$2,778,670
Carbon Capture Inc.	Develop the first phase of the Wyoming Regional Direct Air Capture Hub	Wyoming	\$12,500,000
Chevron New Energies, a division of Chevron U.S.A. Inc.	Explore the feasibility of a potential direct air capture hub that builds upon existing low-carbon technology pilots	Kern County, California	\$3,000,000



Electric Power Research Institute, Inc.	Design and plan the initial deployment and future development of a regional direct air capture hub, as well as study low-to-zero carbon-emitting sources of energy	California	\$11,829,634
Fervo Energy Company	Explore a direct air capture hub that has the potential to store up to 100 million tonnes of carbon dioxide annually	Southwest Utah	\$2,866,270
General Electric, GE Research	Conduct a pre-feasibility study for a direct air capture hub that uses renewable or nuclear energy and can remove one million metric tonnes of carbon dioxide per year	Houston, Texas	\$2,554,247
Louisiana State University	Evaluate a direct air capture hub that would remove carbon dioxide already in the atmosphere and permanently store it	Louisiana	\$2,999,960
Northwestern University	Test the feasibility of developing a direct air capture hub powered by nuclear energy	Midwest	\$3,000,000
The Regents of the University of California	Assess the technical, social, and governance feasibility of establishing a Community Alliance for Direct Air Capture	Southern San Joaquin Valley, California	\$2,999,999
Rocky Mountain Institute	Deliver a feasibility study of direct air capture technologies powered by electricity	Oregon (Pacific Northwest)	\$2,999,754
Siemens Energy, Inc.	Explore the feasibility of a multi-technology direct air capture hub that is anchored around solid sorbent capture technology	Illinois	\$2,952,880
Southern States Energy Board-	Develop a Southeast Direct Air Capture Hub at the Alabama Power Company site	Mobile County, Alabama	\$10,242,232
University of Kentucky Research Foundation	Determine the feasibility of a distributed direct air capture hub that is powered by solar and biomass energy sources, and stores the carbon dioxide in a depleted natural gas field	Kentucky	\$2,999,253
University of North Dakota EERC	Develop the Prairie Compass Hub to demonstrate lower-cost direct air capture technology and storage facilities on the northern Great Plains	North Dakota	\$12,500,000

