



## Notable US Carbon Capture and Storage Projects

Jan 3, 2023

Reading Time : **9 min**

By: Ike Emehelu, Chinelo Ojike

### 1PointFive and Carbon Engineering

1PointFive, a subsidiary of Occidental's Low Carbon Ventures, announced a partnership with Carbon Engineering aimed at deploying up to 70 Direct Air Capture (DAC) facilities by 2035, each with a capacity of up to one million tons per year. The deployment approach will standardize the design of plants, plant components and equipment will be modularized, mass manufactured and assembled on-site.

### Aemetis Acquires Site for CCS Injection Well

Aemetis recently acquired a 24-acre site in California to develop a carbon capture and sequestration injection well. Aetemis plans to use the site for its proposed one million metric tons per annum CO<sub>2</sub> injection well. The injection well will reduce Aemetis' carbon emission and store CO<sub>2</sub> from other California industrial and agricultural sources.

### Air Products to Build Blue Hydrogen Plant in Louisiana

Air Products has announced plans to invest \$4.5 billion to develop a blue hydrogen clean energy plant in Ascension Parish, Louisiana. The project will produce 750 million standard cubic feet per day of blue hydrogen from natural gas when completed in 2026, and will capture 95% of carbon emissions from the hydrogen production process, with over 5 million metric tons per annum (MMTPA) sequestered permanently underground. Some of the plant's blue hydrogen will also be used to make blue ammonia for global distribution. The ammonia can be converted back to blue hydrogen for fueling buses and trucks.

### BP & Linde CCS Project

BP and Linde are partnering to develop a major carbon capture project in Texas. The project will enable low carbon hydrogen production and support the storage of CO<sub>2</sub> captured from Linde's hydrogen production and other industrial facilities. The project is expected to become operational in 2026 and will store approximately 15 MMTPA across multiple geologic storage sites.

### Carbon America to Develop the First Two Commercial CCS Projects in Colorado

Carbon America plans to develop CCS facilities that will capture 95% of carbon emissions from two ethanol plants in Colorado, and sequester the captured carbon underground. The Company will build, own and operate the CCS systems at the ethanol plants in Sterling and Yuma, Colorado, and will ensure secure geologic sequestration nearly one mile underground in northeastern Colorado.

### Carbon Capture From the Kiln

Lehigh Hanson Inc. and Fortera Inc. are partnering on a \$4.8 million project to capture CO<sub>2</sub> from the kiln exhaust at Lehigh's cement manufacturing plant in California. The captured CO<sub>2</sub> will be converted and blended with portland cement to make a ready-mix concrete. The Company recently received \$3.7 million in funding from the Department of Energy (DOE).

### CarbonVert

Carbonvert Inc., Chevron and Talos Energy are developing a novel offshore CCS project in the US, known as the Bayou Bend. This is a 10 MMTPA CO<sub>2</sub> capture, transport and storage facility in Texas. The facility will help sequester CO<sub>2</sub> from industrial facilities in Port Arthur and the neighboring region. The project will sit on 40,000 acres of offshore space with a 600 million metric tons storage capacity.

Carbonvert alongside the University of Alabama, Sargent & Lundy, Southern Company and Battelle, are collectively working on a research for the direct air capture and storage of CO<sub>2</sub> emissions from a nuclear power plant in Columbia, Alabama. The project is expected to begin capture and storage by the end of 2022.

### Chevron CCS Project

Chevron announced the launch of a CCS project aimed at reducing the carbon intensity of its operations in San Joaquin Valley, California. This facility will use CO<sub>2</sub> post-combustion capture equipment and subsequently store the captured CO<sub>2</sub> underground. The project will begin at Chevron's Kern River Eastridge cogeneration plant in Kern County, California.

#### Cleveland-Cliffs

Cleveland-Cliffs Inc. announced that it has submitted an application for funding from the DOE for the next phase of research for the front-end engineering design for large-scale carbon capture at its Burns Harbor integrated iron and steel facility in Indiana. The Burns Harbor project is expected to capture 2.8 MMTPA from blast furnace gas with a net carbon capture efficiency of at least 95%. The proposed engineering design would be completed within 24 months. The study will be funded by both Cleveland-Cliffs and the DOE.

#### Competitive Power Ventures Set to Build \$3B Natural Gas, Carbon Capture Plant

Competitive Power Ventures announced the development of a \$3 billion 1,800 megawatt combined-cycle natural gas power station utilizing CCS in West Virginia. The announcement lauded the recent Inflation Reduction Act and described it as a significant incentive for the project. When completed, the plant's carbon capture system will remove 90-95% of CO<sub>2</sub> from its waste stream.

#### Enterprise Products Operating LLC, and Oxy Low Carbon Ventures

Enterprise Products Operating LLC, and Oxy Low Carbon Ventures, LLC, have announced that they are jointly working towards a CO<sub>2</sub> transportation and sequestration project for the Texas Gulf Coast.

#### ExxonMobil and Mitsubishi's Carbon Capture Technology Alliance

ExxonMobil and Mitsubishi Heavy Industries are partnering to deploy Mitsubishi's CO<sub>2</sub> capture technology as part of ExxonMobil's end-to-end CCS solution for industrial customers. Leveraging their combined experience, and with the support of The Kansai Electric Power Co., Inc. (KEPCO), the companies plan to advance carbon capture technologies that could reduce the cost of capturing CO<sub>2</sub> for heavy-emitting industrial customers. The partnership will build upon KM CDR Process and Advanced KM CDR Process, developed by Mitsubishi and KEPCO,

the only liquid amine carbon capture technology commercially demonstrated at greater than 1 MMTPA.

#### ExxonMobil will Expand LaBarge

Exxon announced its decision to expand carbon capture and storage at its LaBarge facility in Wyoming. LaBarge currently captures 6-7 million metric tons of CO<sub>2</sub> annually. With the expansion, the facility will be able to capture an additional 1.2 million metric tons of CO<sub>2</sub> yearly. The expansion project will cost approximately \$400 million.

#### GE-Led Carbon Capture Technology

GE Gas Power, Southern Company, Linde, BASF & Kiewit are developing a front-end engineering design for integrating carbon capture technologies with a natural gas combined cycle plant to capture at least 95% of carbon dioxide emissions. The project also includes gas and stream equipment enhancements to improve the carbon capture process. GE's design study will receive approximately \$5.8 million from the DOE following completion of the award negotiation phase.

#### Gulf Coast Sequestration and Climeworks Sign MOU

Two industry pioneers, Gulf Coast Sequestration and Climeworks, are partnering to develop a DAC and storage hub on the Gulf Coast in Louisiana. The project is expected to capture 1 million tons of CO<sub>2</sub> annually by 2030, with the capability to expand to multi-million ton capacity in the future.

#### Heirloom Uses Limestone to Capture CO<sub>2</sub>

Microsoft backed start-up, Heirloom, is using limestone to remove CO<sub>2</sub> from the atmosphere. CO<sub>2</sub> naturally occurs in limestone. The Company removes the CO<sub>2</sub> by heating the limestone into a powder and stores the extracted CO<sub>2</sub> underground. The remaining powder is then thirsty for more CO<sub>2</sub>. Thereafter, the powder is spread out on trays, with a robot determining the location for maximum CO<sub>2</sub> absorption. Heirloom plans to deploy its first site in 2023 and aims to remove 1 billion tons of CO<sub>2</sub> by 2035. Heirloom also sells carbon credits to other

companies including Microsoft, Stripe, Klarna and Shopify, thereby allowing them to offset their own CO<sub>2</sub> emissions.

#### OCI N.V and Navigator CO<sub>2</sub> Ventures CO<sub>2</sub> Pipeline Project

OCI N.V. and Navigator CO<sub>2</sub> Ventures are partnering on a new carbon capture project that will abate up to 40% CO<sub>2</sub> emissions from OCI's Iowa Fertilizer Company plant in the first phase, and 100% of the emissions in the second phase. Navigator intends to build a 1,300 mile CO<sub>2</sub> pipeline that will capture CO<sub>2</sub> emissions from ethanol and fertilizer plants in 5 midwestern states. The captured CO<sub>2</sub> will be sequestered underground in Illinois permanently.

#### Project Bison

CarbonCapture announced the commencement of Project Bison in Wyoming with Frontier Carbon Solutions. Project Bison is expected to be the first direct air capture carbon removal project to use Class VI injection wells for permanent CO<sub>2</sub> storage in deep saline aquifers. By 2030, Project Bison is expected to have rolled-out five megatons of annual capture and storage capacity. It would be the largest single atmospheric carbon removal project in the world.

#### Project Tundra Receives \$100 million loan from North Dakota

Minnkota Power Cooperative recently received an approval for a \$100 million loan from the North Dakota Industrial Commission to help advance its carbon capture project. The project will cost \$1.45 billion, and will have the capacity to store approximately 4 million metric tons of CO<sub>2</sub> annually.

#### Red Trail Energy Becomes First Facility Permitted Under State Primacy to Capture and Store CO<sub>2</sub>

Red Trail Energy, an ethanol plant in North Dakota, announced that it has begun CO<sub>2</sub> capture and storage with the ability to capture 180,000 tons of CO<sub>2</sub> per annum, and inject 500 metric tons of CO<sub>2</sub> per day. The plant is the first CCS project allowed under state primacy in the U.S.

### Starwood Energy and Elysian Ventures

Starwood Energy and Elysian Ventures are jointly developing a large-scale carbon capture facility. The facility is expected to capture 90% of CO<sub>2</sub> emissions from an existing gas-fired power station. The captured carbon will be used for enhanced oil recovery and then subsequently sequestered in an existing oil field.

### Summit Carbon Solutions

Summit Carbon Solutions announced the development and construction of a project for the capture, transportation and sequestration of carbon. Carbon will be captured from industrial sources in Iowa, Nebraska, Minnesota, North Dakota and South Dakota, aggregated and transported to North Dakota via pipeline and permanently sequestered in deep geologic formations. The project, which consists of 12 ethanol bio refineries and over 680 miles of CO<sub>2</sub> pipeline, is expected to capture at least 8 MMTA, with initial pipeline capacity of 12 MMTA and expansion capabilities to handle up to 20 MMTA.

### Tallgrass to develop a CO<sub>2</sub> Sequestration Hub

Tallgrass Energy is developing a commercial scale CO<sub>2</sub> sequestration hub in Eastern Wyoming. Tallgrass received a grant from the Wyoming Energy Authority in 2022 to advance the project. Further, Tallgrass announced that it has entered into an agreement with ADM that will enable Tallgrass capture CO<sub>2</sub> from ADM's corn-processing facility in Nebraska and then transport it to Tallgrass' sequestration hub in Wyoming.

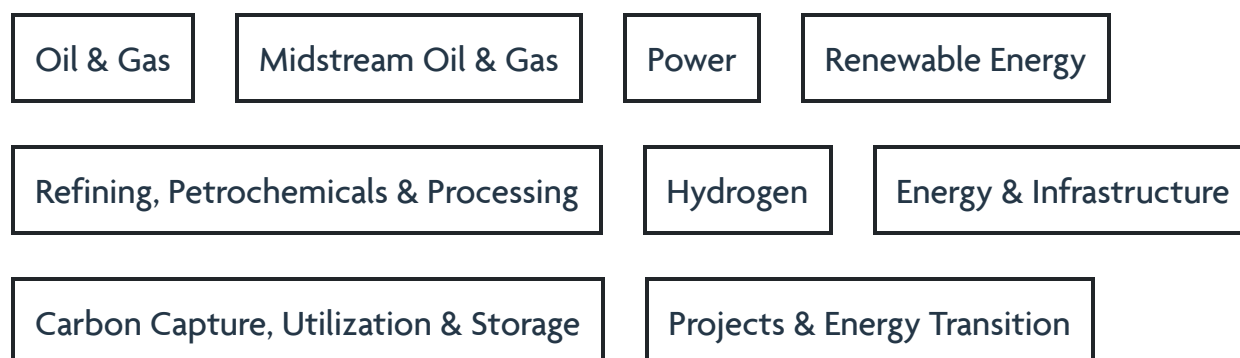
### The California Carbon Management Partnership

California Resources Corporation (CRC), in August 2022, announced the formation of a joint venture with Brookfield Renewable aimed towards developing both infrastructure and storage assets needed for CCS projects. The carbon management partnership is focused on carbon capture and sequestration. They plan to inject 5 million metric tons per annum and 200 million metric tons CO<sub>2</sub> storage development. Brookfield has invested an initial \$500 million in the projects. CRC's CalCapture project will capture CO<sub>2</sub> from a 550 megawatt natural gas-powered Elk Hills Power Plant in Kern County.

### Trace Midstream Equity Raise

Trace Midstream announced in September 2022 that it has secured \$400 million equity commitment from Quantum Energy to invest in developing carbon capture and sequestration assets, and supporting midstream infrastructure across North America.

## Categories



© 2025 Akin Gump Strauss Hauer & Feld LLP. All rights reserved. Attorney advertising. This document is distributed for informational use only; it does not constitute legal advice and should not be used as such. Prior results do not guarantee a similar outcome. Akin is the practicing name of Akin Gump LLP, a New York limited liability partnership authorized and regulated by the Solicitors Regulation Authority under number 267321. A list of the partners is available for inspection at Eighth Floor, Ten Bishops Square, London E1 6EG. For more information about Akin Gump LLP, Akin Gump Strauss Hauer & Feld LLP and other associated entities under which the Akin Gump network operates worldwide, please see our Legal Notices page.