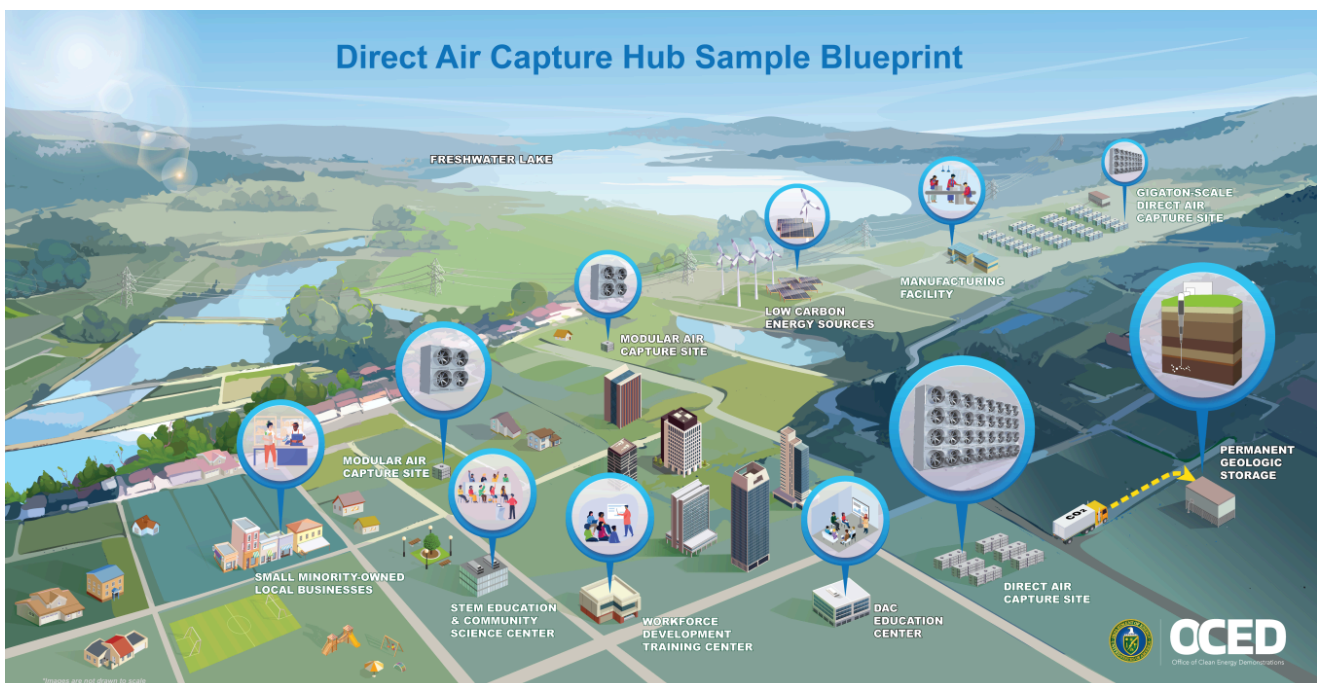


Regional Direct Air Capture Hubs Selected and Awarded Projects



Awarded DAC Hubs Projects

Project Cypress

PROJECT FACT SHEET →

**COMMUNITY BENEFITS
COMMITMENTS SUMMARY →**



Two Heirloom technicians inspect a row of contactor towers in Heirloom's commercial Direct Air Capture facility



Rendering of the proposed Climeworks facility and collector containers

Federal Cost Share: Up to \$550 million

Recipients: Battelle and its partners Climeworks Corporation, and Heirloom Carbon Technologies, Inc.

Locations: Louisiana, including Calcasieu and Caddo Parishes

Project Summary: Project Cypress, a Regional DAC Hub that aims to incorporate multiple DAC facilities in Louisiana, has the ultimate goal of capturing more than 1 million tons of existing CO₂ from the atmosphere each year at fully capacity and storing it permanently and safely in geologic formations deep underground. OCED is working with Battelle, the DAC Hub owner, and its technology providers Climeworks and Heirloom to build DAC facilities in Calcasieu and Caddo Parishes. Climeworks employs a solid sorbent capture and thermal regeneration technology, while Heirloom utilizes limestone to absorb CO₂ as it is repeatedly cycled through heating, hydration, and exposure to air. Project Cypress plans to transport the captured CO₂ to a sequestration partner who has obtained a permit for permanent geological storage.

Project Cypress has pledged to carry out a set of community benefits commitments to maximize local community benefits and mitigate potential negative impacts. These commitments include establishing a Community Engagement Council to solicit ongoing community input at every stage of the project, informing local communities on key project milestones, adhering to safety standards, minimizing impact on air and water quality, and providing good-paying jobs, workforce development opportunities, and training.

Visit the [Project Cypress website](#) to learn more. This website is not affiliated with the Department of Energy.

South Texas DAC Hub

PROJECT FACT SHEET →

COMMUNITY BENEFITS COMMITMENTS SUMMARY →



 *The South Texas DAC Hub will utilize air contactors to draw in air for CO₂ capture*

Location: Kleberg County, TX

Federal Cost Share: Up to \$500 million

Recipient: 1PointFive

Project Summary: 1PointFive, a subsidiary of Occidental, plans to build the South Texas DAC Hub at King Ranch in Kleberg County, TX with an initial removal capacity of 500,000 metric tons of CO₂ each year, and the ultimate goal of capturing up to 1 million metric tons of CO₂ annually from the atmosphere at full capacity and permanently storing it in a saline aquifer deep underground. 1PointFive has the intention and storage capacity to build the South Texas DAC Hub to up to 30 million metric tons per year to provide carbon removal at a climate relevant scale. The 1PointFive system draws air into its facility using large fans, where a chemical solution then selectively binds CO₂ molecules from the air, creating a CO₂-rich solution. The solution is then processed through a series of reactions to separate and purify the CO₂, after which it will be compressed and transported to geologic storage in a saline aquifer.

1PointFive has committed to furthering equity, justice, and quality job creation in the development of the DAC Hub through its Community Benefits Plan (CBP). The CBP includes strategies to conduct meaningful engagement, promote local hiring, workforce development opportunities, environmental stewardship, educational initiatives, and investment to further support equity, justice, and quality job creation in the region.

Visit the [South Texas DAC Hub website](#) to learn more. This website is not affiliated with the Department of Energy.

Q. What is direct air capture?

A: Direct air capture, or DAC, is a carbon dioxide removal process that separates carbon dioxide (CO₂) directly from the atmosphere. The separated CO₂ can then be converted into components of products like concrete or stored safely and permanently deep underground. DAC, and other forms of [carbon removal](#), is a critical tool for reaching net-zero emissions and

cleaning up the legacy carbon pollution that is already in the atmosphere, causing significant climate change related damage.

Q. How is direct air capture different from carbon capture, utilization, and storage?

A: **Carbon capture, utilization, and storage** technologies are used to capture the CO₂ produced by a facility *before* it enters the atmosphere. This CO₂ can then be used to make other valuable products, or can be stored safely, deep underground. In other words, carbon capture, utilization, and storage technology helps avoid emissions by preventing the release of CO₂ from power plants and industrial facilities. This is known as “point-source capture,” since the CO₂ is captured at the source before it can be emitted.

Unlike carbon capture, utilization, and storage, DAC is not a form of point-source capture. Rather than avoiding future CO₂ emissions, DAC technology addresses the carbon pollution that already exists in our atmosphere.

Q. Why is DOE investing in direct air capture?

A: Investments in DAC technologies are part of a larger U.S. Department of Energy (DOE) carbon management portfolio that are critical to helping the United States move toward a clean energy and industrial future. The **Offices of Clean Energy Demonstrations (OCED)** and **Fossil Energy and Carbon Management (FECM)** are a part of DOE’s broader effort to help achieve the Biden-Harris Administration’s goal of economy-wide net-zero greenhouse emissions by 2050.

To do this, DOE recognizes we need a dual strategy: we must significantly reduce the CO₂ emissions going into the atmosphere, and we must permanently remove legacy CO₂ emissions from the atmosphere. Carbon dioxide removal technologies like DAC are a key part of the latter half of this strategy.

DAC, combined with long-term CO₂ storage and/or conversion of CO₂ to valuable products, helps remove existing CO₂ from the atmosphere and address the legacy impacts of fossil fuel combustion and greenhouse gas

emissions from other sources. Additionally, DAC can support sectors that do not have a single point-source where CO₂ emissions could be captured. For example, DAC can reduce the CO₂ emissions created by agriculture and shipping industries to help them achieve net zero.

Q. How many projects have been selected and how much funding is DOE providing?

A: Through the Bipartisan Infrastructure Law, Congress [appropriated \\$3.5 billion](#) for the development of four domestic Regional DAC Hubs. Through this initial funding opportunity announcement, DOE made more than \$1.2 billion of federal funding available and selected for award negotiation two Regional DAC Hubs as well as 14 feasibility studies and 5 front-end engineering and design studies.

In August 2023, OCED announced two projects that have been selected for award negotiations to become Regional DAC Hubs. [FECM also announced the projects selected for award negotiations](#) to conduct feasibility and front-end engineering and design studies. DOE intends to issue a second funding opportunity announcement in 2024 or later to solicit additional projects seeking funding and fully implement the Regional DAC Hubs mandate.

Q. What are Regional Direct Air Capture Hubs?

A: Each Regional DAC Hub will demonstrate a direct air capture technology or suite of technologies as well as the processing, delivery, and storage or end-use of captured carbon. Each hub must have the capacity to scale and capture at least one million metric tons of existing CO₂ annually from the atmosphere, and either store it safely and permanently deep underground or convert it into valuable products.

Q. What are the anticipated benefits of the Regional Direct Air Capture Hubs?

A: DOE's funding for Regional DAC Hubs will accelerate the commercialization of DAC technology and demonstrate the processing, transport, and storage/conversion of CO₂ captured from the atmosphere.

The Regional DAC Hubs program supports the broader government-wide effort to help the United States achieve a net-zero economy by 2050 in a cost-effective, reliable, and efficient manner, and to maximize the benefits of the clean energy transition as the nation works to curb the climate crisis, empower workers, and advance environmental justice.

The Regional DAC Hubs are also expected to create new, good paying jobs in the clean energy sector while supporting DOE's commitment to diversity, equity, inclusion, and accessibility. The hubs will also contribute to the President's [Justice40 Initiative](#), which set a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized and overburdened by pollution and underinvestment.

DOE has engaged with environmental and energy justice groups and frontline communities who have concerns around the benefits and potential negative impacts of DAC, as was highlighted by WHEJAC. Our comprehensive Community Benefits Plan (CBP) approach and phased project management approach will ensure the robust engagement of impacted communities throughout the lifecycle of the project, maximize benefits for local communities, and help minimize and mitigate negative impacts.

Q. How does DOE plan to address risks associated with the Regional Direct Air Capture Hubs?

A: Ensuring safe deployment and mitigating social, economic, technical, and environmental risks associated with Regional DAC Hubs is of the utmost importance to DOE and central to our project management approach. DOE will work with the appropriate authorities to mitigate and address concerns proactively and continually throughout the duration of the project.

Funded projects must submit detailed risk assessments and risk management plans outlining potential risks and impacts, and how they will mitigate those impacts. They must also submit detailed [Community Benefits](#)

Plans, including how the project performers will transparently communicate risks or potential negative impacts associated with the project to the community.

Q. How were these projects selected as Regional DAC Hubs?

A: Selectees for the Regional DAC Hubs program were evaluated through a rigorous technical and merit review process following criteria set forth in the funding opportunity announcement. These criteria included an evaluation of “Technological Merit and DAC Hub Site Suitability,” including the degree to which the proposed site(s) are suitable for DAC hub development, implementation, and CO₂ storage capability.

Q. How will communities where Regional DAC Hubs are located be engaged?

A. Pre-Award Engagement

OCED will engage in early, frequent, and meaningful engagement with communities that host Regional DAC Hubs.

In September 2023, OCED co-hosted its first in-person community briefing with a selected project team to engage with local stakeholders in Texas and provide information about the selected projects, discuss the project timeline, and share how community members can be involved. OCED co-hosted a second briefing in Louisiana in November 2023. OCED will continue to work with stakeholders and tribal governments throughout the design, construction, and operation of the DAC hubs. Stakeholders include state and local governments; community leaders; economic development, environmental and climate justice organizations; labor groups and industry; and academia. Additionally, projects funded under this funding opportunity announcement were required to submit and implement a Community Benefits Plan to support meaningful community and labor engagement; invest in America’s workforce; advance diversity, equity, inclusion and accessibility; and contribute to the President’s Justice40 Initiative.

B. Post-Award Engagement

If projects are awarded, OCED and the awardee will have frequent, meaningful engagement with the impacted local community and workers throughout the lifecycle of the projects. To co-develop a vision for community benefits and encourage collaborative engagement between OCED, awardees, and local communities, OCED is seeking to identify local organizations in host communities to provide event coordination and logistics support for Shared Principles engagement.

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