



Carbon Capture Large-Scale Pilot Projects Program — Carbon Capture Pilot at Vicksburg Containerboard Mill

The Carbon Capture Large-Scale Pilot Projects Program, managed by the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED), aims to develop transformational carbon capture technologies to significantly improve the efficiency, effectiveness, costs, emissions reductions, and environmental performance of coal and natural gas use in power generation, manufacturing, and industrial facilities. The program aims to prove out these technologies at pilot scale in partnership with industry and communities in the United States. OCED selected four projects to begin award negotiations for a total of up to \$304 million. Following negotiations, in September 2024, OCED awarded the Carbon Capture Pilot at Vicksburg Containerboard Mill in Redwood, MS, with \$4.3 million in federal funding (of the total federal cost share of up to \$88 million) for Phase 1 activities.

Awardee Fact Sheet Carbon Capture Large-Scale Pilot Projects Program: Carbon Capture Pilot at Vicksburg Containerboard Mill

Project at a Glance

- » **Total OCED Cost Share:** Up to \$88 million
- » **Phase 1 Total Project Amount:** \$6,389,512*
- » **Phase 1 OCED Award Amount:** \$4,304,715**
- » **Phase 1 Scope of Work:** Completion of Front-End Engineering Design (FEED) study and planning initial engagement activities for community benefits commitments
- » **Phase 1 Timeline:** 18–21 months
- » **Recipient:** RTI International
- » **Project Location:** Redwood, MS
- » **Project Start Date:** September 2024

* Represents the total project cost for Phase 1.

** Represents OCED's cost share for Phase 1. Additional funding for this project is subject to future award negotiations at the end of each project phase.

About This Project

RTI International, in collaboration with International Paper (IP), SLB, and Amazon, plans to build a carbon dioxide (CO₂) capture system at IP's Vicksburg Containerboard Mill, a pulp and paper mill in Redwood, MS. This first-of-its-kind carbon capture project for the pulp and paper industry aims to capture 120,000 metric tons of CO₂ per year—equivalent to the annual emissions of more than 28,000 gasoline-powered cars—and transport it to a site for permanent geologic storage using existing pipelines.

The Carbon Capture Pilot at Vicksburg Containerboard Mill intends to capture at least 90% of CO₂ emissions from the mill's power boiler flue gas, using RTI International's Non-Aqueous Solvent (NAS) carbon capture technology. The main goal of this project is to illustrate the safe, responsible, and effective use of the NAS technology, a novel amine solvent that has demonstrated reduced energy use and operating costs. The project plans to help advance wider NAS adoption in the pulp and paper industry and demonstrate how strategic partnerships can accelerate safe and responsible decarbonization.

During Phase 1 of the project, RTI International will complete a FEED study to determine the specifications for incorporating carbon capture into the facility. The project will also start workforce planning, project permitting, and providing input into OCED's National Environmental Policy Act review process. Phase 1 of the project will also include system component testing, business plans, establishment of emissions and effluent study protocol, community labor engagements, and community benefits planning.

OCED will provide oversight of the Carbon Capture Pilot at Vicksburg Containerboard Mill project by evaluating the status and quality of implementation at each phase of the project. Through its phased approach to project management oversight, OCED will review and evaluate the project's progress, including community benefits, which impact OCED's decision to continue to provide federal funding and allow a project to progress to the following phase.

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Project Site

IP's Vicksburg Containerboard Mill is in Redwood, MS. Vicksburg Containerboard Mill began operations as an original International Paper mill in 1967. At the time, its Silver Bullet paper machine was the world's largest single-line machine. Upgraded in 1989, today it is the fourth largest paper machine in the world.

Community Benefits Commitments

Community benefits commitments are a key component of the Carbon Capture Pilot at Vicksburg Containerboard Mill. These commitments are informed and developed—in consultation with local communities—to mitigate potential impacts of this project and maximize local community benefits. The Carbon Capture Pilot at Vicksburg Containerboard Mill project plans to implement these commitments in Phase 1 by:

- Establishing a **Community Engagement Network** with membership inclusive of neighboring community members, disadvantaged communities, and unions.
- Hosting **two-way engagement activities**, including one-on-one and/or small group meetings, to collect feedback from local communities, community organization leaders, first responders, labor unions, media, environmental and industry organizations, among others.
- Conducting a **community needs assessment** to identify opportunities to address these needs, including through potential future philanthropic efforts.

More details on the Carbon Capture Pilot at Vicksburg Containerboard Mill's community benefits commitments can be found in the [Community Benefits Commitments Fact Sheet](#).



Demonstration of key process features at engineering scale testing at Testing Centre Mongstad, Norway

The U.S. Department of Energy established OCED to help scale the emerging technologies needed to tackle our most pressing climate challenges and achieve net-zero emissions by 2050. OCED's mission is to deliver clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption, and the equitable transition to a decarbonized energy system.

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Carbon Capture Large-Scale Pilot Projects Program Goals

Large-scale deployment of carbon management technologies is critical to addressing the climate crisis. Reaching our nation's climate goals will require capturing and sequestering 400 to 1,800 million tons of CO₂ annually by 2050. Commercial demonstration of advanced carbon capture technologies, integrated with reliable transportation and storage infrastructure, will be required for the widespread deployment of these carbon management technologies. To help achieve these goals, the Carbon Capture Large-Scale Pilot Projects Program aims to develop transformational carbon capture technologies at the pilot scale to significantly improve the efficiency, effectiveness, costs, emissions reductions, and environmental performance of coal and natural gas use in power generation, manufacturing, and industrial facilities.



RTI International and SLB at Testing Centre Mongstad, Norway

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More Resources

Website: energy.gov/oced/carbon-capture-large-scale-pilot-programs

Office of Clean Energy Demonstrations: energy.gov/oced

