



Industrial Demonstrations Program – Deeply Decarbonized Cement Project

The Industrial Demonstrations Program, managed by the U.S. Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED), aims to accelerate decarbonization projects in energy-intensive industries and provide American manufacturers a competitive advantage in the race to lead the world in low- and net-zero carbon emissions manufacturing. To advance industrial decarbonization, OCED sought applications for up to \$6 billion in funding to support the demonstration of transformational technologies necessary to reduce emissions in the U.S. industrial sector. Following negotiations, in January 2025, OCED awarded the Deeply Decarbonized Cement Project with nearly \$8.7 million to begin Phase 1 of the project.



Awardee Fact Sheet

Industrial Demonstrations Program: Deeply Decarbonized Cement Project

Project at a Glance — Phase 1

- » **Total OCED Cost Share:** Up to \$189 million
- » **Phase 1 Total Project Amount:** \$17,321,139*
- » **Phase 1 OCED Award Amount:** \$8,660,569**
- » **Phase 1 Scope of Work:** Planning, permitting, design, stakeholder mapping, community engagement, and other development activities
- » **Phase 1 Timeline:** Up to 2 years
- » **Recipient:** Brimstone Commercial, LLC is a company focused on decarbonizing cement and other industrial products
- » **Project Locations:** To be determined
- » **Start Date:** January 2025

*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

The Deeply Decarbonized Cement Project, led by Brimstone Commercial, LLC (Brimstone), plans to construct a first-of-a-kind commercial-scale demonstration plant that would annually produce an estimated 103,000 metric tons of decarbonized industry standard Ordinary Portland Cement (OPC), supplementary cementitious materials, and smelter-grade alumina, a critical mineral. The project would avoid more than 77,000 metric tons of carbon dioxide emissions per year by using calcium silicate rocks and alternative industrial production methods. Further validating research pathways, previously supported by Advanced Research Projects Agency–Energy (ARPA-E), the project expects to reduce technical risks and demonstrate sufficient demand to support the development of future industrial-scale decarbonized industrial manufacturing facilities.

During Phase 1 of the project, Brimstone will complete initial conceptual and engineering studies for the project, provide documentation and reports necessary to complete the National Environmental Policy Act (NEPA) review, and engage community and labor stakeholders. The preferred site for the Deeply Decarbonized Cement Project will be determined and identified publicly by the end of Phase 1.

OCED will provide oversight of the 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.

Deeply Decarbonized Cement Project

Project Fact Sheet

Project Site

Brimstone has not yet selected a site. The preferred site for the Deeply Decarbonized Cement Project will be determined by the end of Phase 1.

Community Benefits Commitments

Community benefits commitments are a key component of the Deeply Decarbonized Cement Project. The commitments are informed and developed—in consultation with local communities—to maximize local community benefits and mitigate potential impacts. Brimstone plans to implement these commitments through:

- Creating up to **450 construction jobs and up to 100 full-time operations jobs** across several skill levels.
- **Establishing a Community Advisory Council** for the project to advise Brimstone on community concerns related to a variety of topics including workers' rights, smart growth and environmental justice, workforce development, and other applicable issues.
- Continuing to **uphold the neutrality agreement with the United Steelworkers Union** for its future facility.
- Engaging directly with the Building Trades Councils to ensure availability of qualified, reliable, and fairly compensated tradespeople; **evaluating the establishment of a registered apprenticeship program**, and exploring entering into a Project Labor Agreement (PLA) to govern construction.
- Supporting the Justice40 initiative by **completing a Justice40 assessment and implementation strategy** during each phase.
- **Quantifying air quality impacts** for any relevant air pollutants emitted, or expected to be emitted, from the project and communicating information about air quality to the public.
- Incorporating **consideration of equitable impact factors** into ongoing site selection.
- **Sharing project information publicly** to support engagement, accountability, and transparency through conducting one town hall event after site selection and creating a project website.

More details on the Deeply Decarbonized Cement Project's community benefits commitments can be found in the [Community Benefits Commitments Summary](#).



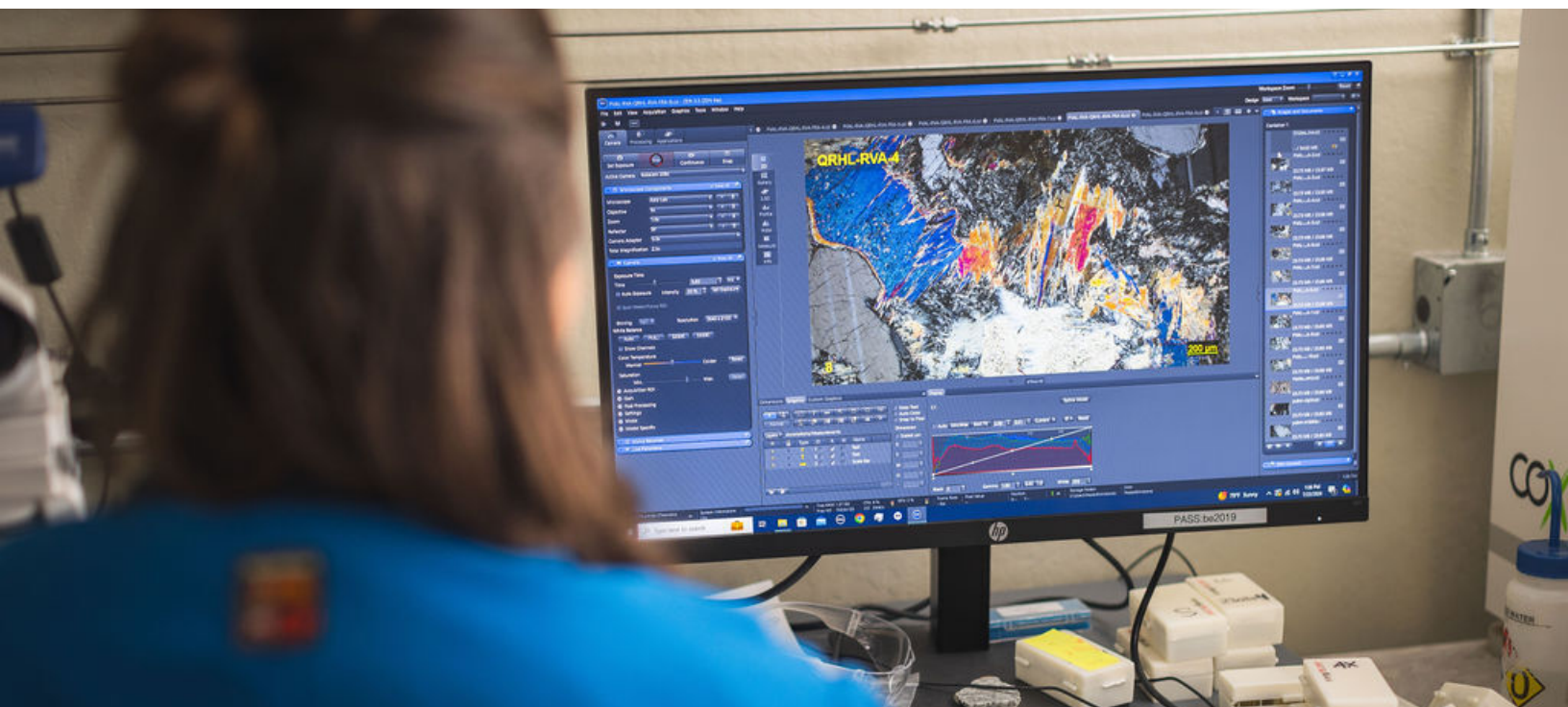
Brimstone prepares molds to cast samples using the company's deeply decarbonized cement

Deeply Decarbonized Cement Project

Project Fact Sheet

Industrial Demonstrations Program Goals

U.S. industry is a backbone of the nation's economy, producing the goods critical to everyday life, employing millions of Americans in high-quality jobs, and providing an economic anchor for thousands of communities. Yet the sector's energy- and carbon-intensity contributes to nearly one third of the nation's carbon dioxide emissions, representing a unique and complex challenge to achieving a carbon-free economy. Decarbonizing the U.S. industrial sector will require equally unique and innovative technological solutions that leverage multiple pathways, including energy efficiency, electrification, and alternative fuels and feedstocks such as clean hydrogen. The Industrial Demonstrations Program includes new, emerging technologies that aim to help produce clean steel, cement, chemicals and other materials used in our nation's roads, bridges, transmission lines, electric vehicles, solar panels, wind turbines, and everyday lives, which in turn, benefit every American.



A Brimstone scientist analyzes a petrographic thin section of the company's carbon-free feedstock

Contact

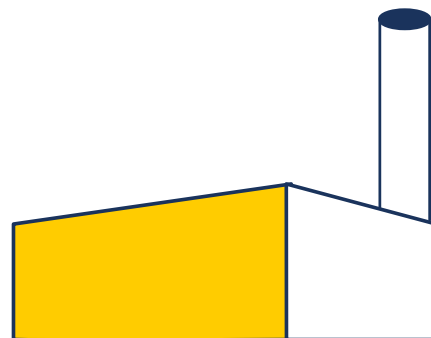
Program Email: engage_industrialdemos@hq.doe.gov

OCED Media Email: OCEDNewsroom@hq.doe.gov

More Resources

Website: energy.gov/oced/IDP

Office of Clean Energy Demonstrations: energy.gov/oced



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.