



Industrial Demonstrations Program – Glass Furnace Decarbonization Technology Stack 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 Glass Furnace Decarbonization Technology Stack Project with more than \$700,000 to begin Phase 1 of the project, located in Zanesville, OH.



Awardee Fact Sheet

Industrial Demonstrations Program:

Glass Furnace Decarbonization Technology Stack Project

Project at a Glance – Phase 1

- » **Total OCED Cost Share:** Up to \$56.6 million
- » **Phase 1 Total Project Amount:** \$1,551,399*
- » **Phase 1 OCED Award Amount:** \$760,185**
- » **Phase 1 Scope of Work:** Preliminary engineering, project planning, permitting, community engagement, and other development activities
- » **Phase 1 Timeline:** 6–8 months
- » **Recipient:** Owens-Brockway Glass Container, Inc. is a glass bottle manufacturer
- » **Project Locations:** Zanesville, OH
- » **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 Glass Furnace Decarbonization Technology Stack Project, led by Owens-Brockway Glass Container, Inc. (O-I Glass), plans to rebuild one furnace at the O-I Glass facility in Zanesville, OH. This project aims to reduce carbon intensity by 20–40% compared to glass produced on a baseline furnace. This rebuild would combine five cutting-edge technologies on the furnace, marking the first time that all five technologies have been implemented simultaneously. These technologies, which include improved heat recovery and fuel systems, material pre-heating, and electric conversions, would reduce waste heat, energy demands, and both direct and indirect carbon dioxide emissions. The project could demonstrate the commercial feasibility and functionality of combining multiple decarbonizing technologies that could be replicated across different glass colors and container types.

During Phase 1 of the project, O-I Glass will conduct preliminary engineering design along with documentation and reports necessary for OCED to complete the National Environmental Policy Act review.

OCED will provide oversight of the Glass Furnace Decarbonization Technology Stack 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

The Glass Furnace Decarbonization Technology Stack Project would be located at the O-I Glass facility in Zanesville, OH, located in the central part of the state.

Community Benefits Commitments

Community benefits commitments are a key component of the Glass Furnace Decarbonization Technology Stack Project. The commitments are informed and developed—in consultation with local communities—to maximize local community benefits and mitigate potential negative impacts. O-I Glass plans to implement these commitments through:

- Working with the existing union workforce to **create 250–300 high-quality, high-paid union contractor construction jobs**.
- **Pursuing Project Labor Agreements** and/or Community Workforce Agreements throughout the project to ensure project success and workers' rights and engaging a coalition of community groups to pursue a Community Benefits Agreement.
- Engaging with its union workforce to provide training/upskilling opportunities and **continuing its priority focus on safety** in the workplace.
- Working to **enhance the company's diversity, equity, and inclusion efforts** through the intentional engagement of underrepresented groups.
- Supporting the community through **local investments in organizations**, including the United Way, that address the environmental impact related to glass recycling.
- 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 **generating air quality benefits** (e.g., nitrogen oxides, sulfur oxides, and particulate matter reductions).
- Sharing project information publicly to support **engagement, accountability, and transparency**.
- Supporting the establishment of **glass recycling availability** surrounding the project site.

More details on the Glass Furnace Decarbonization Technology Stack Project's community benefits commitments can be found in the [Community Benefits Commitments Summary](#).



An O-I Glass employee uses a sight glass to inspect the inside of an operating glass furnace

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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 newly formed glass bottle moves along a conveyor belt at an O-I Glass bottle-making factory

Contact

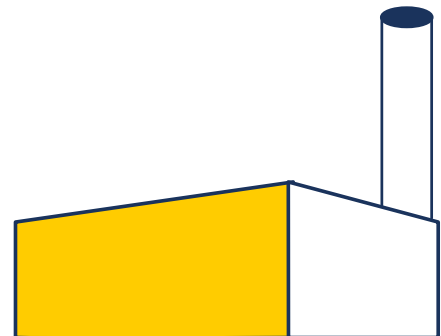
Program Email: engage_industrialdemos@hq.doe.gov

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.