



Industrial Demonstrations Program – Low Carbon SmartMelt Furnace Conversion

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 August 2024, OCED awarded the Low Carbon SmartMelt Furnace Conversion project with more than \$4.1 million to begin Phase 1 of the project, located in Ravenswood, WV.



Project at a Glance – Phase 1

- » **Total OCED Cost Share:** Up to \$75 million
- » **Phase 1 Total Project Amount:** \$8,229,770*
- » **Phase 1 OCED Award Amount:** \$4,114,885**
- » **Phase 1 Scope of Work:** Planning, permitting, design, and other development activities
- » **Phase 1 Timeline:** Up to 12 months
- » **Recipient:** Constellium is a developer and manufacturer of high value-added aluminum products and solutions, and aluminum recycling
- » **Project Location:** Ravenswood, WV
- » **Start Date:** August 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

The Low Carbon SmartMelt Furnace Conversion project, led by Constellium, proposes to deploy a first-of-a-kind zero carbon aluminum casting center. This aluminum rolling facility—which has employed community members since its construction in 1957 and is one of the largest in the world—supplies material to the aerospace, defense, marine, and transportation sectors. The project plans to install low-emissions SmartMelt furnaces that can operate using a range of fuels, including clean hydrogen in potential future operations, and is expected to reduce the casthouse's carbon emissions by approximately 30% and reduce natural gas consumption by approximately 50%.

During Phase 1 of the project, Constellium will advance detailed engineering designs for the furnace conversion project.

OCED will provide project management oversight of the Low Carbon SmartMelt Furnace Conversion project by evaluating the status and quality of implementation at each phase of the project. Through its phased approach to project management, 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.

Low Carbon SmartMelt Furnace Conversion

Project Fact Sheet

Project Site

The Low Carbon SmartMelt Furnace Conversion project will be located at the Constellium Ravenswood, WV facility. Constellium Ravenswood has been a staple of the local economy and community since its construction nearly 70 years ago and continues to play an essential role in the U.S. aluminum industry. The Ravenswood facility project would reduce the carbon intensity of aluminum casting/rolling by upgrading its furnace/remelting system while improving worker safety.

Community Benefits Commitments

Community benefits commitments are a key component of the Low Carbon SmartMelt Furnace Conversion project. These commitments are informed by and developed in consultation with local communities to help maximize local benefits and mitigate any potential negative impacts. Constellium plans to implement these commitments by:

- Improving air quality for nearby communities by reducing criteria and hazardous air pollutants and supporting the Justice40 initiative by completing a Justice40 Assessment and Implementation Strategy during each phase.
- Continuing to execute the Collective Bargaining Agreement with the United Steelworkers Local 5668, which represents the 1,100 hourly workers at Constellium Ravenswood, and the National Maintenance Agreement with Building Trades Unions covering all contractors and trades people working on the site.
- Expanding workforce development, training, and community involvement to provide support to employees and respond to the needs of the workforce including members of disadvantaged communities.
- Sharing project data publicly to enhance transparency.

More details on the Low Carbon SmartMelt Furnace Conversion project's community benefits commitments can be found in the [Community Benefits Commitments Fact Sheet](#).



Constellium Ravenswood Plant

Low Carbon SmartMelt Furnace Conversion

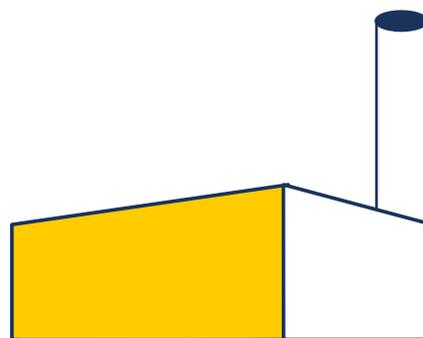
Project Fact Sheet

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.



Constellium Ravenswood employees collaborating on the plant floor



Contact

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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.