



Office of Clean Energy Demonstrations    Industrial Demonstrations Program Selected and Awarded Projects

# Industrial Demonstrations Program Selected and Awarded Projects

# INDUSTRIAL DEMONSTRATIONS PROGRAM SELECTION SNAPSHOT



**OCED**  
Office of Clean Energy Demonstrations



**\$20+**  
**BILLION**  
Total Funding

(Federal and private cost shares)



OVER  
**14 MILLION METRIC TONS**  
of avoided emissions annually

**85%** would reduce  
criteria air pollutants  
**(27) PROJECTS**



TENS OF  
**THOUSANDS**  
total jobs

with  
**17** committed  
to union labor  
**PROJECTS**

Note: Anticipated based on information provided to the Department of Energy

 **Stats provided above were accurate at time of selection.**

## Aluminum and Metals



## Awarded

- [Low Carbon SmartMelt Furnace Conversion](#) | Constellium (Up to \$75 million - Ravenswood, West Virginia)
- [Zero Waste Advanced Aluminum Recycling \(Project ZAAR\)](#) | Real Alloy Recycling (Up to \$67.3 million - Wabash, Indiana)

## Selected

- [Advanced Copper Recycling Facility](#) | Wieland North America Recycling (Up to \$270 million - Shelbyville, Kentucky)
- [Green Aluminum Smelter](#) | Century Aluminum Company (Up to \$500 million - Prefer Kentucky or Ohio/Mississippi River Basins)
- [Nexcast - Next Generation Aluminum Mini Mill](#) | Golden Aluminum (Up to \$22.3 million - Fort Lupton, Colorado)

## Cement and Concrete



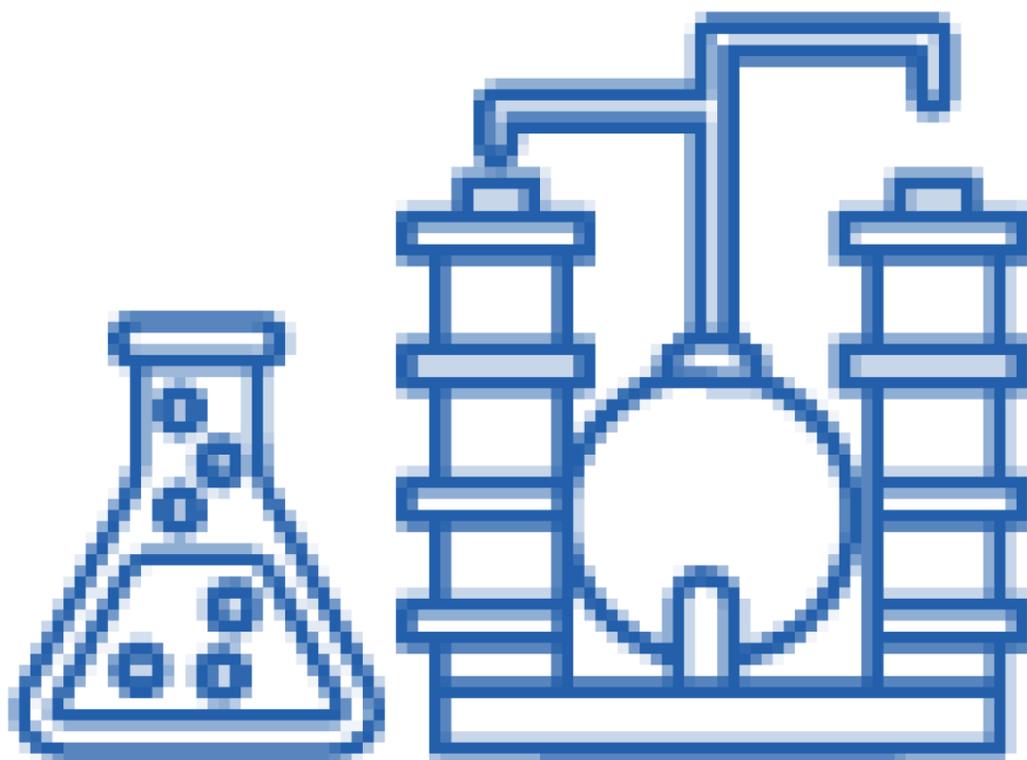
## Awarded

- [Calcined Clay Production for Limestone Calcined Clay Cement](#) | Roanoke Cement Company, LLC (Up to \$61.7 million - Troutville, Virginia)
- [First Commercial Electrochemical Cement Manufacturing](#) | Sublime Systems, Inc (Up to \$86.9 million - Holyoke, Massachusetts)
- [Mitchell Cement Plant Decarbonization Project](#) | Heidelberg Materials US, Inc. (Up to \$500 million - Mitchell, Indiana)

## Selected

- [Deeply Decarbonized Cement](#) | Brimstone Energy, Inc. (d/b/a Brimstone) (Up to \$189 million - TBD)
- [Lebec Net Zero Cement Plant Project](#) | National Cement Company of California, Inc. (Up to \$500 million - Lebec, California)
- [Low-Carbon Calcined Clay Cement Demonstration](#) | Summit Materials, Inc (Up to \$215.6 million - Port Deposit, Maryland; McIntyre, Georgia; Elmendorf, Texas; Sulphur Springs, Texas)

## [Chemicals and Refining](#)



## Awarded

- [Polyethylene Terephthalate Recycling Decarbonization Project](#) | Eastman Chemical Company (Up to \$375 million - Longview, Texas)
- [Syngas Production from Recycled Chemical Byproduct Streams](#) | BASF Corporation (Up to \$75 million - Freeport, Texas)

## Selected

- [Baytown Olefins Plant Carbon Reduction Project](#) | ExxonMobil Corporation (Up to \$331.9 million - Baytown, Texas)
- [Novel CO2 Utilization for Electric Vehicle Battery Chemical Production](#) | The Dow Chemical Company (Up to \$95 million - U.S. Gulf Coast)
- [Star e-Methanol](#) | Orsted P2X US Holding LLC (Up to \$100 million - Texas Gulf Coast)
- [Sustainable Ethylene from CO2 Utilization with Renewable Energy \(SECURE\)](#) | T.EN Stone & Webster Process Technology, Inc. (Up to \$200 million - U.S. Gulf Coast)

# Food and Beverage



## Selected

- [Delicious Decarbonization Through Integrated Electrification and Energy Storage](#) | Kraft Heinz (Up to \$170.9 million - Champaign, Illinois; Columbia, Missouri; Fremont, Ohio; Holland, Michigan; Kendallville, Indiana; Lowville, New York; New Ulm, Minnesota; Muscatine, Iowa; Mason City, Iowa; and Winchester, Virginia)
- [Heat Batteries for Deep Decarbonization of the Beverage Industry](#) | Diageo Americas Supply, Inc. (Up to \$75 million - Shelbyville, Kentucky and Plainfield, Illinois)

## Glass



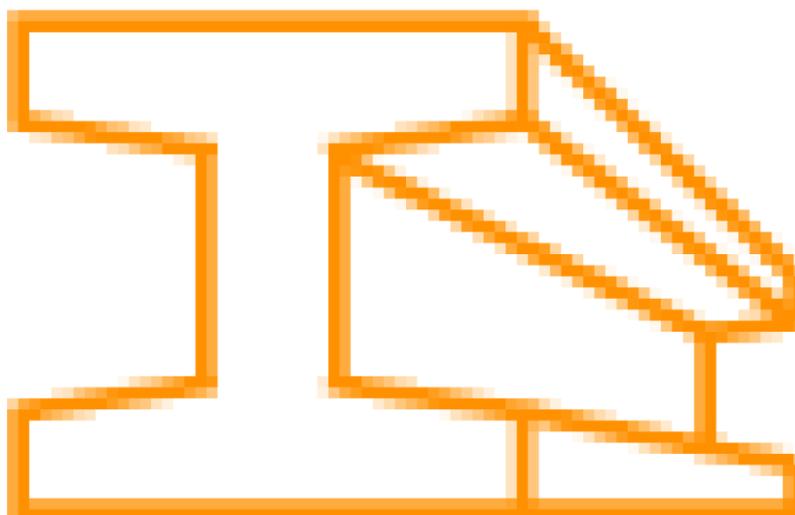
## Awarded

- [Flexible Fuel Electric Hybrid Glass Furnace Demonstration](#) | Libbey Glass (Up to \$45.1 million - Toledo, Ohio)

## Selected

- [Glass Furnace Decarbonization Technology](#) | O-I Glass, INC (Up to \$125 million - Tracy, California; Zanesville, Ohio; Toano, Virginia)
- [Hybrid Electric Glass Furnace Project](#) | Gallo Glass Company (Up to \$75 million - Modesto, California)

## Iron and Steel



## Awarded

- [Hydrogen-Ready Direct Reduced Iron Plant and Electric Melting Furnace Installation](#) | Cleveland-Cliffs Steel Corporation (Up to \$500 million - Middletown, Ohio)
- [Iron Electric Induction Conversion](#) | United States Pipe and Foundry Company (Up to \$75.5 million - Bessemer, Alabama)
- [Steel Slab Electrified Induction Reheat Furnace Upgrade](#) | Cleveland-Cliffs Steel Corporation (Up to \$75 million - Lyndora, Pennsylvania)

## Selected

- [Hydrogen-Fueled Zero Emissions Steel Making](#) | SSAB (Up to \$500 million - Perry County, Mississippi and Montpelier, Iowa)
- [Induction Melting Upgrade](#) | AMERICAN Cast Iron Pipe Company (Up to \$75 million - Birmingham, Alabama)
- [Low-Emissions, Cold-Agglomerated Iron Ore Briquette Production](#) | Vale USA (Up to \$282.9 million - U.S. Gulf Coast)

## Process Heat



## Awarded

- [Vikrell Electric Boiler & Microgrid System](#) | Kohler Co. (Up to \$51.2 million - Casa Grande, Arizona)

## Selected

- [Steam-Generating Heat Pumps for Cross-Sector Deep Decarbonization](#) | Skyven Technologies (Up to \$145 million - TBD)

## Pulp and Paper



## Selected

- [Pulp and Paper Energy Efficiency and Electrification Upgrades](#) | International Paper Company (Up to \$46.6 million - Mansfield, Louisiana)

*Once a project has been selected, both DOE and the selectee have the right to withdraw from the agreement negotiations. Selected projects under this program that are no longer moving forward in negotiations for federal funding: Unilever and ISP Chemicals, LLC an Ashland Company.*

### **What is industrial decarbonization?**

Industrial decarbonization refers to the phasing out of greenhouse gas (GHG) emissions from the industrial sector. The U.S. industrial sector is

considered a “difficult-to-decarbonize” sector of the energy economy, in part because of the diversity of energy inputs and wide array of industrial processes and operations.

Projects in the [Industrial Demonstrations Program](#) (IDP) aim to prove out novel technologies using one or more of the following cross-cutting industrial decarbonization approaches: energy efficiency, industrial electrification, low-carbon fuels, feedstocks, energy sources including clean hydrogen, material efficiency or substitution, carbon capture utilization and storage, and others.

### **Why is DOE investing in industrial decarbonization efforts?**

Large-scale deployment of industrial decarbonization technologies is critical to address the climate crisis and achieve net-zero carbon emissions by 2050. Currently, the industrial sector, composed of manufacturing and non-manufacturing subsectors, is [estimated to account](#) for about 33% of the nation’s primary energy use and around 30% of energy-related carbon dioxide (CO<sub>2</sub>) emissions.

DOE has been appropriated certain sources of funding to further industrial decarbonization efforts. The Industrial Demonstrations Program received a combined \$6.3 billion in federal funds from the Bipartisan Infrastructure Law and the Inflation Reduction Act to support the advancement of transformational technologies necessary to decarbonize the U.S. industrial sector. Demonstrating the technical and commercial viability of industrial decarbonization approaches will promote widespread technology implementation and drive a U.S. edge in low- and net-zero carbon manufacturing while helping to substantiate a market for low-carbon products.

For more information on DOE’s role in industrial decarbonization, visit: [DOE Industrial Technologies](#).

**How many projects have been selected, and how much funding is DOE providing?**

DOE selected 33 projects for award negotiations with a total anticipated federal cost share of approximately \$6 billion.

### **How were the projects selected?**

DOE solicited applications for the Industrial Demonstrations Program with a Funding Opportunity Announcement ([DE-FOA-0002936](#) or FOA) in March 2023 and conducted merit reviews of eligible applications. All eligible applications were evaluated through a rigorous merit review process. See section 5.2.2 of the FOA for the application technical review criteria.

### **What are the anticipated benefits of the Industrial Demonstrations Program?**

DOE's funding for the Industrial Demonstrations Program aims to accelerate the implementation of industrial decarbonization technologies critical for combatting the climate crisis, while also creating economic opportunities and reinforcing American global manufacturing leadership. Demonstrating the technical and commercial viability of industrial decarbonization approaches will promote widespread technology implementation and drive a U.S. edge in low- and net-zero carbon manufacturing while helping to substantiate a market for low-carbon products.

These projects are expected to create good-paying jobs and deliver public health benefits to communities around the country. DOE is committed to ensuring that these industrial decarbonization projects are designed, built, and operated safely and responsibly, in a way that reflects the best science and responds to the needs and inputs of local communities.

OCED's comprehensive [Community Benefits Plan 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.

### **How will communities near these projects be engaged?**

OCED will engage in early, frequent, and meaningful engagement with communities that host the Industrial Demonstrations Program projects. Communities will have substantive opportunities to engage with both OCED and the projects—starting during the negotiation process and extending throughout the full life cycle of each awarded project. Before projects are awarded, OCED will begin these engagements by co-hosting a series of [regional briefings](#) with groups of the selected project teams to engage and build relationships with local stakeholders. Additional engagement opportunities will be planned on a project-by-project basis. DOE may use information gained during these engagements to inform the negotiation process.

Projects that are successfully negotiated and awarded are required to implement their Community Benefits Plans, including engaging with community and labor groups; investing in America’s workforce; advancing diversity, equity, inclusion, and accessibility; supporting environmental justice; and creating the greatest benefit for the greatest number of people within the vicinity of a facility. While each project is unique, all must pursue robust activities in these five areas. These plans are intended to evolve in response to community and worker input and will be assessed at each phase as part of DOE’s go/no-go decision points.

Lastly, to ensure that federal investments are planned and executed in a responsible, equitable, and environmentally sound manner, OCED-funded projects must comply with applicable environmental and cultural resources laws, including, but not limited to, the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA). A major component of this work is to encourage early and meaningful engagement with Tribal entities, other federal and state agencies, and public stakeholders throughout the project’s lifetime.

**Who should I contact with questions?**

For more information about the Industrial Demonstrations Program, please contact [engage\\_industrialdemos@hq.doe.gov](mailto:engage_industrialdemos@hq.doe.gov).

**Powering cutting-edge projects & scientific innovations for a safe sustainable future.**

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