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Biden-Harris Administration Announces \$6 Billion to Transform America's Industrial Sector, Strengthen Domestic Manufacturing, and Slash Planet-Warming Emissions

President Biden's Investing in America Agenda Provides the Single Largest Industrial Decarbonization Investment in the Nation's History, Driving \$20+ Billion in Total Investment to Revitalize Manufacturing Communities and Create and Maintain Good-Paying Jobs

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WASHINGTON, D.C. — As part of President Biden's [Investing in America agenda](#), the U.S. Department of Energy (DOE) today announced up to \$6 billion for 33 projects across more than 20 states to decarbonize energy-intensive industries, reduce industrial greenhouse gas emissions, support good-paying union jobs, revitalize industrial communities, and strengthen the nation's manufacturing competitiveness. Funded by the President's Bipartisan Infrastructure Law and Inflation Reduction Act, the projects will create and maintain tens of thousands of high-quality jobs and help accelerate the commercial-scale demonstration of emerging industrial decarbonization technologies crucial to meeting the Biden-Harris administration's climate and domestic manufacturing goals.

The projects will focus on the highest emitting industries where decarbonization technologies will have the greatest impact, including aluminum and other metals, cement and concrete, chemicals and refining, iron and steel, and more. Together, the projects are expected to reduce the equivalent of more than 14 million metric tons of carbon dioxide (CO₂) emissions each year—an amount equivalent to the annual emissions of 3 million gasoline-powered cars. Many of the projects will deploy first-in-the-nation emissions-reducing technologies that have the potential for sector-wide adoption and transformation, multiplying the magnitude of the emissions cuts and supporting the future of U.S. manufacturing. Today's announcement is the largest investment in industrial decarbonization in American history, helping to position American manufacturers and workers to lead the global clean energy economy.

"Spurring on the next generation of decarbonization technologies in key industries like steel, paper, concrete, and glass will keep America the most competitive nation on Earth," said **U.S. Secretary of Energy Jennifer M. Granholm**. "Thanks to President Biden's industrial strategy, DOE is making the largest investment in industrial decarbonization in the history of the United States. These investments will slash emissions from these difficult-to-decarbonize sectors and ensure American businesses and American workers remain at the forefront of the global economy."

This transformative federal investment will help strengthen local economies and create and maintain tens of thousands of good-paying, high-quality jobs—particularly those that support worker organizing and collective bargaining. As part of President Biden’s efforts to build an equitable and inclusive clean energy future, each project is also expected to develop and ultimately implement a comprehensive [Community Benefits Plan](#) that ensures meaningful community and labor engagement. Nearly 80% of the projects are located in a disadvantaged community, as defined by President Biden’s [Justice40 Initiative](#)  , offering a significant opportunity to invest in good jobs and clean air in communities that have experienced years of divestment.

The industrial sector contributes nearly one-third of the nation’s overall greenhouse gas emissions. This transformative federal investment is matched by the selected projects to leverage more than \$20 billion in total to demonstrate commercial-scale decarbonization solutions needed to move the industrial sector toward net-zero emissions. Funded projects will cut carbon emissions by an average of 77%. The industrial sector’s unique and complex decarbonization challenges require equally unique and innovative decarbonization solutions that leverage multiple pathways including energy efficiency, electrification, and alternative fuels and feedstocks such as clean hydrogen. The projects announced today are part of the [Industrial Demonstrations Program](#), managed by DOE’s [Office of Clean Energy Demonstrations](#) (OCED), and will help strengthen America’s manufacturing and industrial competitiveness. Funding for these projects includes \$489 million from the Bipartisan Infrastructure Law and \$5.47 billion from the Inflation Reduction Act.

Decarbonizing Energy- and Emissions-Intensive Industries



The 33 projects selected for award negotiations represent difficult-to-decarbonize industries, including seven chemicals and refining projects, six cement and concrete projects, six iron and steel projects, five aluminum and metals projects, three food and beverage projects, three glass projects, two process heat-focused projects, and one pulp and paper project.

An overview of selected projects broken down by industry include:

- **[Chemicals and Refining](#)**: The seven selected chemicals and refining projects demonstrate how one of the world's largest industries can turn its carbon intensity from a liability into an advantage, increase circularity, and onshore critical supply chains for clean fuels and key electric vehicle components. These projects plan to demonstrate opportunities to upcycle captured carbon to value-added products, create high-quality fuels and materials from recycled products, and replace fossil-fired, high-heat processes with decarbonized fuels. Together, the seven projects would create products like clean fuels for the marine sector, electrolytes for electric vehicle batteries, and high-quality plastics.
- **[Cement and Concrete](#)**: The six selected cement and concrete projects plan to demonstrate a comprehensive set of technologies capable of eliminating all CO₂ emissions from today's plants while setting the stage for a future where cement—one of the single largest sources of CO₂ emissions globally—can be net-negative. These game-changing projects will revolutionize a sector that has relied on emissions-intensive processes for millennia. From capturing and sequestering the emissions from one of the largest cement plants in the U.S. to pioneering chemistry changes to mitigate emissions at their source, DOE's investments can fundamentally transform cement—the world's most abundant man-made material and a building block of our world's infrastructure. Together, the projects will develop new pathways for making traditional Portland cement with lower or zero emissions and to pioneer new materials and new mixtures that can drive the sector to zero emissions.
- **[Iron and Steel](#)**: The six selected iron and steel projects plan to demonstrate emerging technologies, including some of the world's first clean hydrogen-fueled direct reduced ironmaking facilities, which can eliminate the vast majority of steelmaking emissions. The projects will help decarbonize iron and steelmaking and enable the industry to phase out more traditional carbon-intensive production methods that rely on coal. This investment is expected to help create products like high grades of steel for the automotive industry, while solidifying the nation's position as the global leader in low-carbon iron and steel products.
- **[Aluminum and Metals](#)**: The five selected aluminum and metals projects include a major capital injection to decarbonize and revitalize the U.S. primary aluminum industry along with world-leading recycling approaches for both aluminum and copper. After decades of decline, these investments lay the groundwork for a potential rebound of this critical sector. These investments aim to improve U.S. industry's competitiveness

and efficiency while simultaneously decarbonizing and onshoring supply chains for materials critical for defense and energy sectors. In addition to the high-purity aluminum needed for the defense and energy sectors, the selections include projects that would create recycled aluminum for the food and beverage industry and copper for semiconductors and electric vehicles.

- **[Food and Beverage](#)**: The three selected food and beverage projects will demonstrate highly replicable energy efficiency and electrification solutions for low- to medium-temperature process heat across 16 locations. These projects can increase consumer awareness around embodied emissions by decarbonizing products that Americans consume every day like ice cream, ketchup, and BBQ sauce.
- **[Glass](#)**: The three selected glass projects plan to validate electric/fuel hybrid furnaces producing low-emission glass bottles, tableware, and food packaging. This suite of projects will help decarbonize high-temperature heat and set a roadmap for other heat-intensive industrial processes.
- **[Process Heat](#)**: These two projects plan to validate the use of electric boilers and electric steam production to reduce emissions associated with process heating across a wide range of industries. By demonstrating applicability across sectors, these projects will chart a path for addressing one of the biggest challenges in the industrial sector—heat-related emissions.
- **[Pulp and Paper](#)**: The one selected pulp and paper project aims to improve energy efficiency by using a novel membrane for an important separations process instead of heat. This technology is highly replicable for many applications, including chemicals and critical materials.

[Learn more about the 33 projects selected for award negotiations.](#)

Laying the Foundation of an Inclusive Clean Energy Future



The Biden-Harris administration is dedicated to working in partnership with communities and industries to build an equitable clean energy economy that benefits every American. As part of the Administration's commitments to invest in America's workforce, support high-quality American jobs, advance

environmental and energy justice, and strengthen tribal energy sovereignty, each project was required to develop and ultimately implement a comprehensive [community benefits plan](#) —which will be informed by early and meaningful community and labor engagements in each region. Applicants were required to describe how their proposals would provide the greatest benefit to the greatest number of people in a facility's location, recognizing the opportunity this funding provides to address pollution for those disproportionately affected by industrial sector emissions and begin remediating existing social, economic, and health burdens.

To kickstart ongoing engagement around these projects, OCED will hold a series of national and regional virtual briefings to provide information on the selected projects, introduce OCED's approach to clean energy demonstrations, and provide opportunities for industry and communities to engage further on specific projects of interest. [Learn about IDP engagement opportunities and register to attend.](#)

Selection for award negotiations is not a commitment by DOE to issue an award or provide funding. Before funding is issued, DOE and the selected applicants will undergo a negotiation process, and DOE may cancel negotiations and rescind the selection for any reason during that time. Lead applicants also may change during the award negotiations process. If awarded, OCED will evaluate these projects through a phased approach to project management that includes "go/no-go" decision points between each project phase where DOE reviews and evaluates implementation progress, including community benefits.

Learn more about how [OCED](#), the [Department's Pathway to Industrial Decarbonization Commercial Liftoff](#), the [Department's Industrial Decarbonization Roadmap](#), and the [Industrial Technologies Joint Strategy](#) support the research, development, demonstration, and deployment of technologies that will help the U.S. industrial sector reach President Biden's ambitious goal of a net-zero emissions economy by 2050.

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Tags:

INDUSTRIAL DECARBONIZATION TECHNOLOGIES

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