



Industrial Demonstrations Program – Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production

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 December 2024, OCED awarded the Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production project with \$10 million to begin Phase 1 of the project, which would be located on the U.S. Gulf Coast.



Awardee Fact Sheet

Industrial Demonstrations Program:

Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production

Project at a Glance — Phase 1

- » **Total OCED Cost Share:** Up to \$95 million
- » **Phase 1 Total Project Amount:** \$45,925,596*
- » **Phase 1 OCED Award Amount:** \$10,000,000**
- » **Phase 1 Scope of Work:** Permitting, community engagement, and other development activities
- » **Phase 1 Timeline:** 21 months
- » **Recipient:** The Dow Chemical Company is a materials science company
- » **Project Locations:** U.S. Gulf Coast
- » **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 Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production Project, led by The Dow Chemical Company (Dow), plans to design and construct a facility on the U.S. Gulf Coast with the intent to capture and utilize approximately 50% to 90% byproduct CO₂ from a large-scale manufacturing process to produce essential components of electrolyte solutions needed for domestic lithium-ion batteries. This project would represent a leading U.S. demonstration to capture and utilize CO₂ from upstream material manufacturing. This project would also provide supply chain resilience by establishing a domestic manufacturing base for the rapidly expanding U.S. electric vehicle and power storage markets, which are critical pieces of the energy transition.

During Phase 1, Dow will conduct initial planning, engineering, and design tasks while carrying out tasks associated with OCED's completion of the National Environmental Policy Act (NEPA) review and intends to hold preliminary meetings with workforce and community groups in the area. OCED will provide oversight of the Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production 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 Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production Project would be located on the U.S. Gulf Coast, with a site anticipated to be announced in early 2025.

Community Benefits Commitments

Community benefits commitments are a key component of the Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production Project. The commitments are informed and developed—in consultation with local communities—to maximize local community benefits and mitigate potential negative impacts. Dow plans to implement these commitments through:

- Creating roughly **50 permanent manufacturing jobs** and approximately **600 construction jobs**. Dow will engage with union operations labor leaders regarding the project. Dow is committed to exploring the use of workforce agreements with union construction labor leaders and construction vendors.
- Supporting the essential capacity building necessary at the manufacturing site that would serve the surrounding community beyond this project **by partnering with diverse suppliers, educational institutions, accelerators, economic development organizations**, and leveraging private, public, and philanthropic capital.
- Creating a Near Neighbors group and **engaging the existing Community Advisory Panel** to solicit feedback on community and environmental needs, **increasing quality job training** opportunities in nearby disadvantaged communities, co-creating relevant engagement initiatives, and pursuing community agreements with relevant stakeholders.
- **Expanding apprenticeship offerings in the local community** combining on-the-job training, a competitive salary, and classroom instruction to further career advancement for disadvantaged community residents.
- 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.
- Sharing project information publicly to **support engagement, accountability, and transparency**.

More details on the Novel CO₂ Utilization for Electric Vehicle Battery Chemical Production project's community benefits commitments can be found in the [Community Benefits Commitments Summary](#).



Dow's U.S. headquarters

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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.



Dow's U.S. manufacturing site

Contact

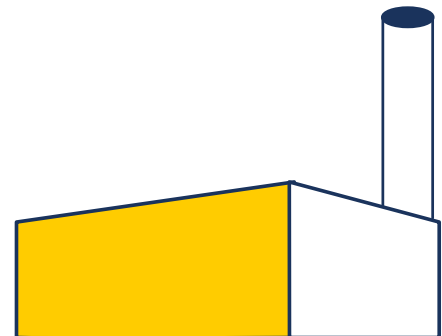
Program Email: engage_industrialdemos@hq.doe.gov

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.