



Industrial Demonstrations Program – Syngas Production from Recycled Chemical Byproduct Streams

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 greenhouse gas emissions in the U.S. industrial sector. Following negotiations, in September 2024, OCED awarded the Syngas Production from Recycled Chemical Byproduct Streams project more than \$1.5 million to begin Phase 1 of the project, located in Freeport, TX.



Project at a Glance – Phase 1

- » **Total OCED Cost Share:** Up to \$75 million
- » **Phase 1 Total Project Amount:** \$3,158,820*
- » **Phase 1 OCED Award Amount:** \$1,579,410**
- » **Phase 1 Scope of Work:** Planning, permitting, design, community engagement, and other development activities
- » **Phase 1 Timeline:** 6–8 months
- » **Recipient:** BASF Corporation is a chemical manufacturing company
- » **Project Location:** Freeport, TX
- » **Start Date:** October 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 Syngas Production from Recycled Chemical Byproduct Streams project, led by BASF Corporation (BASF), plans to recycle liquid byproducts into syngas, which can be used as a low-carbon feedstock at BASF's chemical manufacturing site in Freeport, TX. By using plasma gasification and renewable power, BASF expects to decrease carbon dioxide emissions associated with select incineration processes at BASF's Freeport manufacturing site by at least 75%, enabling the uptake of a technology capable of recycling liquid byproducts into additional production feedstocks like syngas or hydrogen and supporting the transition toward a low-carbon and more circular chemical production.

During Phase 1, BASF plans to perform engineering studies, simulations, and calculations to support design development.

OCED will provide oversight of the Syngas Production from Recycled Chemical Byproduct Streams 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 will impact OCED's decision to continue to provide federal funding and allow the project to progress to the following phase.

Syngas Production from Recycled Chemical Byproduct Streams Project Fact Sheet

Project Site

The Syngas Production from Recycled Chemical Byproduct Streams project is located at BASF's manufacturing site in Freeport, TX, in the southeastern part of the state.

Community Benefits Commitments

Community benefits commitments are a key component of the Syngas Production from Recycled Chemical Byproduct Streams project. The commitments are informed and developed—in consultation with local communities—to mitigate potential negative impacts of this project and maximize local community benefits. BASF plans to implement these commitments through:

- **Creating additional permanent jobs** at the BASF Freeport manufacturing site.
- Engaging its existing **Community Advisory Panel** to solicit feedback on the project.
- Continuing to partner with the Brazosport College and other community stakeholders to **provide tailored community benefits programming and equitable workforce development activities** to support the surrounding community.
- **Engaging with relevant labor unions (including the Building Trades unions) and workforce partners** and pursuing good faith negotiations towards a Project Labor Agreement or craft agreement prior to construction.
- 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 Syngas Production from Recycled Chemical Byproduct Streams' project community benefits commitments can be found in the [Community Benefits Commitments Fact Sheet](#).



Aerial view of the BASF Freeport site

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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.



BASF Veterans Employee Team and employees supporting Sweeney Future Farmers of America to cook hotdogs for military veterans and Sweeney band members after the Veteran's Day Parade

Contact

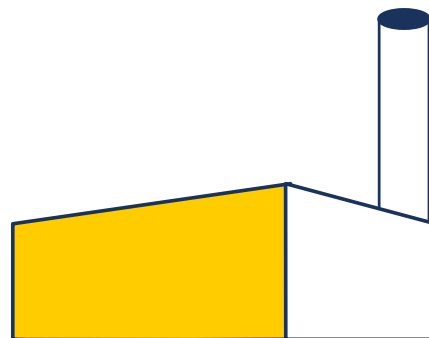
Program Email: engage_industrialdemos@hq.doe.gov

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.