



## Industrial Demonstrations Program – Star e-Methanol

The Industrial Demonstrations Program, managed by the U.S. Department of Energy's (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 Star e-Methanol project with more than \$3.4 million to begin Phase 1 of the project, located on the Texas Gulf Coast.



### Awardee Fact Sheet

#### Industrial Demonstrations Program: Star e-Methanol

### Project at a Glance – Phase 1

- » **Total OCED Cost Share:** Up to \$99 million
- » **Total Project Amount:** Up to \$7 million\*
- » **OCED Award Amount:** \$3,474,800\*\*
- » **Scope of Work:** Planning, permitting, design, community engagement, and other development activities
- » **Timeline:** 1-2 years
- » **Recipient:** Ørsted Star P2X LLC is an American subsidiary of Ørsted, a global energy company and developer of renewable energy resources
- » **Project Location:** Texas Gulf Coast
- » **Start Date:** December 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 Star e-Methanol project, led by Ørsted Star P2X LLC (Ørsted), plans to use captured carbon dioxide from a local industrial facility to produce e-methanol and reduce greenhouse gas emissions from hard-to-electrify sectors like shipping. Ørsted's facility is estimated to produce up to 300,000 metric tons of e-methanol per year and would reduce greenhouse gas emissions by 80% or more compared to traditional production methods. This project expects to demonstrate both the supply and demand for clean hydrogen-derived alternative fuels for the marine shipping and transportation sector. These sectors currently rely on energy-intensive fossil-derived fuels to transport the world's goods. Ørsted is also participating in the Gulf Coast Hydrogen Hub (HyVelocity), a separate OCED award under the Regional Clean Hydrogen Hubs program, to produce the hydrogen for the Star e-Methanol project.

During Phase 1 of the project, Ørsted will complete initial conceptual and engineering studies for the various aspects of the project, provide documentation and reports necessary to complete the National Environmental Policy Act (NEPA) review, and engage community and labor stakeholders. OCED will provide oversight of the Star e-Methanol 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.

# Star e-Methanol Project Fact Sheet

## Project Site

The Star e-Methanol project would be located on the Texas Gulf Coast, with a site to be proposed by the end of Phase 1.

## Community Benefits Commitments

Community benefits commitments are a key component of the Star e-Methanol project. The commitments are informed and developed—in consultation with local communities—to maximize local community benefits and mitigate potential negative impacts. Ørsted plans to implement these commitments through:

- Creating approximately **300 construction jobs and 50 permanent jobs**.
- Pursuing Memorandum(s) of Understanding (MOU) for **negotiated workforce agreements** (e.g., Project Labor Agreement, Community Workforce Agreement, Collective Bargaining Agreement) and community benefits agreements.
- Working with the University of Houston to **develop a curriculum around zero-carbon fuels** and the hydrogen economy.
- Using the Star e-Methanol project as a catalyst to **equip workers with the skills to take part in the new energy economy**, including the utilization of pre-apprenticeship, registered apprenticeship, and other certification programs.
- Supporting the Justice40 initiative by **completing a Justice40 assessment** and implementation strategy during each phase and incorporating environmental and socioeconomic benefits and impacts (e.g., job creation, air quality, traffic/construction, and water use/effluents).
- **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 Star e-Methanol project's community benefits commitments can be found in the [Community Benefits Commitments Summary](#).



An Ørsted employee and a maritime vessel



# Star e-Methanol 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.



An Ørsted employee at a wind-powered fuel facility

## Contact

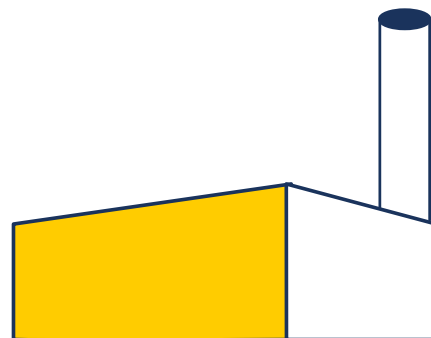
**Program Email:** [engage\\_industrialdemos@hq.doe.gov](mailto:engage_industrialdemos@hq.doe.gov)

**OCED Media Email:** [OCEDNewsroom@hq.doe.gov](mailto:OCEDNewsroom@hq.doe.gov)

## More Resources

**Website:** [energy.gov/oced/IDP](https://energy.gov/oced/IDP)

**Office of Clean Energy Demonstrations:** [energy.gov/oced](https://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.