

LanzaTech

Nasdaq: LNZA

A Carbon Recycling Company

Project SECURE **DOE Investment Overview** March 25, 2024



Today's Announcement

LanzaTech

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Project SECURE selected by U.S. DOE to negotiate \$200 million

- Project SECURE is a **demonstration of carbon utilization at work**, leveraging LanzaTech's and Technip Energies's transformational technologies to **produce sustainable ethylene from captured CO₂ emissions**
- **Sited in the US**, Project SECURE, will be the first commercial-scale deployment of this sustainable ethylene production integration with **enormous replicability potential at any ethylene steam cracker facility globally**
- DOE investment to contribute to the financing of the design, engineering, and construction of Project SECURE
- **Major milestone achieved** as part of LanzaTech and Technip Energies previously announced Joint Collaboration Agreement in July 2023

Global Ethylene Market

"the world's most important chemical"

\$200 Billion

global ethylene market size by 2030

553 million

tonnes of annual CO₂ emissions from ethylene production

Ethylene is a precursor to produce myriad products like polyester, textiles, foams, and plastics and is also utilized in the 1st step of the Alcohol-to-Jet process to produce Sustainable Aviation Fuel

Project SECURE

\$200 Million

investment expected to be provided by the DOE

+200 jobs

expected to be enabled through Project SECURE

50,000 tonnes

of expected annual nameplate capacity of ethanol production

Project SECURE Detail

Key Benefits to LanzaTech & Technip Energies



Provides immediate and highly replicable decarbonization solution for the ethylene industry given LanzaTech's and Technip Energies's licensing business models



Enables deep penetration into ethylene sector via partnership with Technip Energies, a leader in the global ethylene market



Demonstrates a further commercial-scale use for LanzaTech and Technip Energies technology integration



Additional Project Detail

- Commercial-scale project to be sited at a steam ethylene cracker in the U.S. that will capture CO₂ emissions:
 - First, CO₂ is captured via a Technip Energies carbon capture technology
 - Second, captured CO₂ will be converted to sustainable ethanol through LanzaTech's gas fermentation process
 - Third, the ethanol will be further converted into sustainable ethylene utilizing Technip Energies's Hummingbird® technology
- Project SECURE sized to 50,000 tonnes of annual ethanol production, which will enable 30,000 tonnes of annual ethylene production
- Sustainable ethylene produced will have low carbon intensity and significant demand from downstream customers
- Expect to bring in equity and debt capital partners to finance remaining project capital
- LanzaTech and Technip Energies will provide services-related work during the project development phase and license their respective technologies to the project on an ongoing basis
- Project scope is designed to be highly replicable and has potential to be deployed across the global ethylene production fleet

Industrial Demonstrations Program Overview

U.S. Industry – The Problem

- U.S. industrial sector contributes nearly one third of the nation's primary energy-related CO₂
- Highest emitting and hardest to abate industries are also those most essential to our everyday lives: iron & steel, cement & concrete, chemicals & refining, food & beverage, paper & forest products
- Emerging energy technologies often met with challenges and risks in securing required funding and achieving commercialization



The Industrial Demonstrations Program (IDP)

- Focuses on advancing transformational technologies necessary to decarbonize the U.S. industrial sector
- Managed by U.S. Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED)
- Funded by the Bipartisan Infrastructure Law and Inflation Reduction Act
- Announced \$6.3 billion in total funding to date



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