

From CO₂ to polymers

Presenter:

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Scope of presentation:

- Describe how we at DTI work across the value chain to obtain CO₂-based polymers by: developing technological solutions that fit into existing chemical infrastructure, demonstration of tangible solutions and document the impact by environmental and economic assessment.
- Present a specific case, called UC-DC (Utilisation-of-Carbon-for-DeCarbonisation), see more below.

Case: UC-DC

Scope

This project will convert waste CO₂ and CO₂ captured directly from air into commodity chemicals for replacing petrochemicals, thus unlocking a sustainable and future-proof carbon source for decarbonising the chemical industry.

Approach

UC-DC will develop a CCU technology using bacteria for biological CO₂ capture. The technology will be able to convert the CO₂ into commodity chemicals which fit the existing chemical supply chain. To further expedite the potential applications of CCU, the project will demonstrate the conversion of the produced commodity chemicals into monomers for further polymerisation. This will provide valuable plastic pellets, demonstrating a value chain spanning from carbon capture to a final plastic material.

Partners

Danish Technological Institute
Pond
Again

Tags

DAC, utilisation, microbiology, process technology, value chain

Background

The project is part of a mission driven partnership called INNO-CCUS, www.inno-ccus.dk