

Carbon Dioxide to Chemicals – Quo Vadis?

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Abstract

Due to the energy transition and the geopolitical situation the chemical industry in Europe is facing huge challenges to compete on the global market. Oil rich countries are investing heavily in Crude to Chemicals and countries with large natural gas reserves are enjoying low costs and reduce emissions by shifting to methanol and ammonia production with CCS. At the same time the European Commission has the ambition to create a competitive and sustainable industry in Europe enabling a Net Zero Emission and Circular Society by 2050.

This presentation will focus on the opportunity of using CO₂ as a feedstock to produce chemicals and polymers and more specifically the role of e-methanol for the defossilization of the chemical industry. Amongst others, the Methanol to Olefins (MTO) process offers a route to produce chemicals from e-methanol. Next to the role of regulations to create demand for CO₂-based products, the technical and commercial opportunities and challenges of using CO₂ as a feedstock to produce chemicals will be discussed.