

CO₂-based Fuels and Chemicals Conference 2025

Presentation abstract

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Title: Saving and valorizing CO₂ with the Lurgi Methanol™ technologies by Air Liquide

Abstract:

When it comes to the decarbonization of the industries, sooner or later Methanol comes into play. Its versatile role as an essential chemical but also as a low-emission energy carrier makes it a powerful brick in the transition towards a low-carbon economy. Since the industrialization of large-scale Methanol production, various production pathways have emerged - mostly different with respect to feedstock, capacity, and the CO₂ footprint achievable.

Air Liquide offers the unique combination of an extensive energy transition technology portfolio with its world-class Lurgi Methanol™ technologies, enabling all types of conventional and emission-reduced Methanol production. Arching from Carbon capture-enhanced Methanol, via biogenic Methanol, to renewable e-Methanol, different production pathways for Methanol and their potential to contribute to CO₂ emission reduction are illustrated. The spotlight of this presentation will be on e-Methanol production from CO₂ and renewable H₂, particularly on efficient coupling of electrolysis, CO₂ capture and Methanol units as well as on flexible operation.