Abstract : CO2 Based fuels and Chemicals Conference 2025

CCV : Carbon Captur Valorization

SYKLEA The No Water Technology and Alium program

Following three decades of research focused on CO₂ capture and valorization via microalgae, and with a first patent filed in 2007, SYKLEA has achieved a technological breakthrough with its **No Water Technology**. This approach eliminates the need for water in microalgal biomass production systems, enabling CO₂ capture and biomass production with significantly reduced energy costs, outperforming the energy efficiency of conventional photobioreactors. Compared to chemical valorization processes, such as Fischer-Tropsch and geological CO₂ sequestration, this technology offers a viable and more energy-efficient biogenic alternative.



Within the framework of the **Alium** program, SYKLEA collaborates with industrial partners to optimize the No Water Technology for petrochemical applications, focusing on the production of biosynthetic hydrocarbons derived from biogenic CO₂. The goal of these developments is to reduce reliance on fossil hydrocarbons by valorizing CO₂ emissions from industrial sources. Scaling up these processes could help curb global CO₂ emissions, directly contributing to climate change mitigation efforts.



Additionally, the high stability of the No Water Technology has enabled the development of the **Urban'Alg** range, designed to lower CO₂ concentrations and increase oxygenation in various environments, both open and confined. This range provides a solution to atmospheric gas regulation in urban or industrial settings, potentially playing a role in enhancing air quality.



We look forward to meeting you all; It will be a great pleasure!

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