

Abstract submission

for a presentation at the

CO₂-based Fuels and Chemicals Conference 2026

Title: Certifying Sustainability: Current Frameworks and Developments for CO₂-Based Fuels and Materials

Abstract:

As CO₂ utilisation technologies move from research to large-scale deployment, the need for credible sustainability certification frameworks is becoming increasingly critical. This presentation provides an overview of current frameworks and developments in sustainability certification for CO₂-based fuels and materials, both in Europe and globally, recognising the growing policy momentum driven by initiatives such as the Sustainable Transport Investment Plan (STIP) and the Net-Zero Industry Act (NZIA).

The session compares the evolving regulatory and certification landscape for CO₂-based fuels and materials, highlighting key similarities and differences. For CO₂-based fuels, sustainability requirements are already defined under the EU Renewable Energy Directive (RED) and CORSIA, providing clear regulatory pathways for verification and market access. For CO₂-based materials, by contrast, only voluntary certification schemes—such as the RSB Advanced Products Standard—currently exist, reflecting the earlier stage of framework development. There is also growing interest in advancing sustainability certification for biogenic CO₂ to enable consistent cross-sectoral application in both fuels and materials.

A particular focus is placed on CO₂-based fuels, where certification approaches are rapidly evolving in response to policy and market drivers. The presentation will discuss recent CORSIA updates for fuels with high renewable-electricity inputs, alongside broader sustainability dimensions and concerns—such as raw-material sourcing, energy origin, and water use.

By linking certification practice with innovation and emerging policy frameworks, the presentation aims to strengthen transparency, comparability, and trust across the CO₂-based fuels and materials sector.