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PRESS RELEASE

CO_2-based Fuels and Chemicals Conference 2026 – Strategic Pathways for Scaling Carbon Capture and Utilisation

Leading global event on Carbon Capture and Utilisation to discuss green hydrogen strategies, cost-competitive e-fuels, CO_2-to-polymers and materials

Hürth, 10 February 2026: On 28–29 April 2026 the **CO_2-based Fuels and Chemicals Conference 2026** once again gathers international experts from industry, research and policy in Cologne, Germany, and online. This year's final programme delivers a sharpened focus on strategic outlooks, technology updates and project examples, while also addressing real-world integration challenges for green hydrogen and CO_2 utilisation. Sessions on key topics offer participants rare insights into actionable pathways beyond lab concepts. Experts provide detailed coverage along the entire CCU value chain, from CO_2 sources and capture to CO_2-based fuels, chemicals, polymers and materials, with selected examples on low-emission production concepts advancing towards commercial viability.

This established conference regularly gathers more than 230 decision-makers focused on renewable carbon strategies, with sessions building on strategic policy outlooks and concrete case studies that map viable pathways for defossilising chemicals, (aviation) fuels and materials.

The final program is available at https://co2-chemistry.eu/program/.

Green hydrogen ramp-up status and CO_2 sources

Answering the question "When will CCU go mainstream?" (Michael Carus, nova-Institut) the conference will set the scene with sessions covering the latest information on certification for CO_2-based fuels and chemicals (Esther Hegel, RSB), discussion on the sustainability of CCU (Ángel Puente, nova-Institut) and integrating prospective Life-Cycle assessments into early stage CCU technologies (Nils Rettenmaier, ifeu). Building on growing policy support for Power-to-X, a special session will examine regional hydrogen strategies, such as the ramp-up status in North Rhine-Westphalia (Stefan Herrig, NRW.Energy4Climate), and low-emissions hydrogen's role in chemical production (Maryanne Maina, TNO). These discussions lead into the topic of reliable CO_2 sourcing, with AI-driven identification of biogenic emissions (Eric Rambech, Endrava), carbon-14 measurements for biogenic content to quantify CO_2 capture and removal (Joséphine Gigon, SGS) and explores onboard carbon capture for PtX fuels (Anita Demuth, PtX Lausitz). A dedicated poster pitch session will further explore the flexible conversion of biogenic CO_2 into biodegradable materials (Heleen de Wever, VITO), catalytic production of

methanol-based fuels (Gia Trung Hoang, KIT) or CO_2 utilisation for renewable aromatics (Snehal Pujar, TNO).

CO_2 utilisation routes and scale-up progress

Turning to utilisation pathways, talks detail integrated CO_2 capture-methanol synthesis for cost-competitive green fuels (Christian Wünsch, ICODOS) and other CO_2-to-chemicals developments (Reinier Grimbergen, Blue Circle Olefins). These build towards sector applications like CO_2-to-polymers catalysts for surfactants (Nick Smith, Viridi), Dimethylether as a sustainable all-rounder for defossilisation (Achim Schaadt, FH ISE) or CCU for food applications (Enzo Duriez, Lesaffre International). In addition, pilot-scale examples provide operational insights, including electrochemical CO_2 conversion (Mohammad Rezaei, GIG Karasek), low-temperature electrolysis (Tamás Födi, eChemicals) as well as enhanced syngas production (Mariasole Cipoletta, Rosetta Marino) and ethylene production by electrolysis (Colin O'Brien, Cert Systems).

"Best CO_2 Utilisation" innovation award

Putting a spotlighting on pioneers in CCU, the "Best CO_2 Utilisation" innovation award – co-organised by nova-Institute and CO_2 Value Europe with Yncoris sponsorship – each year features pitches from six expert-selected nominees. Three winners are then chosen by the audience in a live vote. The two-day event successfully combines presentations, panels, poster pitches and a trade exhibition, and is supported by gold sponsors GiG Karasek and Holcim.

Registration and further information are available at https://co2-chemistry.eu.

Find all nova press releases, images and more free-for-press material at https://nova-institute.eu/news/pr/

Responsible for the content under German press law (V. i. S. d. P.):

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Since the mid-1990s, the nova-Institute has been dedicated to sustainability and today focuses primarily on renewable carbon cycles. As an independent research institute, it supports companies – particularly from the chemical, plastics, and materials industries – in the use of renewable carbon derived from biomass, direct CO_2 utilisation (CCU), and recycling.

With a multidisciplinary team of scientists, the nova-Institute participates in international innovation projects and provides science-based management consulting. The institute follows a holistic approach: its experts analyse which technologies and raw materials are suitable for specific products, in which markets their application is feasible, which regulatory frameworks apply, how sustainable the solutions are, and how they can be successfully positioned in the market.

Based on these analyses, the team develops tailored strategies to support the transformation from fossil to renewable carbon. Around 50 experts from various disciplines work together to drive the defossilisation of industry – for a climate-neutral future.

More information: **www.nova-institute.eu – www.renewable-carbon.eu**

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