

Press release

nova-Institut GmbH (www.nova-institute.eu)

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Leading international experts meet at one of the world's key events on Carbon Capture and Utilisation (CCU) and Power-to-X

On 19-20 April 2023 in Cologne, Germany, and online. The preliminary program of the “Conference on CO₂-based Fuels and Chemicals 2023” is online. Take a look!

CCU is one essential pillar for the supply of renewable carbon besides biomass and recycling and therefore one of the key technologies for the transition to sustainable chemical and fuel production and to substitute fossil feedstock sources. This is crucial to fight additional CO₂ emissions and climate change and to shift towards climate-friendly production and consumption. For providing the full benefits of CCU technologies the use of renewable energy and hydrogen is indispensable for the production of CO₂-based transportation and aviation fuels, bulk and fine chemicals and materials.

At the conference new and leading players will demonstrate novel and improved applications based on the use of CO₂ as feedstock, providing a comprehensive perspective on CCU: Starting from innovation and strategy to develop and implement innovative CCU technologies over regulation and policy framework to carbon capture, Power-to-Fuels as well as CO₂-to-Chemicals, polymers, materials and minerals conversion. The first 21 speakers from 11 countries are now confirmed in the preliminary programme.

Experts from industry and research will discuss the wide range of possibilities for using CO₂ as an industrial raw material. In this way, the presented technologies and projects offer important instruments for the avoidance of harmful emissions, for the development of a renewable circular economy and are therefore considered key factors in the successful fight against climate change. The content will cover the entire supply and value chain for carbon capture and utilisation (power-to-X) from capture to use in fuels and other products.

Additionally, research institutes like the German DLR, the Dutch TNO, the Belgian VITO and the French IFPEN will highlight current research on carbon capture, electrochemistry and e-fuel production.

The nova-Institute, CO₂ Value Europe as well as the University of Michigan will introduce you to a comprehensive status quo and future perspective on CCU strategy and policy.

To be part of the game, take a look into the near future and exchange ideas with leading pioneers and don't miss the opportunity to apply for the innovation award “Best CO₂ Utilisation 2023”.

Find the latest program at [https://CO₂-chemistry.eu/program](https://CO2-chemistry.eu/program)

Discover the Preliminary Program of the “Conference on CO₂-based Fuels and Chemicals 2023”

Innovation, Strategy and Policy

- Michael Carus and Christopher vom Berg, nova-Institute (DE) – CCU is Much More Than a Carbon Removal Technology
- Anastasios Perimenis, CO₂ Value Europe (BE) – A European Roadmap for Carbon Capture and Utilisation (CCU)
- Volker Sick, University of Michigan (US) – Track 2 CO₂-based Products
- Wim Van der Stricht, ArcelorMittal (BE) – The ArcelorMittal Strategy Towards Carbon Neutral Steel Production
- Nicolas Hark, nova-Institute (DE) – What Does EU Policy Have in Store for Carbon Capture?

Carbon Capture

- Enric Prats-Salvado, Institut für Future Fuels, Deutsches Zentrum für Luft- und Raumfahrt (DLR) (DE) – Solar-Powered Direct Air Capture: Techno-Economic and Environmental Assessment
- Selina Ambrose, Promethean Particles (UK) – Metal Organic Frameworks (MOFs): Enabling Energy-Efficient Carbon Capture for the Growing CO₂ Utilisation Market

Power-to-X

- Elena Perez Gallent, TNO (NL) – Process Intensification of CCU Technologies: Integration of CO₂ Capture with Electrochemical CO₂ Conversion Towards Added Value Products
- Emeric Sarron, Carbon Recycling International (IS) – Commercial Scale Production of Methanol From Captured CO₂ and Hydrogen
- Babette Pettersen, LanzaTech (US) – Enabling a Circular Economy: Carbon-Negative Fuel and Chemical Production by Eliminating Waste

Power-to-Fuels

- Catherine Laroche, IFPEN (FR) – From CO₂ Capture to E-Fuels Production, Integration is Key
- Maartje Feenstra, Institute for Sustainable Futures, University of Technology Sydney (AU) – Sustainable Aviation Fuels in the One Earth Climate Model’s 1.5° C Scenario: Where Does the (sustainable) Carbon Come From?

CO₂-to-Polymers and Materials

- Pauline Ruiz, nova-Institute (DE) – CO₂ Utilisation for Chemicals and Materials - An Overview on Technologies, Key Players, Markets and Trends
- Maurice Power, Eonic Technologies (UK) – Application of CO₂ Containing Polyols
- Jan Thiel, Institut für Textiltechnik der RWTH Aachen University (DE) – Application of CO₂-containing Thermoplastic Polyurethane Yarns in Elastic Textiles
- Floris Buijzen, Borealis (AT) – Turning Carbon Emissions Into Running Shoes

- Heleen de Wever and Deepak Pant, Flemish Institute for Technological Research (VITO) – Electrochemical Production of C1 Chemicals and their Bioconversion to Polymers

CO₂-to-Chemicals and Minerals

- Christine Rasche, Fraunhofer IGB (DE) – Combining Chemistry and Biotechnology for the Production of CO₂-based Chemicals – Chances and Risks
- Bruce Dannenberg, Phytonix Corporation and Cyanomega Corporation (US) – Carbon Dioxide Utilization Via Photosynthetic Conversion to Higher Alcohols and Fatty Acids to Address the Climate Crises and Create a Circular Carbon Economy: From Laboratory to Commercialization
- Cecilia Mondelli, Sulzer Chemtech (CH) – CO₂ Capture Meets Mineralization in the Liquid Phase for a Sustainable Construction Industry
- Mohammad Rezaei, GIG Karasek (AU) – Electrochemical CO₂ Transformation: Efforts and Perspectives of an Industrial Plant Constructor

Innovation Award “Best CO₂ Utilisation 2023”

The innovation award for the “Best CO₂ Utilisation 2023” will be granted at the “Conference on CO₂-based Fuels and Chemicals 2023”, 19–20 April 2023, Cologne, Germany – a well-established meeting point for companies working in the field of CO₂-based technologies, fuels and chemicals. Being a hybrid event, the conference combines a “live” in-person event with all comforts of “virtual” online components ([www.CO₂-chemistry.eu](http://www.CO2-chemistry.eu)).

Seize the opportunity and apply now: [www.CO₂-chemistry.eu/award-application](http://www.CO2-chemistry.eu/award-application).

Sponsoring

nova-Institute would like to thank YNCORIS for sponsoring the innovation award “Best CO₂ utilisation 2023” and CO₂ Value Europe for the co-organisation.

If you would like to support the conference, please visit <https://co2-chemistry.eu/sponsoring/>.

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nova-Institute is a private and independent research institute, founded in 1994; nova offers research and consultancy with a focus on the transition of the chemical and material industry to renewable carbon: How to substitute fossil carbon with biomass, direct CO₂ utilisation and recycling. We offer our unique understanding to support the transition of your business into a climate neutral future. nova-Institute has more than 40 employees.

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