

# **CO<sub>2</sub> as sustainable carbon source – how standards can lead the pathway to industrial applications**

Dipl.-Ing. Dennis Krämer<sup>1</sup>, Dr. Christian Goroncy<sup>2</sup>

DECHEMA Gesellschaft für Chemische Technik und Biotechnologie e.V.<sup>1</sup>

DIN e.V.<sup>2</sup>

The chemical industry is a major supplier for a wide range of industries. Since the primary carbon sources of the chemical industry is of fossil origin, everyday products such as plastics, cosmetics, or even medicines are predominantly made from crude oil or natural gas. In order to reduce the overdependence of the chemical value chain on unsustainable resources the German Federal Ministry of Education and Research (BMBF) started the research measure “CO<sub>2</sub> as sustainable carbon source – pathways to industrial application (CO<sub>2</sub>-WIN) to utilize carbon dioxide as an alternative and sustainable carbon source in 2020. Under the funding measure, 13 industry driven R&D projects on chemical and biochemical CO<sub>2</sub> conversion, photo and electrocatalysis, CO<sub>2</sub>-mineralisation as well as CO<sub>2</sub> capture from the atmosphere are funded. DECHEMA is coordinator of the supporting and scientific coordination project CO<sub>2</sub>-WIN Connect. The project includes research with respect scientific analysis on the overall potential in respect to lower CO<sub>2</sub>-emissions and save fossil resources as well as pushing forward to develop standards in the field of CO<sub>2</sub>-utilization processes. The presentation at the Conference on CO<sub>2</sub>-based Fuels and Chemicals 2022 would include, on the one hand insights of the funding measure and the latest information about other German R&D programmes on the topic, and on the other hand, information’s about the latest standardization activities in the field of carbon dioxide utilization. DIN, the national standardization body of Germany and part of CO<sub>2</sub>-WIN Connect, consults the funded projects on behalf of all standardization issues and evaluates potential standardization activities from their project findings. The benefit of the early consideration of standardization as well as first impressions from the ongoing standardization activities on terminology of CCU and the determination of CO<sub>2</sub>-conversion rates in photocatalytic processes will be shown in the presentation.