

Title: Exploring the Functions of Electrocatalysts and Membranes in Advanced Technologies for Green Synthesis of Carbon Monoxide from Carbon Dioxide

Abstract: The critical need to cut back on greenhouse gases, especially CO₂, has sparked a lot of research into new ways to make useful chemicals that will help fight climate change. Electrochemical CO₂ reduction is gaining traction as a way to produce CO, a key ingredient in numerous industrial processes. Focusing on efficiency improvements for CO production, this in-depth evaluation analyzes the newest developments in CO₂ electroreduction, emphasizing its mechanisms, catalysts, reaction pathways, and optimization strategies. By examining the existing literature and state-of-the-art ECO₂CELL Technology developed by GIG Karasek GmbH, we seek to deliver a comprehensive understanding of cutting-edge methods for sustainable CO production and their potential impact.