

Electrocatalytic Conversion of CO₂ into Valuable Products

박기태[†]

한국에너지기술연구원

(ktpark@kier.re.kr[†])

Recently, electrocatalytic CO₂ reduction (ECO2R) technology has received much attention due to its ability to convert CO₂ to valuable chemicals and fuels through clean and economical processes. Many studies have been reported in a last decade, but there are still several challenges such as improvement of current density, energy efficiency, selectivity and stability need to be addressed for the development of economically viable CO₂ reduction processes. In addition, the pathways of ECO2R and the reaction mechanisms of electrocatalysts degradation should be verified. Here the recent progress and perspectives in electrocatalytic CO₂ conversion technologies are reviewed as a means of production of valuable products, and some technical obstacles are analyzed which should be overcome for the development of commercial-scale ECO2R processes.