John van Geuns Foundation lecture by Prof. Andreas Jess / University of Bayreuth

CO_2-based Synthetic Fuels: An Option to Meet Climate Targets

Tuesday July 5, 2022 | 11am | A1.28

As a starting point, global greenhouse gas emissions (GHGE) and the energy consumption of end users such as industry, transport, and buildings are examined. Different GHG reduction measures ranging from substitution of fossil fuels for electricity, electrification of transportion and buildings, to restructuring of the industry are discussed. To elucidate consequences on global warming, emission scenarios are also incorporated. In the second part of the lecture, the focus is on Fischer-Tropsch-synthesis (FTS), which is an important option to produce synthesis fuels based on renewable hydrogen and CO_2. Thereby, chemical as well as chemical engineering aspects are considered in detail.



Andreas Jess *received his diploma in chemical engineering in 1987 from RWTH Aachen and his PhD from the same university in 1991. After a habilitation thesis on thermal and catalytic cracking of hydrocarbons he was appointed in Aachen as Professor for Tehcnical Chemistry. In 2001 he moved to the University of Bayreuth, as the Chair of Chemical Engineering. Jess has co-authored more than 150 peer-reviewed publications, 18 book chapters, and the textbook* ***Chemical Technology*** *(Wiley-VCH, with Peter Wasserscheid). His current research focuses on synthetic fuels via Fischer-Tropsch Synthesis and on the impact of emissions on climate change and possible solutions.*