

Research in Singapore on Low-Carbon Technologies and Alternative Feedstocks for Sustainability

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Abstract

Carbon negative and energy efficient technologies that could reduce greenhouse gas (GHG) emissions are among the greatest challenges of the 21st century. Therefore, developing processes and technologies with low GHG emissions to meet growing energy demand in a sustainable manner is of great significance, especially to achieve Singapore's Green Plan and commitment to Net Zero by 2050. On the other hand, development of sustainable processes and technologies with atom economic and environmentally friendly methods for the production of chemicals and materials are highly desirable. In this talk, I will briefly talk about how use-inspired basic research, accelerated catalyst development platform and low carbon technology translational testbed come together to help to advance sustainability and shorten the time from lab to market. Particular focus is on CO₂ to X (chemicals, fuels), clean energy production, and alternative green processes, etc. Key research topics and activities at ISCE² will be discussed.