

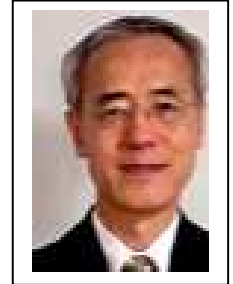
TNChE Asia 2024 Conference
" Decarbonization, AI and Digital Transformation
for Sustainability in Process Industries "
Presenter's Biodata & Abstract



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Title of Presentation : **Lummus Decarbonization Options for Cracking Heaters**

Presentation Abstract :

Reducing Carbon Dioxide (CO₂) emissions is a major effort in the Petrochemical Industry. The cracking heaters in an ethylene plant are the major sources of CO₂ emission. Other than low carbon-bearing fuel firing, any firing reduction for a fired cracking heater will have an impact not only on the operation of the heater, but also on the plant energy and material balance. This paper will introduce Lummus decarbonization options for cracking heaters, including Lummus External Air Preheater (LEAP™), Hybrid Cracking Heater (SRT-h™) and Complete Electrical Cracking Heater (SRT-e™). LEAP and SRT-h can be applied for revamp of existing heaters with minimum modifications or for new heater designs. SRT-e can be installed for a grassroots plant or for plant capacity expansion. These new technologies can be applied for partial CO₂ reduction of 15-40% to zero CO₂ emission. In addition to CO₂ reduction, these new technologies will also improve the heater performance. Case study results will be presented to show the benefit of each option and provide valuable references for existing plants in an effort for CO₂ emission reduction and plant performance improvement.