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Title of Presentation : Carbon Capture, Utilization, and Storage (CCUS):
The Current Status and Role toward Carbon
Neutrality of Thailand



Presentation Abstract :

Thailand aims to reduce greenhouse gas (GHG) emissions by 40 percent by 2030, to reach carbon neutrality by 2050, and net-zero emissions by 2065 as announced in the 26th United Nations Framework Convention on Climate Change Conference of the Parties (UNFCCC COP26). These challenging goals would be realized by the cooperation of all related sectors via efficient driving mechanisms. CO₂ emissions in Thailand have been ca. 300-400 MtCO₂/year, while Land Use, Land-Use Change, and Forestry (LULUCF) has been currently a key contributor to CO₂ reduction of ca. 80-100 MtCO₂/year. Carbon Capture, Utilization, and Storage (CCUS) technologies have been expected to play a key role in CO₂ reduction activity in the energy and industrial sectors. Large-scale carbon capture and storage (CCS) technology shows great potential to be implemented in Thailand since there are some potential areas both onshore and offshore. While feasibility studies and exploration are now underway, other drivers and enablers such as incentives, safety issues, law and regulation, strategic targets, etc., must be identified. While the technology readiness level (TRL) of CCS is in a mature state, TRL of carbon capture and utilization (CCU) technology depends heavily on processes or products of CO₂ utilization. As CCS cost is still high, challenging attempts are geared towards making CCS fully effective or economically viable globally. CCU, on the other hand, appears attractive by its technological and economic potential. When addressing a large amount of CO₂ reduction, CCS becomes a strategic pathway. Thus, a review of the current status and potential role of CCUS technology toward carbon neutrality will be presented and discussed.