

Pursuing Thailand CCS: A Challenging Role of Geophysicists

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Abstract

Carbon Capture & Storage (CCS) technology has been at the center of global decarbonization attention in the recent past due to its potential to deliver large-scale emission reduction—offering every country a reliable pathway towards their respective net-zero goals. Thailand, as another country that strives for decarbonization, has included CCS as a key contributor to emission reduction with the storage targets of 40 and 60 million tons per annum (Mtpa) by 2050 and 2065 respectively. To achieve these goals, two notable domestic CCS initiatives have been proposed to date including the Arthit CCS project (national pilot) with the estimated capacity of 1 Mtpa and the Eastern CCS Hub project with the estimated capacity of up to 6 Mtpa in the first phase. However, technical challenges on carbon storage remain, and more efforts are needed before one could prove Thailand's storage potential in a scientifically verifiable manner. In this presentation, given the above premise, I will highlight the critical role of geophysicists with regards to solving those technical challenges and identify three potential research areas that would be relevant to CCS development in the context of Thailand including 1) capacity estimation, 2) reservoir characterization, and 3) long-term monitoring & verification. Multiple research topics in each of the areas will also be discussed.

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