

Geoscience Pathways to Geologic Hydrogen Exploration in ASEAN

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The energy sources still widely used today are fossil fuels, in the form of oil and gas. Methane is a common gas and is often used in conjunction with hydrogen gas. When hydrogen gas is found along with methane, the classical interpretation is that it is part of the gas produced by the petroleum system. The case in the Tanjung Api (Cape of Fire) area is different. The percentage of hydrogen gas obtained from gas sample analysis indicates a relatively large amount, leading to the interpretation that there may be another source producing the hydrogen gas.

Detailed studies on hydrogen gas in Tanjung Api have been recently conducted by the Geological Survey of Indonesia (GSI) and Pertamina in collaboration with Pertamina University. Coincidentally, the area around Tanjung Api also has numerous oil and gas fields, so the emergence of hydrogen gas has received little attention. Recent studies emerged idea that the hydrogen gas is likely geologic hydrogen gas. Research leading to the exploitation of hydrogen gas in the ASEAN region is relatively limited. Currently, the Philippines and Indonesia have reportedly conducted the research. This paper will focus on geologic hydrogen gas exploration in Indonesia and briefly review developments in the Philippines.

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