

Power-to-Methanol (PtMeOH) in South Africa: Opportunities and challenges

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The current reality of climate change demands a shift from the overreliance on fossil-based fuels coupled with the implementation of a practical carbon capture and utilisation (CCU) strategy. In this regard, a 'methanol economy' has lately been receiving increasing attention and consideration as a potential replacement of fossil fuels since methanol can be used as a transportation fuel, as a means of energy storage and as a raw material for synthetic hydrocarbons [1]. The Power-to-Methanol (PtMeOH) concept which entails the use of captured carbon dioxide (CO₂) and 'green hydrogen' produced from Renewable Energy (RE) not only has the potential for CO₂ recycling but can also serve as a storage option for RE-based hydrogen [1, 2]. Bearing in mind that South Africa (SA) is well endowed with natural resources for competitive hydrogen production as well as with significant CO₂ point sources, the country could be an attractive location for competitive renewable methanol production. Therefore, this talk will present some analysis of the potential opportunities and challenges for renewable methanol production in SA and also draw attention to the technical progress currently being implemented at the Council for Scientific and Industrial Research (CSIR).

Keywords: Renewable methanol, Hydrogen; Carbon dioxide.

References

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