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RECENT ADVANCES IN GREEN HYDROGEN PRODUCTION TECHNOLOGY WITH SOCIO ECONOMIC ANALYSIS

Hydrogen (⊠2) is at the forefront of clean carbon free energy carrier, sustainable energy systems and has great power to decarbonize many industrial sectors. The hydrogen evolution reaction (HER) is the key phenomenon for the desirable generation of green hydrogen (⊠2).
However, the cost of the green hydrogen production is high due to the highly expensive platinum based electrocatalysts, pure water as electrolyte and grid electricity. Hence here we are going to discuss the recent (last 5 years) advances of the technologies like alkaline water
electrolysis (AWE), proton exchange membrane (PEM), photocatalysis etc. where they developed various membranes, electrolytes and electrocatalysts for the green hydrogen production which are cost efficient and gives much higher hydrogen (⊠2) production rate also the emerging future prospective. We will also be discussing about the possible utilisation of green hydrogen for various applications like transportation, industries and householding etc. and the case studies involved in economic aspects for the cost reduction.

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