

Hydrogen production and solar container benefit analysis

The comparative analysis underscores the importance of tailoring technology choices to specific operational and regional requirements to maximize the benefits of solar hydrogen systems.

This study investigates the sensitivity of solar-based hydrogen production cost to variations in rarely explored financial parameters including gearing, cost of equity, cost of debt along ...

This study presents an overview of the current status of hydrogen production in relation to the global requirement for energy and resources. Subsequently, it symmetrically outlines the ...

(a) Cost analysis of various technologies involved in green hydrogen production plant with solar PV and wind power for intermittent configurations. (b) Cost contribution ratio of each ...

Integrating renewable energy sources into green hydrogen production stands out as a promising solution to this problem. This work aims to evaluate the potential of hydrogen production by ...

Full text access Highlights Solar hydrogen production from water is a sustainable route for fuel production with a net zero carbon footprint. The limiting factors for large-scale solar hydrogen ...

This paper provides a thorough analysis of traditional and innovative methods for hydrogen production from fossil feedstock, reviewing the critical aspects and recent advancements in ...

This study fills that gap by assessing the potential for green hydrogen production across eleven Southeast Asian countries, considering both photovoltaic and wind energy resources. By integrating ...

Hydrogen is crucial in increasing the adoption of intermittent solar technologies including concentrated solar plants (CSP) and Photovoltaic (PV) panels due to its versatility and potential for ...

Abstract Green hydrogen (H₂) presents a feasible substitute for conventional sources of energy, offering a sustainable approach to lowering carbon emissions and strengthening energy ...

The global transition towards clean and sustainable energy sources has led to an increasing interest in green hydrogen production. The present work focuses on the development and ...

In this scope, the work evaluates and presents a unique solar energy-driven combination plant that incorporates electricity, fresh water, hydrogen generation and liquefaction for ...

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It is essential to understand whether there is a certain economic investment gap for alternative energy. The present work mainly focuses on the simulation study of ships using ammonia ...

The overall solar-to-fuel and solar-to-hydrogen conversion efficiencies of the system reach 16.19% and 10.80%, respectively. Compared to high-temperature thermochemical cycles ...

The most sustainable hydrogen is green hydrogen which is produced from renewable energy and has no greenhouse gas emissions. In this paper, the technical and economic feasibility of green hydrogen ...

This study investigates the techno-economic feasibility of green hydrogen production through solar-powered electrolysis under various technological, environmental, and economic ...

Solar-based hydrogen production has been studied extensively. Many researchers have conducted parametric studies to improve the overall energy and exergy efficiencies of such ...

In Ajanovic et al. [2], a comprehensive review of the literature on selected hydrogen production technologies was conducted. This review included an economic and environmental ...

The Hydrogen Analysis (H2A) hydrogen production models and case studies provide transparent reporting of process design assumptions and a consistent cost analysis methodology for ...



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