

In conclusion, this study can assist researchers in getting a better grasp of various renewable hydrogen generation pathways, its purification and storage technologies along with applications of hydrogen in ...

These initiatives will increase production capacity while also driving innovation in transportation and storage technologies, contributing to the rapid growth of the global hydrogen ...

This study provides a detailed review of hydrogen technologies and policies in the context of a hydrogen economy. Hydrogen production is examined with its cost analysis and current technological ...

Abstract & Carbon neutrality has been suggested to overcome the global climate crisis caused by global climate change. Hydrogen energy is a major way to achieve carbon neutrality, and the ...

Rising worldwide energy demand and the threat of fossil fuel depletion are driving a move toward renewable energy. Research encourages the use of clean and sustainable energy ...

This review aims to provide policymakers, industry stakeholders, and researchers with actionable insights into optimizing hydrogen production and storage, positioning hydrogen as a key component ...

This study employs bibliometric analysis and topic modeling to analyze 1016 hydrogen energy policy documents, including 430 global-level policies and 586 issued by various levels of government in ...

Through this comprehensive examination of global policies on green hydrogen aims to inform policymakers, researchers, and industry stakeholders, contributing to the ongoing discourse on ...

A thorough examination of hydrogen storage techniques will be given in this review article, with an emphasis on metal hydride-based, chemical, and physical methods. Energy efficiency, affordability, ...

A novel design approach: increase in storage and transport efficiency for liquid hydrogen by using a dual concept involving a steel-fiber ...

Hydrogen is the energy carrier with the highest energy density and is critical to the development of renewable energy. Efficient hydrogen storage is essential to realize the transition to ...

As such, even minor incidents involving hydrogen systems (fuel stations, storage facilities) could significantly delay the development, deployment and public acceptance of hydrogen ...

?????:To optimize the hydrogen storage performance of magnesium hydride (MgH₂), which is valued for its

high capacity and abundance but suffers from slow de/hydrogenation ...

Hydrogen-based energy is essential to the global energy transition to respond to climate issues effectively. This article provides a detailed review of ...

Key findings highlight the necessity of coordinated efforts to enhance storage technologies, lower production costs, and establish supportive policies, highlighting hydrogen's ...

Hydrogen has recently attracted considerable attention as a promising alternative for addressing energy and environmental issues. Hydrogen is a flexible and clean energy carrier that can ...

Whilst hydrogen as a substance is not new, the recent surge in interest around hydrogen is prompting new regulatory frameworks and hydrogen strategies to support the uptake of ...

Each country has adopted distinct hydrogen pathways, focusing on, green and blue hydrogen production, fuel cell development, energy storage solutions, transport infrastructure, and the ...

This analysis aims to investigate the effects of environmental policy stringency and political globalization on hydrogen energy in the top seven hydrogen-innovating economies using the ...

Some key methods of hydrogen storage include compressed gas, liquid hydrogen, and solid-state technologies, reviewed together with their respective advantages, limitations, and possible ...

By evaluating recent advancements in the regulatory framework, including standards, policies, and strategies, this study offers a fresh perspective on H₂ legislation, policies, and regulations.

Policies and Acts The following policies and acts contain significant hydrogen- and fuel cell-related provisions that guide and provide support for the DOE Hydrogen Program. The U.S. National ...

The incorporation of hydrogen into practical energy conversion processes and its diverse range of uses are included in hydrogen usage technologies (Faye et al., 2022). This area ...

Abstract The transition to sustainable energy systems is increasingly emphasizing the role of hydrogen as a clean and versatile energy carrier. Strategic policy initiatives are crucial for optimizing hydrogen ...

Hydrogen is the energy carrier with the highest energy density and is critical to the development of renewable energy. Efficient hydrogen storage is ...

In this article, we analyze the safety-related research and application status of hydrogen storage and transportation. The focus is on the introduction and summary of high-pressure ...

Policies involving hydrogen storage

Despite these exciting characteristics of hydrogen, there are still a variety of challenges, such as cost-effective hydrogen production and its ...

Many of the standards applicable to hydrogen transport by various modes of transportation are currently being revised to provide specific requirements for hydrogen. This report provides recommendations ...

A novel design approach: increase in storage and transport efficiency for liquid hydrogen by using a dual concept involving a steel-fiber composite tank and thermal sprayed ...

In this review, we first briefly discuss the advancement of hydrogen energy development. Then, we provide a comprehensive overview of various hydrogen storage methods, ...

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