

Does China's hydrogen energy industry chain have a coordinated development capacity?

To solve this problem, after defining the coordinated development capacity (CDC) of China's hydrogen energy industry chain, this study evaluates China's CDC of the hydrogen energy industry chain from 2015 to 2021 by using the entropy method and empirically analyzes the action of the main factors by using partial least squares regression (PLS).

What is hydrogen energy industry chain?

Hydrogen energy industry chain mainly includes the hydrogen preparation, storage, transportation and utilization, which involves the integration and technological innovation of many industries.

How to coordinate the development of the hydrogen energy industry chain?

In the process of coordinated development of the hydrogen energy industry chain, we should attach importance to government policy support. Supporting policies at the provincial level are just as important as those at the national level. We should provide a solid foundation for the coordination of the hydrogen energy industry chain.

What is the evaluation index system of China's hydrogen industry chain?

First, we construct the evaluation index system of the CDC of China's hydrogen industry chain, and the entropy method is used to objectively calculate the comprehensive index. Then, the PLS regression model is constructed to clarify the key variables.

Does the CDC of the hydrogen energy industry chain show an upward trend?

The results show that the CDC of the hydrogen energy industry chain in China generally shows an upward trend, but there are differences in the upward trend between the 2015-2017 period and the 2018-2021 period. The effect of each main influencing factor is also different, among which the influence of technology and policy support is stronger.

How to create different scenarios of China's hydrogen energy industry chain?

Therefore, different scenarios of China's hydrogen energy industry chain can be formed by adjusting parameter values of variables of market demand, employees, technological innovation ability, supply and total assets. The adjustment of the key variables in different scenarios is shown in Fig. 10 below. Fig. 10.

This project discusses manufacturing competitiveness and supply chain analyses for the hydrogen refueling stations and can help in understanding cost associated with manufacturing ...

At present, the highest hydrogen storage pressure can reach 70 MPa, and hydrogen storage vessels with the storage pressure of 100 MPa are under research and development. High-pressure gaseous hydrogen storage is

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Hydrogen Energy Storage Market Size, Share & Trends Analysis Report By Technology (Compression, Liquefaction), By Physical State (Solid, Liquid, Gas), By Application (Residential, Commercial), By Region, And Segment ...

Hydrogen is found in energy storage and grid balancing, but its applications do not end there. It is a critical element in hybrid renewable energy systems, which is illustrated in ...

In this article, we explore how hydrogen could contribute to decarbonizing the energy system, uncertainties around hydrogen's future role, and what it would take to set up a global hydrogen economy by 2050.

Global Hydrogen Review 2024 - Analysis and key findings. A report by the International Energy Agency. ... Free and paid data sets from across the energy system available for download. ...

Immediate action can include early planning, a focus on repurposing existing natural gas pipelines and storage facilities to minimise cost, streamlining regulatory frameworks to speed up ...

The analysis of longer duration storage systems supports this effort.¹ ... Some technologies and supply chain nodes in the energy storage system industry have not yet reached this turning ...

Dihydrogen (H₂), commonly named "hydrogen", is increasingly recognised as a clean and reliable energy vector for decarbonisation and defossilisation by various sectors. The global hydrogen ...

Hydrogen Storage Market Size and Trends. The global hydrogen storage market is estimated to be valued at USD 1.6 Bn in 2024 and is expected to reach USD 6.8 Bn by 2031, growing at a compound annual growth rate (CAGR) of 23% ...

Under the background of the power system profoundly reforming, hydrogen energy from renewable energy, as an important carrier for constructing a clean, low-carbon, safe and ...

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