

Japanese patent for hydrogen energy storage technology





Overview

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This patent reinforces the company's distinct process of creating hydrogen and graphitic carbon from hydrocarbons while employing iron ore as a catalyst. The development not only fortifies Hazer's intellectual property (IP) portfolio but positions the company strategically in Japan—an essential.

Europe and Japan have the most patent filings for hydrogen. Europe and Japan are leading the world in terms of patent filings related to hydrogen, according to a new report. Technologies related to producing hydrogen accounted for the largest number of hydrogen patents in 2011-2020. The automotive.

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The European Patent Office (EPO) and the International Energy Agency (IEA) have released the latest data on patent focusing on the hydrogen technology development. Leader in global patenting in hydrogen is Japan has 24 percent share of all international patent families (IPFs) filed from 2011 to.

This is indicative of a global green technology competition which will affect the future global economic power structure. Japan's Ministry of Economy, Trade and Industry (METI) has declared that they intend to achieve a carbon-neutral/decarbonized society and has formulated a "Green Growth Strategy.



Innovation in hydrogen is shifting towards low-emission solutions, with Europe and Japan in the lead and the United States losing ground, according to a new joint study of hydrogen technology patents by the European Patent Office (EPO) and the International Energy Agency (IEA). The report uses. How many hydrogen technology patents does Japan have?

Japan accounts for nearly one-fourth of hydrogen technology patents worldwide, covering a significant variety of areas. 5 Many of these are related to vehicle fuel cell systems, as well as hydrogen production and supply, with a particular focus on hydrogen end-use applications.

Which technologies generate the most hydrogen patents?

Hydrogen production technologies accounted for the largest number of hydrogen patents overall in the 2011-2020 period, and the report finds that across all segments of the hydrogen value chain, low-emission innovations generated more than twice the number of international patents than established technologies.

How can Japan ensure a stable supply of hydrogen?

A key element in Japan's approach to ensuring the stable supply of hydrogen involves promoting public-private partnerships. These partnerships are transforming how hydrogen is produced, transported, stored, and utilized throughout the country.

How did Almatech enter Japan's hydrogen market?

Almatech's entry into Japan's hydrogen market was facilitated by e5 Lab, a consortium of major companies working towards the electrification of Japan's maritime industry. This was complemented by support from Kobe City, where Almatech participated in the SDGs Challenge 2022, a co-creation program.

What is Japan's hydrogen market potential?

Japan's hydrogen market potential has attracted significant international interest, with companies bringing innovative technologies to Japan's shores.

How many tons of hydrogen can Japan supply a year?

To supply inexpensive hydrogen in large quantities stably and over the long term, Japan has set a target of supplying up to 3 million tons of hydrogen per year by 2030 and approximately 20 million tons per year by 2050. 4 These



strong government incentives and increasing international investment will accelerate the hydrogen market growth.



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[Hydrogen RD& D Collaboration Opportunities: Japan](#)

Japan also has a number of highly active consortia of industry-government and research, namely the CO₂-free Hydrogen Energy Supply Chain Technology Research Association (HySTRA), ...

The comprehensive analysis of hydrogen energy storage technology ...

Hydrogen is a clean energy carrier and has great potential to be an alternative fuel. It provides a significant way for the new energy consumption and long-term energy storage in the power ...



Japan , Green Hydrogen Organisation

Green Hydrogen Vision / GH2 ?????????? ??
????????????? Japan's green hydrogen vision is a cornerstone of its strategy to achieve ...

China outpaces Japan in green hydrogen innovation, patents

China's dominance in clean energy now extends beyond solar photovoltaics. According to Japanese research firm Astamuse, Chinese



companies have taken the global ...



Iwatani Advanced Hydrogen Technology Center , Iwatani ...

To realize our goal of building a hydrogen energy-based society, we founded the Iwatani Advanced Hydrogen Technology Center. Building on the technologies we developed and ...



Europe, Japan and USA dominate hydrogen technological ...

Europe, Japan and the USA are therefore all important innovation centres for technology related to distributing and transporting hydrogen. Hydrogen End-Use Applications ...



[Hydrogen patent filings: Europe and Japan lead on...](#)

Europe and Japan are leading the world in hydrogen patent filings, says a new report from the International Energy Agency and European ...





Advancements in hydrogen storage technologies: Enhancing ...

The research aims to assess and progress hydrogen storage systems from 2010 to 2020 with an emphasis on obtaining high efficiency, safety, and capacity. To strengthen ...



[Hydrogen Storage Technology, and Its Challenges: A ...](#)

Material-based storage methods offer advantages in terms of energy densities, safety, and weight reduction, but challenges remain in ...

[Iwatani Advanced Hydrogen Technology Center](#)

To realize our goal of building a hydrogen energy-based society, we founded the Iwatani Advanced Hydrogen Technology Center. Building on the technologies ...



Recent advances in hydrogen production, storage, and fuel cell

The future is bright for hydrogen as a clean, mobile energy source to replace petroleum products. This paper examines new and emerging technologies for hydrogen ...



[Hydrogen patents shift towards clean technologies ...](#)

The report uses global patent data to provide a comprehensive, up-to-date analysis of innovation in hydrogen technologies. It is the first study of its kind ...



Hazer Group Secures Key Patent in Japan for Hydrogen ...

Hazer Group Ltd awarded a significant patent by the Japanese Patent Office for its hydrogen and graphitic carbon production process using iron ore as a catalyst.

[The World's Largest Hydrogen-Production Facility on ...](#)

The Fukushima Hydrogen Energy Research Field, the world's largest hydrogen-production facility, began operation in 2020 and constitutes a ...



Comparative patent analysis for the



identification of global ...

Patent documents provide knowledge about which countries are investing in certain technologies and make it possible to identify potential innovation trends. The aim of this ...

[Hydrogen patents shift towards clean technologies ...](#)

Munich, 10 January 2023 - Innovation in hydrogen is shifting towards low-emission solutions, with Europe and Japan in the lead and the United States ...



[Japan Blue Energy - Renewable Hydrogen ...](#)

As such, the technology can produce hydrogen from a large variety of organic wastes - from agricultural, construction, and industrial wastes to food, plastic, ...

[Japan's hydrogen gamble: Learning from Japan's ...](#)

How Japan envisions a 'hydrogen society,' integrating hydrogen across various sectors from transportation and steel production to gas and ...





Breakthrough in Clean Energy: Palladium Nanosheets Pave Way ...

The implications of this study extend beyond laboratory experiments. The scalability, enhanced activity, and cost-effectiveness of PdDI nanosheets make them highly ...

(PDF) Hydrogen station technology development review through patent

The results of the review indicated that the countries with the major distribution of patents were Japan, China, the USA and Europe. Japan is leading the developmental ...



[Hydrogen patents for a clean energy future](#)

Combining the energy expertise of the IEA with the EPO's patent knowledge, it provides the most comprehensive and up-to-date global review of patenting trends in a broad range of ...

Hydrogen|Low Carbon Solutions|Services , CHIYODA CORPORATION

The Japanese government's 'Basic Hydrogen Strategy' establishes hydrogen use targets of approximately 3 mtpa by 2030, 12 mtpa by 2040 and 20 mtpa by 2050, in line with the ...



Hydrogen energy systems: Technologies, trends, and future ...

This review critically examines hydrogen energy systems, highlighting their capacity to transform the global energy framework and mitigate climate cha...

Hydrogen Storage and Transportation Method

The Tokyo Institute of Technology has recently secured a patent for a groundbreaking method for enhancing hydrogen storage and transportation. This patent ...



Hydrogen Power Generation for a Zero-Carbon World

Given the urgent need to achieve decarbonization and ensure energy security, expectations have been raised for the use of hydrogen to generate power since it produces no ...



Australian company LAVO Renewables, an Australian developer of hydrogen

LAVO Renewables Pty Ltd, an Australian startup developed a pioneering hydrogen energy storage system (HESS) using metal hydride technology, partnered with ...



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