

Hydrogen Energy Storage Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Abstracts

The global hydrogen energy storage market size reached US\$ 18.3 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 26.9 Billion by 2028, exhibiting a growth rate (CAGR) of 6.08% during 2023-2028.

Hydrogen energy storage (HES) is a process involving the utilization of power electrolysis through the surplus energy generated by renewables during the low energy demand. It assists in increasing the reliability of supply and reducing carbon emissions and the overall consumption of conventional petroleum fuels. It provides ancillary grid services and fuel for material handling equipment (MHE), such as forklifts and airport tugs. It also offers high storage capacity as compared with pumped storage hydropower (PSH) and compressed air energy storage (CAES). As a result, HES is used to store hydrogen as compressed gas, cryogenic liquid, and loosely bonded hydride compounds.

Hydrogen Energy Storage Market Trends:

The growing demand for HES to utilize excess electric energy represents one of the key factors driving the market. Moreover, its increasing application in stationary power for providing clean, efficient, and reliable off-grid power to homes, businesses, and utilities is propelling the market growth. In addition, there is a rise in the employment of hydrogen as a fuel as it does not emit greenhouse gases and harmfully affects the environment. This, along with the augmenting use of hydrogen as a fuel cell in electric vehicles (EVs), is contributing to the growth of the market. Besides this, HES offers multiple opportunities to increase resiliency and improve the economics of energy supply systems comprising electric grid and gas pipelines. This, coupled with stringent regulations imposed by the government of several countries to encourage the use of

sustainable energy sources, is positively influencing the market. Furthermore, key market players are extensively investing in research and development (R&D) activities to develop enhanced equipment for improving the production efficiency of hydrogen.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global hydrogen energy storage market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on product type, technology, application and end user.

Breakup by Product Type:

- Liquid
- Solid
- Gas

Breakup by Technology:

- Compression
- Liquefaction
- Material Based

Breakup by Application:

- Stationary Power
- Transportation

Breakup by End User:

- Industrial
- Commercial

Breakup by Region:

- North America
 - United States
 - Canada
- Asia-Pacific

China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Competitive Landscape:

The competitive landscape of the industry has also been examined along with the profiles of the key players being Air Liquide, Air Products Inc., Caterpillar Inc., Chart Industries Inc., Cummins Inc., H2go Power, Hexagon Composites ASA, ITM Power, Linde plc, McPhy Energy S.A., Plug Power Inc. and Pragma Industries.

Key Questions Answered in This Report:

How has the global hydrogen energy storage market performed so far and how will it perform in the coming years?

What has been the impact of COVID-19 on the global hydrogen energy storage market?

What are the key regional markets?

What is the breakup of the market based on the product type?

What is the breakup of the market based on the technology?

What is the breakup of the market based on the application?

What is the breakup of the market based on the end user?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global hydrogen energy storage market and who are the key

players?

What is the degree of competition in the industry?

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