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Green Hydrogen Market by Technology (Alkaline and PEM), Renewable source (Wind, Solar), End-use Industry (Mobility, Power, Chemical, Industrial, Grid Injection), and Region (North America, Europe, APAC, MEA, & Latin America) - Global Forecast to 2030

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Abstracts

The green hydrogen market is projected to grow from USD 1.1 Billion in 2023 to USD 30.6 Billion by 2030, at a CAGR of 61.1% during the forecasted period. The market for green hydrogen is being propelled by several key factors. These include the decreasing cost of renewable energy production from all sources, advancements in electrolysis technologies, and a rising demand from power industry and Fuel Cell Electric Vehicles. Green hydrogen finds applications across various industries such as chemicals, mobility, grid injection, power industry, and others. It is increasingly being seen as a replacement for conventional gray, brown, and blue hydrogen due to its zero-emission production process. Technological advancements have also made green hydrogen more cost-competitive. This sustainable fuel source is emerging as a viable alternative to fossil fuels across various end-use industries.

‘‘Alkaline electrolysis based green hydrogen accounted for the largest share, in terms of value, of the overall green hydrogen market.’’

The alkaline electrolysis-based green hydrogen segment accounts for the largest share in the market, accounting for 656.7 USD million by value in 2023. This technology is widely preferred for its reliability, scalability, and cost-effectiveness. It uses an electrolyte solution, typically potassium hydroxide, to split water into hydrogen and oxygen. Compared to other electrolysis technologies, alkaline electrolysis produces highly pure hydrogen due to the low diffusion of hydrogen ions into the electrolyte solution. Its ability to efficiently operate with renewable energy sources makes it crucial

for the green hydrogen value chain. With a long operating life and suitability for large-scale production, alkaline electrolysis is poised to be a key technology in the green hydrogen market.

” The green hydrogen market in the mobility industry is expected to register the highest CAGR between 2023 and 2030.’’

The mobility sector is the largest end-use industry of green hydrogen, utilizing it in various modes of transportation such as rail, road, aviation, and maritime. This industry accounts for the highest CAGR of 63.1% in the green hydrogen market during the forecast period, driven by hydrogen's higher energy content compared to fossil fuels. Fuel Cell Electric Vehicles are emerging as a sustainable alternative, offering longer ranges and shorter refueling times. Green hydrogen is becoming increasingly viable for vehicles in trains, mining, buses, aircraft, and maritime transport making it a crucial medium for achieving zero carbon emission target.

” The green hydrogen market in Europe is projected to register the largest region, in terms of value and volume, between 2023 and 2030.”

Europe dominates the global green hydrogen market as the largest segment in terms of value and volume, with a strong presence of manufacturers and products. Germany, a major contributor, is expected to see significant growth driven by the power industries and mobility. The region's leadership is fueled by ambitious sustainability goals and government support, leading to substantial investments in green hydrogen infrastructure. Countries like Germany, France, and the Netherlands are at the forefront of large-scale projects, reducing emissions, driving innovation, and creating jobs. The European Union's hydrogen strategy and the recovery and resilience facility will further boost the global green hydrogen market.

Breakdown of Profiles of Primary Interviews:

By Company Type- Tier 1- 40%, Tier 2- 33%, and Tier 3- 27%

By Designation- C Level- 50%, Director Level- 30%, and Others- 20%

By Region- North America- 15%, Europe- 50%, Asia Pacific (APAC) - 20%, Latin America-5%, Middle East & Africa (MEA)-10%

Nel ASA (Norway), Toshiba Energy Systems & Solutions Corporation (Japan), Siemens Energy AG (Germany), H&R ?lwerke Schindler GmbH (Germany), Linde plc (Ireland), Cummins Inc. (US), Air Products and Chemicals, Inc. (US), Guangdong Nation-Synergy Hydrogen Power Technology Co., Ltd. (China), Air Liquide (France), AND Wind to Gas Energy GmbH & Co. KG (Germany) are some of the major players operating in the green hydrogen market. These players have adopted strategies such as acquisitions, expansions, and partnerships, and expansions in order to increase their market share business revenue.

The report provides a comprehensive analysis of company profiles listed below:

Toshiba Energy Systems & Solutions Corporation (Japan)

Siemens Energy AG (Germany)

Linde (Ireland)

Air Liquide (France)

H&R ?lwerke Schindler GmbH (Germany)

Nel ASA (Norway)

Cummins Inc. (US)

Wind to Gas Energy GmbH & Co. KG (Germany)

Guangdong Nation-Synergy Hydrogen Power Technology Co., Ltd. (China)

Air Products and Chemicals, Inc. (US)

Research Coverage

This report covers the global green hydrogen market and forecasts the market size until 2028. It includes the following market segmentation-By Technology (Alkaline Electrolysis and PEM Electrolysis, By End-Use Industries (Mobility, Chemical, Power, Grid Injection, Industrial and Others), By Renewable source (Wind Energy, Solar Energy and Others) and Region (North America, APAC, Europe, MEA, Latin America) -

Global Forecast to 2028. Porter’s Five Forces Analysis, along with the drivers, restraints, opportunities, and challenges, have been discussed in the report. It also provides competitive strategies and company profiles and adopted by the key players in the global green hydrogen market.

Key Benefits of Buying the Report

The report is expected to help market leaders/new entrants in this market in the following ways:

1. This report segments the global green hydrogen market comprehensively. It provides the closest approximations of the revenues for the overall market and the sub-segments across different verticals and regions.

2. The report helps stakeholders understand the pulse of the green hydrogen market and provides them with information on key market drivers, restraints, challenges, and opportunities.

3. This report will help stakeholders to gain more insights and understand competitors better which will help to understand their position in the market. The competitive landscape section includes the competitor ecosystem, expansion, new product development, and acquisition.

Reasons to buy the report:

The report will help leaders/new entrants in this market by providing them with the closest approximations of the revenues for the overall green hydrogen market and the sub-segments. This report will help stakeholders to understand the competitive landscape and gain more insights and position their businesses and market strategies in a better way.

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10 COMPETITIVE LANDSCAPE

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