

# Green Hydrogen Market Poised for Robust Growth Through 2031 Amidst Global Decarbonization Efforts | DataM Intelligence

*Green hydrogen market to grow 20.9% CAGR through 2031, driven by decarbonization goals, tech advances, and rising global demand for clean energy solutions.*

SAN FRANCISCO BAY AREA, CA, UNITED STATES, May 21, 2025

/EINPresswire.com/ -- Advancements in renewable energy integration and increasing demand across industries drive the expansion of the [green hydrogen market](#).

The global green hydrogen market is set to experience significant growth through 2031, propelled by the rising need for sustainable energy solutions and the decarbonization of various sectors. According to a recent report by DataM Intelligence, the market is projected to grow at a compound annual growth rate (CAGR) of 20.9% during the forecast period of 2024 to 2031.

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Green hydrogen is emerging as a cornerstone of the global energy transition, offering zero-emission solutions across power, transport, and industry.”  
*DataM Intelligence*

## Understanding Green Hydrogen: A Clean Energy Vector

Green hydrogen is produced through the electrolysis of water, powered by renewable energy sources such as wind, solar, geothermal, and hydropower. Unlike traditional hydrogen production methods that rely on fossil fuels, green hydrogen offers a zero-emission alternative, making it a pivotal component in the transition to a low-carbon economy.

This clean energy carrier holds immense potential in various applications, including power generation, transportation, industrial processes, and as a feedstock in chemical manufacturing. Its versatility and environmental benefits position green hydrogen as a key player in achieving



global climate goals.

## Market Drivers: Decarbonization and Technological Advancements

The increasing emphasis on reducing greenhouse gas emissions has led to a surge in demand for green hydrogen across multiple sectors. In the transportation industry, green hydrogen is being utilized to power fuel cell electric vehicles (FCEVs), offering a sustainable alternative to conventional fuels. The European Union aims to establish approximately 5,000 hydrogen fueling stations by 2030, supporting the deployment of FCEVs and contributing to emission reduction targets.

Moreover, governments worldwide are investing heavily in green hydrogen infrastructure. Since 2017, the United States has allocated around \$150 million annually for the development of hydrogen fuel infrastructure. Similarly, European and Asian governments are investing over \$2 billion annually to bolster hydrogen fuel production and related technologies.

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## Challenges and Opportunities:

While the green hydrogen market holds immense promise, it faces challenges such as high production costs, infrastructure development, and storage and transportation complexities. Addressing these issues requires concerted efforts from policymakers, industry stakeholders, and researchers to develop cost-effective technologies and establish supportive regulatory frameworks.

Despite these challenges, the market presents numerous opportunities. Advancements in electrolysis technologies, economies of scale, and increased investments are expected to drive down costs and enhance the competitiveness of green hydrogen. Furthermore, the integration of green hydrogen into sectors like steel manufacturing, chemical production, and power generation offers substantial potential for emission reductions and sustainable growth.

## Market Segmentation: Diverse Applications and End-Users

The green hydrogen market is segmented based on technology, renewable energy sources, applications, end-users, and regions:

- Technology: Alkaline Electrolyzer, Proton Exchange Membrane (PEM) Electrolyzer, Solid Oxide Electrolyzer, and others.
- Renewable Sources: Wind Energy, Solar Energy, Geothermal, Hydropower, and others.
- Applications: Power Generation, Transportation, and others.
- End-Users: Industrial, Mobility, Chemical, Power, Grid Injection, and others.

This comprehensive segmentation highlights the widespread applicability of green hydrogen across various industries and its integral role in the global energy transition.

## Regional Insights: Europe Leading the Charge

Europe is anticipated to be the fastest-growing region in the green hydrogen market, driven by robust policy frameworks, substantial investments, and a strong commitment to achieving carbon neutrality. The region's focus on integrating renewable energy sources and developing hydrogen infrastructure positions it at the forefront of green hydrogen adoption.

Other regions, including North America and Asia-Pacific, are also witnessing significant growth, supported by governmental initiatives and increasing awareness of the environmental benefits of green hydrogen.

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