Hydrogen Electrolyzers to Hit $12.74B by 2031, Powering Green Energy & Industrial Decarbonization | DataM Intelligence

Hydrogen electrolyzers enable green hydrogen production, driving clean energy growth with global investments, innovation, and policy support.

Hydrogen Electrolyzers Market

AUSTIN, TX, UNITED STATES, May 28, 2025 /EINPresswire.com/ -- The Hydrogen Electrolyzers Market was valued at USD 1.37 billion in 2023 and is projected to grow from USD 1.71 billion in 2024 to approximately USD 12.74 billion by 2031, registering a CAGR of around 25.20% over the forecast period 2024 - 2031.

The hydrogen electrolyzer market is entering a transformative growth phase as the global energy landscape shifts toward sustainability and decarbonization. Hydrogen produced through electrolysis, the process of using electricity to split water into hydrogen and oxygen has gained immense attention as a clean, renewable, and scalable energy source. When powered by renewable electricity, this method yields green hydrogen, which is increasingly seen as a vital component in global energy transition strategies.

> Hydrogen electrolyzer market to soar from $1.71B in 2023 to $12.74B by 2031, driven by 25.2% CAGR, net-zero goals, and rising green hydrogen demand across sectors."
>
> *DataM Intelligence*

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Electrolyzers are essential to this clean hydrogen production. These systems are witnessing rapid technological advancements, growing policy support, and substantial investments across multiple regions. The rising adoption of hydrogen in industrial processes, fuel cell vehicles, and power generation is accelerating the market momentum.

This significant growth is fueled by key factors, including:

Increasing demand for clean energy across industrial, transportation, and utility sectors.

Commitments from governments to reach net-zero emissions targets.

Expansion of renewable energy capacity globally.

Integration of hydrogen solutions into national energy roadmaps.

Electrolyzers are expected to become more cost-effective with the scale-up of production and improvements in efficiency, making green hydrogen increasingly competitive with traditional fossil fuels.

Regional Outlook

North America
North America is a key growth hub in the hydrogen electrolyzer landscape, particularly the United States. With a strong emphasis on building a hydrogen economy, multiple large-scale projects are underway. Supportive government incentives, tax credits, and research funding are catalyzing innovation in hydrogen technologies. Hydrogen is being incorporated into plans for energy security and emissions reduction across various industries.

Significant developments in infrastructure, including electrolyzer manufacturing facilities, hydrogen refueling stations, and storage solutions, are fostering market expansion. The region is also seeing growing collaboration between energy companies, tech innovators, and public agencies.

Europe
Europe continues to lead in green hydrogen initiatives, backed by ambitious climate goals and strong regulatory frameworks. Countries like Germany, France, and the Netherlands are rolling out national hydrogen strategies with targeted electrolyzer capacity goals. Green hydrogen is increasingly being adopted in heavy industries like steel, chemicals, and refining to support the decarbonization of their operations.

The region benefits from a mature renewable energy network, which is ideal for powering electrolyzers sustainably. Cross-border partnerships and funding programs are helping standardize and scale hydrogen infrastructure across the continent.

Asia-Pacific
The Asia-Pacific region is quickly becoming a hotbed for hydrogen investment, led by Japan, South Korea, China, and Australia. These countries are not only focusing on domestic production

but also aiming to become global exporters of hydrogen.

Japan, for example, has long viewed hydrogen as a cornerstone of its clean energy mix. The country is aggressively investing in hydrogen supply chains, electrolyzer production, and fuel cell technology. Meanwhile, China is rapidly building out electrolyzer manufacturing capabilities and scaling up green hydrogen pilot projects. Australia is leveraging its vast renewable energy resources to power large-scale hydrogen export hubs.

Key Players

Cummins Inc.

Toshiba Corporation

Cummins Inc

McPhy Energy S.A

Enapter S.r.l

Nel ASA

H-tec Systems, Inc

ITM Power

Amtronics

Green Hydrogen Systems

H2B2 Electrolysis Technologies SL

Plug Power Inc

Latest News – USA
In a major move for the U.S. hydrogen sector, construction has begun on one of the world's largest eFuels production facilities. The project is being developed in Texas and will feature a 100-megawatt electrolyzer system. This facility aims to produce green hydrogen at a commercial scale, marking a significant milestone in clean energy development. The project underscores the growing emphasis on domestic hydrogen production and the integration of electrolyzers in large-scale infrastructure.

Additionally, U.S. policy support in the form of clean hydrogen tax credits and the development

of regional hydrogen hubs is creating a favorable environment for future growth. These hubs are expected to serve as blueprints for scaling green hydrogen infrastructure nationwide.

Latest News – Japan
Japan continues to strengthen its hydrogen economy with new funding models and infrastructure development. In a shift from earlier strategies, the government is now focusing on incentivizing the adoption of hydrogen-powered commercial vehicles. Subsidies are being offered to transport operators, aiming to stimulate demand across logistics and public transportation sectors.

In another significant development, a major Japanese chemical and electronics firm is expanding its production lines for alkaline water electrolyzer components. The initiative is part of the country's broader strategy to reduce its dependence on fossil fuels and promote green hydrogen as a mainstream energy source.

These developments reflect Japan's long-term commitment to becoming a global hydrogen leader and innovator.

Market Segmentation:

By Type: Proton Exchange Membrane Electrolyzer, Alkaline electrolyzer, Solid Oxide Electrolyzer.

By End-User: Automotive industry, Electricity, Pharmaceutical and Biotechnology Industry, Metal Industry, Glass Industry, Others.

By Region: North America, Latin America, Europe, Asia Pacific, Middle East, and Africa

Conclusion

The hydrogen electrolyzer market is at the heart of the clean energy revolution. With the global community seeking to reduce emissions and transition away from fossil fuels, electrolyzers are set to become indispensable in the production of green hydrogen. As countries ramp up their renewable energy investments and align their policies with climate goals, the demand for electrolyzers will only grow.

Innovative technologies, robust investment, and cross-sector collaboration are laying the foundation for a hydrogen-powered future. With leading nations and companies actively pushing forward, the electrolyzer market promises strong returns and environmental impact over the coming decade.

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