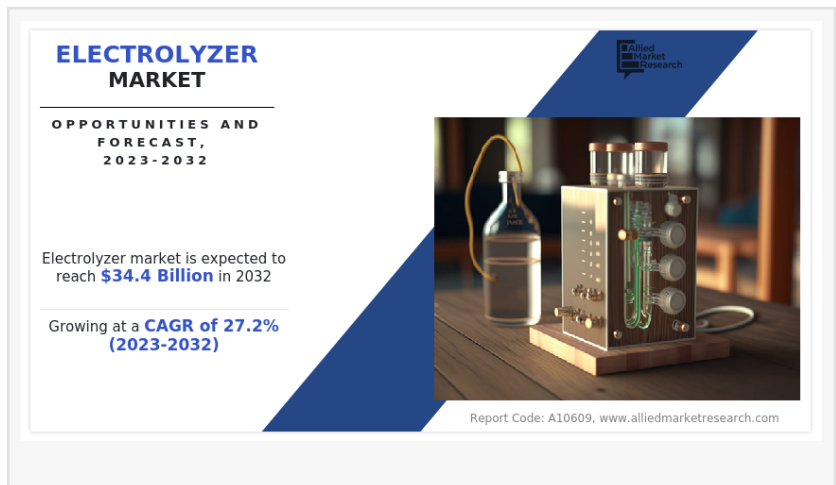


Electrolyzer Market Surges as Green Hydrogen Demand Accelerates Globally

□ *Electrolyzer Market Soars at 27.2% CAGR, Fueled by Renewable Energy & Hydrogen Infrastructure Growth*

WILMINGTON, DE, UNITED STATES,
September 24, 2025 /
EINPresswire.com/ --

The global [electrolyzer market](#) size is experiencing rapid expansion as clean hydrogen emerges as a critical component in the global energy transition. According to Allied Market Research, the market was valued at \$3 billion in 2022 and is projected to reach \$34.4 billion by 2032, growing at a strong CAGR of 27.2% from 2023 to 2032. Rising investments in green hydrogen production, renewable energy, and hydrogen infrastructure are driving this remarkable growth.



“

Electrolyzer Market to hit \$34.4B by 2032, growing at 27.2% CAGR, driven by hydrogen infrastructure & renewable energy adoption.”

Allied Market Research

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Key Study Findings

The global electrolyzer market will reach \$34.4 billion by 2032.

Solid oxide electrolyzers will see the fastest growth with 28.1% CAGR.

Asia-Pacific leads the market with the fastest expansion at nearly 27.5% CAGR.

Transportation applications will grow rapidly due to rising global demand for hydrogen-powered fuel cell vehicles.

What Is an Electrolyzer?

An electrolyzer is a device that splits water into hydrogen and oxygen using electricity. The hydrogen produced can be stored and used across multiple sectors including power generation, transportation, chemical industries, and industrial feedstock. Among the types of electrolyzers, alkaline electrolyzers are the oldest and most widely adopted, but technologies like solid oxide electrolyzers and PEM electrolyzers are expected to capture increasing market share due to higher efficiency and compatibility with renewable energy.

By Region

Asia-Pacific: Expected to grow at the highest CAGR of around 27.5%, driven by electric vehicle adoption and strong [renewable energy investments](#) in China, Japan, South Korea, and India.

Europe: Leading in electrolyzer deployment with strong hydrogen strategies and EU investment programs like IPCEI and the Hydrogen Bank.

North America: Growth supported by the U.S. Bipartisan Infrastructure Law and the Inflation Reduction Act (IRA).

LAMEA: Gradual expansion in the Middle East with hydrogen projects supporting economic diversification.

Market Drivers: Why Electrolyzers Are Gaining Traction

Several factors are fueling strong growth in the electrolyzer market:

Decarbonization goals: Countries worldwide are focusing on achieving carbon neutrality, making green hydrogen a top priority.

Government incentives: Supportive regulatory frameworks, subsidies, and investments in hydrogen hubs, pipelines, and filling stations are accelerating adoption.

Renewable energy integration: Falling costs of solar and wind power make hydrogen production via electrolysis more cost-effective.

Industrial and mobility demand: Expansion in electric vehicles, fuel cell transportation, and industrial decarbonization are driving electrolyzer deployment.

Market Insights and Trends

Electrolyzer production is scaling fast. In 2022, global manufacturing capacity grew by over 25%, reaching about 11 GW per year. Europe and China accounted for almost two-thirds of this capacity. By 2030, global electrolyzer production capacity could exceed 130 GW annually, fulfilling

75% of the requirements outlined in net-zero energy scenarios.

However, there are still challenges:

Less than 10% of announced projects have reached a final investment decision (FID).

Around 25% of projects lack finalized locations, creating uncertainty in deployment.

Despite this, the long-term outlook remains highly promising with stronger policy frameworks expected to accelerate real-world adoption.

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Segmentation Overview

By Product

Alkaline Electrolyzer: The most established technology, accounting for a major share.

Proton Exchange Membrane (PEM): Flexible and suitable for renewable energy integration.

Solid Oxide Electrolyzer (SOEC): Expected to grow the fastest at a CAGR of 28.1%, driven by efficiency and industrial adoption.

Anion Exchange Membrane (AEM): Emerging technology with potential scalability.

By Capacity

Less than 500 kW: Typically for small-scale on-site hydrogen production.

500 kW to 2 MW: Accounted for the largest share in 2022.

Above 2 MW: Expected to grow rapidly during the forecast period due to usage in industrial and large-scale hydrogen facilities.

By Application

Power Generation: Dominated in 2022, as industries adopt on-site electrolyzer setups.

Transportation: Projected to grow fastest during the forecast period as fuel cell vehicles (FCVs) gain traction worldwide.

Industry Energy & Feedstock: Strong use in refining, steel production, and chemical processing.

Building Heat & Power: Emerging application in smart cities and residential sectors.

Key Market Players

The electrolyzer industry is consolidated with several global leaders expanding capacity and collaborating on hydrogen projects:

Cummins, Inc.

Nel ASA

Siemens AG

Toshiba Corporation

Air Liquide

Plug Power Inc.

McPhy Energy

ITM Power

Iberdrola S.A.

Bloom Energy

These companies focus on strategic partnerships, scaling manufacturing facilities, and advancing technology efficiency to maintain competitiveness.

Opportunities and Future Outlook

The global push for clean hydrogen presents unmatched potential for the electrolyzer industry. With falling renewable energy costs, ongoing technological breakthroughs, and strong policy incentives, electrolyzers are set to become central to the clean energy transition.

Key opportunities include:

Hydrogen mobility: Supporting buses, trucks, marine transport, and trains powered by fuel cells.

Industrial hubs: Decarbonizing steel, chemicals, and cement sectors with on-site hydrogen generation.

Smart cities & IoT: Real-time monitoring of energy systems leveraging electrolyzer integration with urban infrastructure.

Energy storage: Using hydrogen as a long-duration energy storage solution supporting intermittent renewable sources.

The electrolyzer market stands at the forefront of the global clean energy transition. With scaling capacity, technological innovation, and strong policy support, [green hydrogen production via electrolyzers](#) is set to become a cornerstone of the world's net-zero energy future. ☐☐

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Conclusion

The electrolyzer market is entering a period of exponential growth, with revenues expected to reach \$34.4 billion by 2032. Rising investment in green hydrogen infrastructure, combined with supportive policy frameworks and cost-effective electrolyzer technologies, is reshaping the global energy landscape.

With Asia-Pacific and Europe leading the charge, electrolyzers are set to become the backbone of a low-carbon future, powering industries, transportation, and energy systems worldwide.

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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