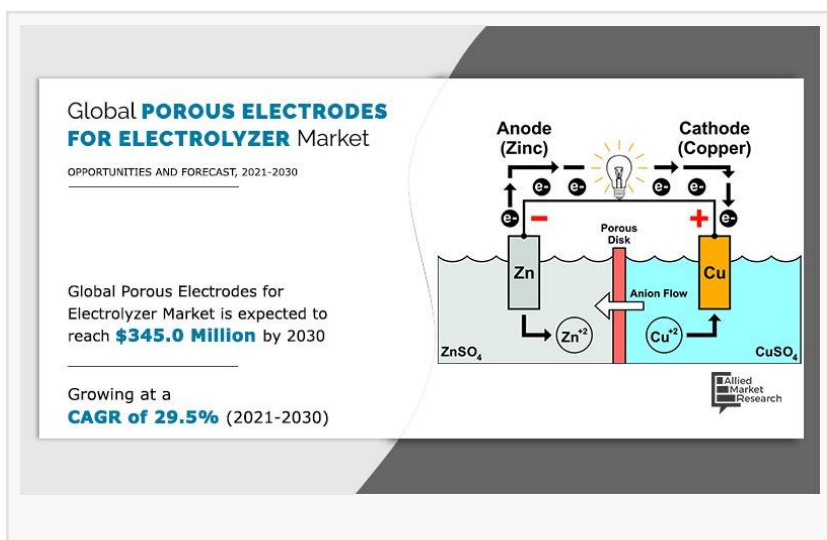


# Porous Electrodes for Electrolyzer Market to Partake Significant Development during 2030

WILMINGTON, DE , UNITED STATES, July 16, 2024 /EINPresswire.com/ -- The global [porous electrodes for electrolyzer market](#) size was valued at \$26.2 million in 2020 and is projected to reach \$345.0 million by 2030, growing at a CAGR of 29.5% from 2021 to 2030. A porous electrode is defined as a composite solid containing interconnected cavities. Compared to a flat electrode, the cavity is an important part of changing the electrochemical behavior of the electrode.

In various applications such as metal recovery, metal and/or solution purification, organic synthesis, separation processes, batteries and other energy sources, fuels, and enzymes, porous electrodes are a popular choice for adding technical value to electrochemically active materials. The electrode can better control the reaction distribution, active material transfer, and heat distribution, and improve the efficiency and selectivity of the reaction.



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Favorable regulatory policies toward the development of hydrogen infrastructure coupled with increasing use as an industrial feedstock will propel the porous electrode for the electrolyzer market growth. Ongoing technological development along with declining product costs will favor product adoption. Furthermore, accelerating investments in renewable energy technologies to reduce carbon emissions will positively influence the business outlook. The price of such superior material is excessive which is the primary restraint for the marketplace. The porous electrode is an important element of electrolyzers, and the growing call for efficient, sustainable, and dependable electricity technology structures will power enterprise statistics. The developing call for hydrogen as a raw material within the chemical, glass, mining, meals & beverage, and semiconductor industries will power the boom of the market. Continued funding in large-scale on-site hydrogen manufacturing for renewable strength storage, hydrogen refueling stations, grid balancing, and hydrogen refueling station electricity delivery will offer a positive commercial

enterprise for commercial participants.

The global porous electrodes for electrolyzer market analysis have been done based on the electrode material, electrolyzer type, and region. On the basis of electrode material, the porous electrodes for the electrolyzer market are divided into titanium, nickel, silver, and others. In 2020, titanium electrode materials held the largest share of the market. Titanium is corrosion-resistant, lightweight, and has high mechanical strength.

By electrolyzer type, the alkaline electrolyzer segment is expected to witness robust growth. The need for cleaner fuel technologies is at its peak in the Middle East, Russia, Europe, and Africa increases. The porous electrodes for the electrolyzer market have held a notable share in North America. Canada is one of the prominent producers of green hydrogen in North America. Governments of many countries in the region are taking initiatives to increase hydrogen production to ensure energy security. The major companies profiled in this report include Air Liquide, Cocker Jingli Hydrogen, Cummins Inc, Enapter, Graphite India Limited, ITM Power, McPhy Energy, Nel Hydrogen, Plug Power, and Titanium Tantalum Products Limited.

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The players in the market have adopted several strategies, such as product launches and business expansion, to sustain the market competition.

By product, electrolyzers are divided into alkaline electrolyzers, PEM electrolyzers, and solid oxide electrolyzers. Alkaline electrolyzers dominated the market share for 2020 as it has been the most practices method of electrolysis and it been used for a long period of time. It is efficient and inexpensive in comparison to other types. However, PEM electrolyzers are expected to witness rapid growth during the forecast period, owing to technological advancement and higher stability offered by them.

By region, the electrolyzer market analysis is done across North America, Europe, Asia-Pacific, and LAMEA. The Asia-Pacific region dominated the market share for 2020, owing to several initiatives from the government of the region's countries for encouraging shifting toward green and clean energy and fuel, due to which Asia-Pacific is expected to witness the fastest growth during the forecast period, owing to increased electric and hydrogen fuel cell vehicle market in China, Japan, South Korea, and India markets, which increase the demand for porous electrode electrolyzer for hydrogen production.

Key findings of the study

- The North American porous electrodes for electrolyzer market is projected to grow at a CAGR of nearly 29.3%, in terms of revenue, during the porous electrodes for electrolyzer market forecast period.
- By electrode material, the titanium segment accounted for the largest porous electrodes for

electrolyzer market share in 2020.

- On the basis of electrolyzer type, the alkaline electrolyzer segment garnered the largest market share in 2020.

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Impact of COVID-19 on the global porous electrodes for the electrolyzer market

- COVID-19 is an infectious disease that originated in the Hubei province of Wuhan city in China in late December. Numerous nations had to impose lockdowns, travel bans, and trade restrictions in order to prevent the widespread of the deadly virus. The covid-19 pandemic has impacted the porous electrodes for electrolyzers market in the following ways:

- As we are aware of the fact that the major drivers of the porous electrodes for electrolyzers market are Electric Vehicles (including e-rickshaws, e-bikes, and others) and the generation of hydrogen as a fuel by the means of water electrolysis. However, due to the outbreak of the COVID-19 pandemic, the world faced a troublesome situation and was under lockdown. This led to shutdowns of industries, a halt in operations and procurements along with restrictions on cross-border trade activities. Owing to the above-mentioned factors, the electric vehicles, as well as the water electrolysis market, suffered a moderate blow which traveled back to the porous electrodes for electrolyzers market, leading to a decline in demand and thus, a drop in sales and revenue.

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