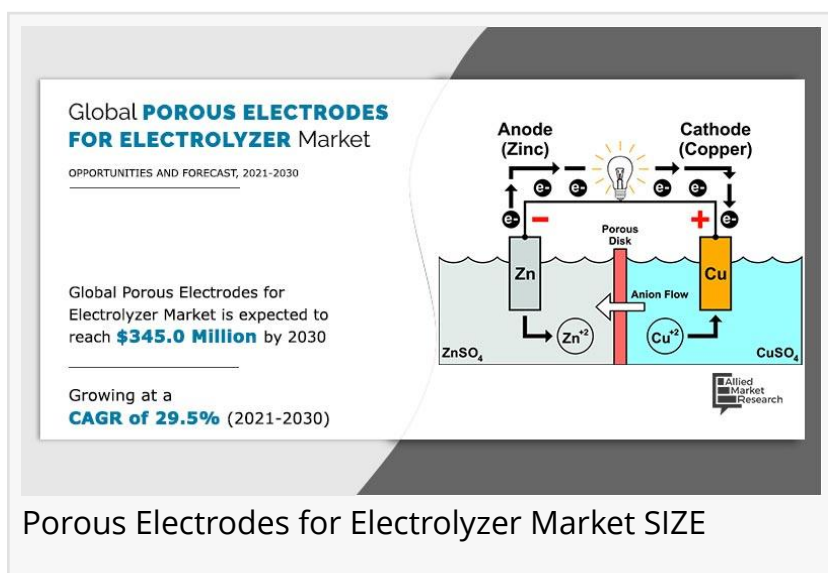


Porous Electrodes for Electrolyzer Market Growth, Competitive Analysis, Top Key Players: Plug Power Inc., Cummins Inc.

WILMINGTON, DE , UNITED STATES, April 23, 2024 /EINPresswire.com/ -- The global [porous electrode 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.



Porous Electrodes for Electrolyzer Market SIZE

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Favorable regulatory policies toward development of hydrogen infrastructure coupled with increasing use as an industrial feedstock will propel the porous electrode for electrolyzer market growth. Ongoing technological development along with declining product cost will favor the product adoption. Furthermore, accelerating investments toward renewable energy technologies to reduce carbon emissions will positively influence the business outlook. The price of such superior material is excessive that is the primary restraint for the marketplace. Porous electrode is an important element of electrolyzers, 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 deliver will offer a positive commercial enterprise for commercial participants.

The global porous electrodes for electrolyzer market analysis have been done based on electrode material, electrolyzer type and region. On the basis of electrode material, the porous electrodes for electrolyzer market is 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.

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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 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.

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

By product, electrolyzers are divided into alkaline electrolyzer, PEM electrolyzer, and solid oxide electrolyzer. Alkaline electrolyzer dominated the market share for 2020 as it has been most practices method of electrolysis and it been used from 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.

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COVID-19 is an infectious disease that originated in Hubei province of the 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. 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 generation of hydrogen as a fuel by the means of water electrolysis. However, due to the outbreak of COVID-19 pandemic, the world faced a troublesome situation and was under lockdown. This led to shutdowns of industries, halt in operations and procurements along with restrictions on the cross-border trade activities. Owing to the above mentioned factors, the electric vehicles as well as water electrolysis market suffered a moderate blow which travelled back to the porous electrodes for electrolyzers market, leading to the decline in demand and thus, drop in sales and revenue.

On the basis of electrolyzer type, the alkaline electrolyzer segment garnered the largest market share in 2020. On the basis of electrode material, the titanium segment accounted for the largest porous electrodes for electrolyzer market share in 2020.

The North America porous electrodes for electrolyzer market is projected to grow at the 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.

Key players in the porous electrodes for electrolyzers market include:

McPhy Energy S.A.

ITM Power

Titanium Tantalum Products Limited

Plug Power Inc.

Cummins Inc.

Cockerill Jingli Hydrogen

ENAPTER AG

Air Liquide

Graphite India Limited

NEL ASA

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