

Fuel Cell Market Soars with Projected 27.1% CAGR Through 2031, Driven by Expanding Applications in Transportation

WESTFORD, MASSACHUSETTS, UNITED STATES, July 15, 2024 /EINPresswire.com/ -- <u>Fuel Cell Market</u> size was valued at USD 2.90 Billion in 2022 and is poised to grow from USD



3.69 Billion in 2023 to USD 25.10 Billion by 2031, at a CAGR of 27.1% during the forecast period (2024-2031).

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The demand for fuel cells has increased immensely due to unconventional energy sources. The rising collaboration among private and public institutions and decrease in environmental impact are also increasing its popularity. Governmental bodies are supporting the advancement of fuel cells by investing in research and developments, providing financing programs, and incentives. Today, the fuel cell market is experiencing tremendous growth and can offer sustainable power. Technical developments are constantly improving, as unique materials and designs contribute to increased efficiency and performance. This boosts fuel cell appeal for more applications. Transport is a key fuel cell market as the fuel cell electric cars have better ranges and quicker refilling times than BEVs. The dramatic decrease in the price of FCEV and increasing use of hydrogen is fueling the demand for fuel cell market.

Rising Adoption of Fuel Cells in Maritime Industry to Drive Market Growth

Fuel cells utilizing hydrogen as a power source have the potential to greatly diminish the release of greenhouse gases and air pollutants. With this they are complying with more stringent environmental standards and sustainability objectives. These cells have superior energy conversion efficiency in comparison to conventional combustion engines. It helps in reduced fuel consumption and operational expenses. Fuel cells, in contrast to diesel engines, function without making any noise, hence enhancing the comfort of the crew and minimizing noise pollution in marine settings. Fuel cells are adjustable so that they can provide electricity for different types of watercrafts, starting from ferries and inland barges to bigger passenger ships and cargo vessels. Today numerous pilot studies are in progress, evaluating the viability and capability of fuel cell technology in various nautical applications. Ferries and workboats, which are short-sea vessels, are in the forefront of early adoption, setting the stage for widespread implementation.

Development in Fuel Cells to Improve Energy Infrastructure Drives the Market Demand in the Next 4-5 Years

The following are the key <u>Fuel Cell Trends</u> that will shape the growth of the market in the next 5 years

Carbon emissions are a vital issue causing climate change, which has severe implications for humans and the environment. Solid oxide fuel cells (SOFC) are used in both mobile and stationary applications. These cells are improving energy infrastructures and providing reliable solutions to meet the increasing power requirement. SOFC's are also energy-efficient solutions and are extremely environmentally friendly. The market for CHP fuel cells is also on the rise due to the growing fuel economy and zero-emission equipment.

Increasing Dependence on Renewable Energies Leads to Decrease in Greenhouse Gas Emissions

The reliance on renewable sources to decrease greenhouse gas emissions greatly benefits the expansion of the fuel cell market. This is primarily because governments and industries prioritize methods to achieve sustainable development. The primary advantage of fuel cells is their capacity to produce electricity by converging hydrogen or other renewable fuels. It results in a more ecologically friendly energy generation procedure. Therefore, this leads to a growing dependency on energy sources and an increased investment in fuel cell technology. This stimulates market expansion as stakeholders seek alternative energy sources that do not contribute to environmental pollution.

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High Demand for Power Generation Application to Expand the Fuel Cell Market in the Next 10 Years

The increase in power generation applications is mostly driven by data centers and commercial & industrial end-users. Fuel cells are being used in data centers to minimize energy expenses because of their requirement for high power consumption and uninterrupted services. The demand for SOFCs is increasing in this sector as they are energy efficient. Industry leaders like Google, IBM, and Equinix have also started using fuel cells in their data centers. Although the use of such cells in data centers is not widespread compared to the overall number in the US, it gives a profitable possibility for expansion in the fuel cell industry.

Latest Headlines

Doosan Fuel Cell Co., Ltd., Samsung C&T, and the Korea Institute of Energy Research signed a MoU with Korea Southern Power in June 2022. It covers the fuel cell-driven CCU technology development and ammonia fuel cell demonstration projects.

In November 2023, Honda and General Motors showed a prototype of their next-gen hydrogen fuel cell system at European Hydrogen Week. The company plans to increase its fuel cell offering.

TECO developed a hydrogen fuel cell in October 2023. It will help them to make ships and other heavy-duty applications emission-free.

In December 2023, General Motors and Komatsu introduced a hydrogen fuel cell power module for the 930E electric drive mining tractor.

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Fuel Cells Emitting Less Pollution and Sustainable Power Production to Boost Market Growth

Fuel cells can transform fuel into electricity more efficiently by reducing heat loss and pollution. These cells are best for transit, backup power, and portable energy because of their less noise and constant power production. The efficiency of fuel cells and performance are improving due to technological advancements and unique materials and designs. These cells are becoming significant in transportation sectors, especially with the rise of fuel cell electric vehicles. Fuel cell vehicle sales will keep rising due to the reducing prices of FCEV and growing hydrogen infrastructure.

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