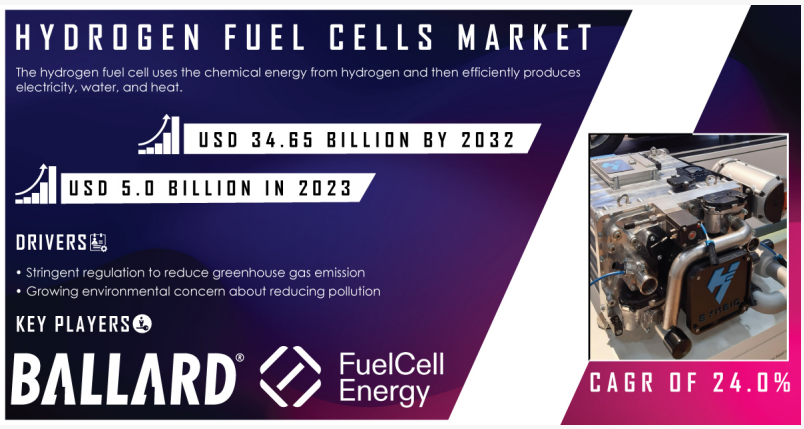
Hydrogen Fuel Cells Market to Grow Strongly, Fueled by Clean Energy Demand and EV Adoption in Transport & Utilities.

The hydrogen fuel cells market is set for growth, driven by clean energy demand, EV adoption, and investments in transportation and utilities infrastructure.



Hydrogen Fuel Cells Market forecast

AUSTIN, TX, UNITED STATES, October 29, 2024 /EINPresswire.com/ -- The Hydrogen Fuel Cells Market was valued at USD 5 Billion in 2023 and is projected to reach USD 34.65 Billion by 2032, growing at a compound annual growth rate (CAGR) of 24.0% from 2024 to 2032.

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The ever-increasing environmental concerns will trigger growth in the hydrogen fuel cells market as well as clean energy adoption. However, hydrogen fuel cells are a stepping stone to phase out traditional fossil fuels through commitment of governments and other organizations to reduce carbon emissions. The growth of this market is driven by technological and infrastructure developments that make it possible to be used on a large scale in transportation, utility and portable power applications.

Demand for hydrogen fuel cells is likewise propelled by the necessity of hydrogen as an efficient energy storage and generation solution in a more electrified world. With the growing prevalence of electric vehicles and a commitment to aggressively grow renewable energy sources, hydrogen fuel cells are taking on broken promise characteristics as a building block to achieve decarbonization objectives. Continuous hydrogen infrastructure developments and positive legislation clearly highlight the importance of this technology.

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Due to the pandemic, a sharp rise in demand in passenger and commercial vehicles has been reported globally. The need for this type of vehicle is growing due to urban population growth as it accommodates both the transport of goods and people within and between cities. In 2023, light commercial vehicles accounted for around 80% of the global commercial vehicle production, surpassing 21.4 million units. Increased road, highway, and public transport infrastructure, on the other hand, fuels the demand for cars and thereby enhances the vehicle-owning experience even further. Consumer preferences change also towards greater comfort, convenience, and mobility; what tops a buyer's list, going by its availability, are safety features, connectivity, and fuel efficiency.

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One of the biggest factors driving hydrogen fuel cells market is increasing demand for electric vehicles (EVs), considering hydrogen provides a proven, high-energy solution to help support EV infrastructure. Hydrogen fuel cells maintain elements of fast refueling and longer range, a good fit for heavy-duty EVs buses, trucks, industrial machinery. With the global expansion of EVs complemented by an increasing necessity for efficient, scalable and sustainable power solutions such as hydrogen fuel cells, this creates even more potential for the market to prosper.

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The transportation segment held the largest share of revenue in the hydrogen fuel cells market in 2023 due to the increasing need for clean and efficient energy solutions including heavy-duty vehicles, public transit, and fleet applications. The quick refueling and long ranges inherent in hydrogen fuel cells are what make them so appealing to transportation. On the contrary, stationary application is estimated to record significant growth from 2024 to 2032 owing to increasing adoption of hydrogen fuel cells among enterprises and utilities for reliable off grid power & energy storage enabling grid stability and renewable energy integration.

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In particular, Fuel Cell Vehicles (FCVs) continued to dominate the hydrogen fuel cells market in 2023 owing to their high efficiency, fast refuel rates as well as their use in heavy-duty applications including trucks and buses that need a longer range of sustainable energy. With increased adoption of FCVs, hydrogen fuel cells are a more viable route than traditional fuels. As per the utility sector, it is anticipated to hold the highest CAGR (4.80%) during 2024 – 2032 as it is a significant driver toward demand for clean and reliable energy storage along with grid support solutions. As renewable energies are taking more and more part in current energy systems, the possibilities for utility companies to store it and deliver power unfluctuating will be challenged;

hydrogen fuel cells provide a solution for these firms

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In 2023 Hydrogen Fuel Cells Market in Asia Pacific continued to hold the largest revenue share on account of significant investments at large scale, favorable government initiatives and high demand for clean energy solution across Japan, South Korea & China. These nations, driven by environmental targets and the need to lessen reliance on fossil fuels, had already made hydrogen fuel cells a priority for not just transportation but also industrial use.
The North America hydrogen fuel cell market is projected to grow at a considerable rate during the forecast period, 2024-2032, due to supportive government policies, rising investment for green energy, and technology development. One bright spot is hydrogen infrastructure, now a growing part of U.S. energy policy to meet decarbonization targets across multiple sectors including utilities and heavy transportation while still pushing today for breakthrough climate goals.

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On October 23, 2024,The U.S. Department of Energy (DOE) made public USD 46 million in funding that could be available to advance research, development, and demonstration projects focused on affordable clean hydrogen and fuel cell technologies. This is toward further spurring progress toward national clean energy and decarbonization goals.

In 2024, the DOE said that it is investing USD 10 million in the development of clean energy projects and the "green iron" facility in Duluth, Minnesota. This will support efforts in developing hydrogen systems, renewable energy, and a workforce equipped with the skills necessary for a clean energy future.

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