

# Hydrogen Truck Market Size, Share & Trends Analysis Report By Vehicle, By Fuel Cell Technology (PEMFC, SOFC), By Range (Upto 300 miles, 300-500 miles), By Motor Power, By Application, By Region, And Segment Forecasts, 2025 - 2030

<https://marketpublishers.com/r/H5536DAB3E9BEN.html>

Date: February 2025

Pages: 130

Price: US\$ 4,950.00 (Single User License)

ID: H5536DAB3E9BEN

## Abstracts

This report can be delivered to the clients within 3 Business Days

### Hydrogen Truck Market Size & Trends

The global hydrogen truck market size was estimated at USD 4.29 billion in 2024 and is projected to grow at a CAGR of 23.9% from 2025 to 2030. Governments and regulatory bodies globally are implementing stringent emissions standards to combat climate change and reduce greenhouse gas (GHG) emissions. Traditional diesel-powered trucks are significant contributors to air pollution, prompting policymakers to promote the adoption of cleaner alternatives. Hydrogen trucks, which produce only water vapor as a byproduct, are emerging as a key solution to meet these regulatory requirements. This regulatory push is a critical factor driving investments in hydrogen truck technology and infrastructure.

In addition, the global push towards sustainability is driving businesses to adopt greener transportation solutions. Fleet operators and logistics companies are increasingly prioritizing vehicles that align with their environmental, social, and governance (ESG) goals. Hydrogen trucks offer a zero-emission alternative that meets these objectives, making them an attractive option for companies seeking to reduce their carbon footprint while maintaining operational efficiency.

Technological advancements in hydrogen fuel cell technology have significantly improved the performance, efficiency, and cost-effectiveness of fuel cell systems, addressing challenges such as energy density, durability, and scalability. One key development is the enhancement of energy density, which allows fuel cells

hydrogen fuel cell trucks generate more power relative to their size. This has led to the creation of more compact systems that can be integrated into existing truck platforms without compromising payload capacity or operational efficiency. These improvements make hydrogen-powered trucks a more practical alternative to traditional internal combustion engine vehicles in commercial and industrial applications. In September 2023, Nikola Corporation launched its hydrogen fuel cell electric truck at its manufacturing facility in Arizona, U.S. The event featured demonstrations, sustainability discussions, and production line tours. The truck offers a range of up to 500 miles and refueling in approximately 20 minutes.

As countries seek to reduce their reliance on fossil fuels and enhance energy security, hydrogen is emerging as a key component for their energy diversification strategies. Hydrogen trucks not only support the transition to renewable energy but also help mitigate risks associated with fluctuating oil prices and supply chain disruptions. This growing focus on energy diversification is further boosting the demand for hydrogen trucks worldwide.

One of the primary challenges hindering the adoption of hydrogen trucks is their high initial costs. The expensive fuel cell technology and specialized hydrogen storage systems contribute to the steep upfront investment required for hydrogen-powered trucks. While these vehicles may offer operational savings in the long term, the high cost of ownership remains a barrier, particularly for small and medium-sized enterprises that are less equipped to absorb such significant expenditures. In addition, the infrastructure required to support these trucks, such as refueling stations, also requires substantial capital investment, further adding to the financial burden.

#### Global Hydrogen Truck Market Report Segmentation

The report forecasts revenue growth at global, regional, and country levels and provides an analysis of the latest industry trends in each of the sub-segments from 2018 to 2030. For this study, Grand View Research has segmented the global hydrogen truck market report based on vehicle, fuel cell technology, range, motor power, application, and region.

#### Vehicle Outlook (Revenue, USD Billion, 2018 - 2030)

Heavy-duty trucks

Medium-duty trucks

Small-duty trucks

#### Fuel Cell Technology Outlook (Revenue, USD Billion, 2018 - 2030)

PEMFC

SOFC

Range Outlook (Revenue, USD Billion, 2018 - 2030)

Upt%li%300 miles

300-500 miles

Above 500 miles

Motor Power Outlook (Revenue, USD Billion, 2018 - 2030)

Upt%li%200 Kw

200-400 Kw

Above 400 Kw

Application Outlook (Revenue, USD Billion, 2018 - 2030)

Logistics and Transport

Municipal

Construction

Others

Regional Outlook (Revenue, USD Billion, 2018 - 2030)

North America

U.S.

Canada

Mexico

Europe

Germany

UK

France

Asia Pacific

China

India

Japan

South Korea

Australia

Latin America

Brazil

Middle East & Africa

KSA

UAE

South Africa

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