

Global Future of Hydrogen in Automotive Market Size Study & Forecast, by Vehicle Type (Passenger Cars, Commercial Vehicles), Propulsion (Fuel Cell Electric Vehicles (FCEV), Hybrid Vehicle, H2-ICEV), and Regional Forecasts 2025-2035

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Abstracts

The Global Future of Hydrogen in Automotive Market is valued at approximately USD 1,264.7 million in 2024 and is poised to scale up at an exceptional CAGR of 28.74% during the forecast period 2025–2035, reflecting a structural transformation underway within the global mobility ecosystem. Hydrogen-powered vehicles represent a next-generation propulsion paradigm that leverages hydrogen as a clean energy carrier to generate electricity or direct combustion with near-zero tailpipe emissions. As automakers, energy companies, and governments lean into long-term decarbonization roadmaps, hydrogen technologies are being increasingly worked into automotive strategies to complement battery-electric mobility, particularly for long-range, heavy-duty, and high-utilization applications. The market's expansion is being powered by tightening emission regulations, ambitious net-zero targets, and growing investments in hydrogen production, storage, and refueling infrastructure across major economies.

Momentum across the hydrogen automotive value chain has been steadily picking up as pilot projects graduate into commercial deployments. Automakers are teaming up with energy suppliers to roll out hydrogen refueling corridors, while policymakers are backing hydrogen ecosystems through subsidies, tax credits, and public–private partnerships. Fuel cell efficiency gains, falling electrolyzer costs, and the gradual scale-up of green hydrogen production are pushing the technology closer to cost parity with conventional powertrains. At the same time, hydrogen's fast refueling capability and long driving range are being positioned as decisive advantages over battery-electric vehicles in select use cases. Despite these tailwinds, high upfront infrastructure costs

and limited refueling networks continue to temper near-term adoption, even as long-term fundamentals remain firmly tilted toward growth.

The detailed segments and sub-segments included in the report are:

By Vehicle Type:

Passenger Cars

Commercial Vehicles

By Range:

0–250 Miles

251–500 Miles

Above 500 Miles

By Propulsion:

Fuel Cell Electric Vehicles (FCEV)

Hybrid Vehicle

H2-ICEV

Commercial vehicles are expected to dominate the Global Future of Hydrogen in Automotive Market over the forecast horizon, emerging as the most strategically aligned segment for hydrogen adoption. Heavy-duty trucks, buses, and fleet-operated commercial vehicles benefit disproportionately from hydrogen's high energy density, extended range, and minimal downtime due to rapid refueling. Logistics operators and public transport authorities are increasingly locking into hydrogen-powered fleets to meet emission mandates without compromising operational efficiency. While passenger cars are gradually entering the hydrogen landscape, commercial vehicles are set to anchor demand as infrastructure availability improves and fleet economics tilt further in

hydrogen's favor.

From a revenue contribution perspective, Fuel Cell Electric Vehicles (FCEVs) currently lead the market, accounting for the largest share owing to their higher efficiency, zero-emission output, and strong backing from major automotive OEMs. FCEVs are being rolled out as flagship hydrogen offerings, particularly in regions with supportive policy frameworks and early-stage refueling infrastructure. Meanwhile, H₂-ICEVs are gaining attention as a transitional solution, enabling manufacturers to repurpose existing engine architectures while reducing carbon intensity. Hybrid hydrogen vehicles, blending hydrogen systems with electric drivetrains, are also carving out a niche, underscoring the market's multi-technology evolution rather than a single-path transition.

The key regions considered for the Global Future of Hydrogen in Automotive Market study include North America, Europe, Asia Pacific, Latin America, and the Middle East & Africa. Asia Pacific currently commands a leading position, driven by aggressive hydrogen roadmaps in Japan, South Korea, and China, where government-backed investments and OEM commitments are accelerating commercialization. Europe follows closely, underpinned by stringent emission norms and continent-wide hydrogen strategies tied to energy security and decarbonization. North America is gaining traction through federal incentives and state-level hydrogen initiatives, while the Middle East & Africa is emerging as a long-term opportunity, leveraging its potential for large-scale green hydrogen production. Latin America remains nascent but promising as infrastructure investments gradually pick up pace.

Major market players included in this report are:

Toyota Motor Corporation

Hyundai Motor Company

Honda Motor Co., Ltd.

BMW Group

Daimler Truck AG

Volvo Group

Stellantis N.V.

General Motors Company

Ford Motor Company

Hyundai Mobis

Ballard Power Systems

Plug Power Inc.

Cummins Inc.

Bosch Group

Air Liquide

Global Future of Hydrogen in Automotive Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent to up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments and countries in recent years and to forecast the values for the coming years. The report is structured

to weave together both qualitative insights and quantitative assessments across the regions involved in the study. It sheds light on pivotal growth drivers, structural challenges, and emerging opportunities that are expected to shape the competitive trajectory of the Global Future of Hydrogen in Automotive Market. In addition, the analysis drills down into high-potential micro-markets, evaluates strategic initiatives adopted by leading players, and provides a forward-looking lens for stakeholders aiming to position themselves advantageously within this rapidly scaling hydrogen-powered mobility landscape.

Key Takeaways:

Market estimates and forecasts for 10 years from 2025 to 2035

Annualized revenues and regional-level analysis for each market segment

In-depth geographical analysis with country-level insights across major regions

Competitive landscape profiling key players and strategic developments

Evaluation of core business strategies with recommendations for future market entry and expansion

Comprehensive assessment of market structure, including demand-side and supply-side dynamics

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