

Hydrogen Fuel Cell for Zero-Emission Mobility

A new report by Auto2x analyses key player strategies in vehicles and refueling infrastructure, innovation intensity and emerging Hydrogen Hubs

LONDON, UNITED KINGDOM, February 23, 2025 /EINPresswire.com/ -- Auto2x publishes the latest update of the report "[The Future of Hydrogen Fuel Cell Mobility](#)" shedding light to innovation, competition and market outlook.



Favourable regulation, strong innovation and net-zero regulations for powertrain decarbonization drive Hydrogen adoption strategies"

Auto2x

The report helps strategy, innovation and transportation teams advance their strategic planning by assessing the status and technological innovation of hydrogen fuel cells in automotive and mobility.

KEY FINDINGS

1) Hydrogen Mobility Behind the Hype

Hydrogen has the potential to be an important, safe, low-carbon transport fuel, particularly for heavy-duty transport such as trucks, buses and shipping.

But the industry is still debating whether Hydrogen Mobility is over-hyped or at an inflection point?

Hydrogen has the potential to reach TAM of \$185B by 2026, vs. \$671B from EVs, \$200B for Biofuels and just \$12B for Fuel cells. Hydrogen Mobility is still in its infancy but there is potential in many domains, such as lowering the cost of Green Hydrogen and commercializing Hydrogen ICE.

Lowering the cost of Green Hydrogen (hydrogen produced with renewable electricity) below \$1/kg: The EC states that Fuel-Cell hydrogen trucks can become cost-competitive by 2027, if hydrogen drops to €6/kg. We assess that the cost of green hydrogen is expected to see dramatic cost reductions this decade as the cost of renewable energy and electrolyzers fall. One interesting player to watch is Advanced Ionics who has developed an electrolyzer that runs at temperatures below 650 C and it is reportedly able to produce hydrogen for \$0.85/kg or less.

Commercializing eFuels and Hydrogen ICE ([Hydrogen-Internal Combustion Engine](#)) to extend

petrol & diesel: Carmakers bet on Hydrogen Mobility and eFuels to extent ICEs. In terms of Hydrogen ICE, Toyota is making big bets not only to save the ICE but to replace EVs. We believe that in the near term, the low TCO positions H2-HPDI to be the most capital efficient means to use H2 and lower CO2 emissions from heavy duty applications.

2) Hot areas of innovation

- Cost reduction of FC stacks
- Cost efficient catalysts or Substitute for costly platinum catalyst
- Graphene-based materials for cheaper catalysts & new FC design the focus of Hydrogen research
- New design to enhance efficiency
- SOFC-powered APU's & hydrogen in dual-fuel mode present potential for zero-emission HDT
- HT-PEM
- H2-ICE: For h-Trucks, Hydrogen fuel cell and IC Engine combination is also on the top of the list to save fuel and reduce emissions

3) Are autonomous, electric and Hydrogen Trucks the silver bullet to zero-emission smart freight and logistics?

Heavy Duty Vehicles (HDV) play a crucial role on commerce and trade, but diesel dominates their powertrain, with 90% penetration in new sales in China. Electrification and autonomous driving could play an important role in the decarbonization of global Heavy-Duty transportation and logistics.

Start-up funding is heating up, especially in China, who is promoting clean trucks with a series of policies.

DeepWay, a Chinese manufacturer of the Heavy-Duty Autonomous Truck Xingtuo, raised \$110 Million (CNY 770 Million) in a Series A Round in March 2023. The company was established in 2020 by Baidu and Lion Bridge. DeepWay is working with Weiqiao Pioneering, the world's largest aluminium producer, to use smart e-trucks in closed-loop deliveries, but they are also exploring other use cases.

Learn more about battery, fuel cell and hydrogen tech, emission regulation and emerging players in transport and fleet decarbonization, in our report.

4) Emerging players are fueling growth in Hydrogen Mobility.

Auto2x scouts for promising start-ups based on their Technological Competitiveness, Market Potential, Financial Management and Transactions.

- Advanced Ionics has developed an electrolyzer that runs at temperatures below 650 C. It can produce hydrogen for \$0.85/kg or less.
- Posh Robotics is using computer vision to automate battery recycling, demonstrating the use of

Exponential technologies for Circularity.

Contact us to learn more about the report, including sample pages.

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