Hydrogen Fuel Cells will record strong growth by 2040 to power Heavy-Duty Trucks and clean logistics, finds Auto2x

Auto2x maps the innovation landscape and competition in Hydrogen Mobility to identify promising opportunities, such as hydrogen-ICE, SOFC, HT-PEMs and Green H2

LONDON, UK, January 12, 2024 /EINPresswire.com/ -- Hydrogen is a strong condidate to support the zero-emission strategies of automotive players, together with batteries. Auto2x believes that Hydrogen has a crucial role in the electrification strategies of players in the new era of zero-emission mobility as a fuel and as energy storage.

> Favourable regulation, innovation and powertrain decarbonization strategies drive Hydrogen adoption"
>
> *Auto2x*

The new study identifies the most promising opportunities in Hydrogen fuel cells. Hydrogen Mobility has a Total Addressable Market (TAM) of $185 Billion by 2026, while Fuel cells have a TAM of $12 Billion.

Today, the application of H2 as a transportation fuel is still in its infancy because of the high cost of production, challenges in handling and distributing and nascent refueling infrastructure network. Value chains can be complex and require cross-sector investment co□ordination, which multiplies risks.

Despite the techno-commercial challenges, we expect a boost in the adoption of H2 Fuel Cell Mobility driven by:
a) favourable government policy to support net-zero goals,
b) innovation to lower the cost of storage and distribution; lower the cost of Green Hydrogen
c) stronger player activities to adopt H2-ICE and Fuel Cells in cars and Heavy-Duty Trucks

Favourable policy for net-zero and energy security will lead to new Hydrogen Hubs. Favourable

policy in China, Europe and Japan will lead to the development of new Hydrogen hubs and benefit strategies for fleet decarbonization, especially for heavy-duty trucks. Long-haul truck applications contribute the large amount of the CO2 emissions from CVs. Stricter emission norms push for a solution. The EC states that Fuel-Cell trucks can become cost-competitive by 2027, if hydrogen drops to €6/kg.

Players explore Hydrogen-Internal Combustion Engine. H2-ICE as a potential solution for zero emission mobility to convert large fleet of ICEs into green vehicles. These vehicles tend to fall in a middle ground between the higher efficiency hydrogen fuel cell vehicles and the standard gasoline ICE vehicles. Currently, for H2-ICE's to qualify as zero-CO2 emissions solutions in Europe, they must not produce more than 1g CO2/kWh.

The cost of Green Hydrogen will drop to make clean production sustainable. Most hydrogen extracted today is from natural gas ("Grey") in a process that produces carbon emissions. Green hydrogen requires a large amount of renewable electricity to produce. The cost of green hydrogen is expected to see dramatic cost reductions this decade as the cost of renewable energy and electrolysers fall, to the point where it can compete with grey even without a carbon price according to Energy Transitions Commission.

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Auto2x, Automotive Intelligence & Consulting
Auto2x Ltd
+44 7825 686532
email us here
Visit us on social media:
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