

Hydrogen Vehicle



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Description

**Road vehicles such as cars, buses and trucks that use hydrogen as fuel with water the only by-product*

Hydrogen vehicles powered by fuel cells - also known as fuel-cell electric vehicles (FCEV) - offer an additional path to decarbonisation alongside battery-powered electric vehicles (BEV). The optimization of fuel cell technology and improved infrastructure availability/accessibility will improve their attractiveness.

1. Expected impact

- Significant reduction in noise pollution – hydrogen-fueled motors are silent
- Zero carbon emission in use – hydrogen fuel cells produce only water as a by-product
- Affordability is expected to increase as cost of hydrogen vehicle falls over time – hydrogen car currently costs ~60k USD

2. Technology requirements

- Technologies are available and in use, but R&D is needed to improve them and bring price down to make them competitive with battery electric and petrol/diesel

3. Regulatory requirements

- Regulations to ensure safety – hydrogen is stored under high pressure and is combustible
- Regulations for distribution of hydrogen for refueling purposes

4. Investment requirements

- Current cost of refueling station is ~2.0-3.2 million USD
- Challenge to match increase in number of vehicles on the road with number of refueling stations available – need for up-front investment

Tags

FCEV **Fuel Cell** **Future mobility** **hydrogen**

STEEP

- Technological

Links

INFORMATION

Audi renews hydrogen powertrain development scheme

New fuel cell has enough juice for drones and subs - Futurity

TRENDS

Battery Electric Vehicle (BEV)

Rise of alternative Batteries - The Fuel Cell

Projects

RTA Future Scanning - Information & Trends

Rating criterion	04.06.2020
Importance	