

Green Hydrogen Push in the Transportation Sector

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Mind MAPS



- Hydrogen is colourless and green hydrogen is 'green' only by virtue of the manner it is produced/ the supply of the energy used to fabricate it.
- Green hydrogen refers to hydrogen that is made out of the electrolysis of water (splitting it into hydrogen and oxygen) the usage of an electrolyser powered by means of renewable energy.
- It is 'end-to-end' green considering that it's miles powered with the aid of renewable power, uses water as a feedstock, emits no carbon while ate up.
- This method, except for a distinction inside the manufacturing pathway and emissions, inexperienced hydrogen is essentially similar to gray or some other coloration hydrogen.

Green Hydrogen

- The most important targets of the MNRE scheme encompass -
- Validation of technical feasibility and performance of green hydrogen as a transportation fuel.
 - Evaluation of the economic viability of green hydrogen-powered vehicles, and
 - Demonstration of safe operation of hydrogen-powered cars and refuelling stations.
- The Ministry of Road Transport & Highways will rent a scheme implementation organisation that will invite proposals for pilot initiatives.
- The decided on organization or consortium can be the assignment's executing organization and may be required to complete the pilot challenge inside years.
 - Based on the recommendation of a Project Appraisal Committee, the MNRE will approve viability hole investment (VGF) for the mission.
 - The VGF amount might be finalised after considering "precise desires, deserves, and feasibility of each task".

Scheme for Use of Green Hydrogen in the Transport Sector

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Advantages of Green Hydrogen in the Transportation Sector

- A hydrogen inner combustion engine (ICE) car uses hydrogen by combustion - that's similar to vehicles walking on diesel and petrol, besides there are not any carbon emissions.
- A hydrogen fuel cell electric vehicle (FCEV) uses hydrogen electrochemically through converting hydrogen stored in a excessive-strain tank into energy, leaving water as the byproduct.
- Even though hydrogen ICE cars do not emit carbon, studies suggests that burning hydrogen is a ways much less electricity green than converting it into power in a gas cell.
- Compared to battery electric powered automobiles (BEVs), wherein the battery is the heaviest part, hydrogen FCEVs are normally an awful lot lighter due to the fact hydrogen is a light detail.
- Given the want to cut carbon emissions within the transportation region while ensuring there may be no loss in revenue-generating payload capacity, green hydrogen holds promise.

India's Green Hydrogen Push in the Transportation Sector

- Big Indian business car producers including Tata Motors, Volvo Eicher and Ashok Leyland are doubling down on efforts to increase hydrogen-powered trucks and buses.
 - Indian energy corporations too are seeking to scale up production of green hydrogen and convey down fees to make it less expensive sufficient to compete with different fuels.
 - As a large and growing marketplace for each cars and strength, India stands to benefit substantially from the huge-scale adoption of green hydrogen as vehicular gas.
- India sees services ranging -
- From curtailing pollutants and assembly its climate dreams to reducing highly-priced fossil fuel imports.
 - As nicely as a business opportunity to emerge as a international hub for the manufacturing and export of inexperienced hydrogen.