COMPUTER SCIENCES AND TECHNOLOGY

HYDROGEN FUEL CELL CARS

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Since automobile internal combustion engines invention and until now, traditional petroleum products have been used for them: gasoline and diesel fuel.

Around the world, there is a growing interest in alternative types of automotive fuels: more economical, environmentally friendly and efficient. They are produced from inexhaustible reserves and generate less emissions into the atmosphere. Developing countries are increasingly abandoning traditional fuels and are striving to switch to a more environmentally friendly one - hydrogen.

A hydrogen vehicle is a vehicle that uses hydrogen fuel for motive power. Fuel cell cars and trucks combine hydrogen and oxygen to produce electricity, which runs a motor. Since they're powered entirely by electricity, fuel cell vehicles are considered electric vehicles — but unlike other electric vehicles, their range and refueling processes are comparable to conventional cars and trucks. Refueling a fuel cell vehicle is comparable to refueling a conventional car or truck; pressurized hydrogen is sold at hydrogen refueling stations, taking less than 10 minutes to fill current models. [1]

Hydrogen fuel cells could have a huge impact on our planet and how we produce our energy, so there some advantages of using this type of fuel:

1. Energy efficient. The efficiency of a hydrogen-fueled electric motor is much higher than that of an internal combustion engine
2. Zero emissions. When fossil fuels are burned, CO_2 is produced. If fuel cell technology was used instead of traditional fuel in our cars, we could greatly reduce the amount of CO_2 that's being created. The water that's formed during this process is drinkable, too. In fact, NASA has been using fuel cell technology for years to power its space shuttles and the water is used by the crew to drink. People are becoming more interested in fuel cells and the technology they could provide us with because they don't create CO_2 or other gases that are harmful to our planet. [2]
3. Easy to store. When hydrogen energy is stored, less energy loss occurs than in batteries. This means that fuel cell energy is good for use in backup generators or emergency lighting, as it could be stored for years but still work just as well.
4. Almost no noise pollution. Unlike a standard engine, fuel cells don't have any moving parts, which makes them completely noiseless.
5. Hydrogen is the most common element on the planet, so there are no worries about shortages.

Among the companies that produce hydrogen cars are Toyota, Honda and Hyundai. Daimler, Audi, BMW, Ford, Nissan and others are also involved in the development of hydrogen-powered vehicles.

Hydrogen fuel cells are a promising alternative to current automobile fuels. They essentially combine the energy density and the convenience of liquid fuels with the clean and efficient operation of electric vehicles. Although certain aspects of the technology such as efficient on-board storage still require some improvement, there are no reasons why hydrogen couldn't become an equally convenient and attractive transportation fuel as diesel or gasoline are today.

References

1. How Do Hydrogen Fuel Cell Vehicles Work?: website. URL: https://www.ucsusa.org/resources/how-do-hydrogen-fuel-cell-vehicles-work (Last accessed 05.11.2020).