

# Hydrogen

Hydrogen (H<sub>2</sub>) is being aggressively explored as a fuel for passenger vehicles. It can be used in [fuel cells](#) to power electric motors or burned in internal combustion engines (ICEs).



It is an environmentally friendly fuel that has the potential to dramatically reduce our dependence on foreign oil, but several significant challenges must be overcome before it can be widely used.

## Benefits

**Produced Domestically.** Hydrogen can be produced domestically from several sources, reducing our dependence on petroleum imports.

**Environmentally Friendly.** Hydrogen produces no air pollutants or greenhouse gases when used in fuel cells; it produces only NO<sub>x</sub> when burned in ICEs.

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## Challenges

**Fuel Cost & Availability.** Hydrogen is currently expensive to produce and is only available at a handful of locations, mostly in California.

**Vehicle Cost & Availability.** [Fuel cell vehicles](#) are currently far too expensive for most consumers to afford, and they are only available to a few demonstration fleets.

**Onboard Fuel Storage.** Hydrogen contains much less energy than gasoline or diesel on a per-volume basis, so it is difficult to store enough hydrogen onboard a vehicle to travel more than 200 miles.



Other [challenges](#) include fuel cell performance, customer acceptance, and hydrogen transport and bulk storage.

## Additional Information

- [Alternative Fuels: Hydrogen](#) - Alternative Fuel and Advanced Vehicle Center
- [Alternative Fuel Station Locator](#) - Alternative Fuel and Advanced Vehicle Center