

## Fuel Cell Vehicles

Fuel cell vehicles, powered by hydrogen, are still at an early stage of development, but they have the potential to revolutionize our transportation system. They are more efficient than conventional internal combustion engine vehicles and produce no harmful tailpipe exhaust—their only emission is water. Fuel cell vehicles and the hydrogen infrastructure to fuel them are in an early stage of development. What is a Fuel Cell Vehicle? Like electric vehicles, fuel cell vehicles use electricity to power motors located near the vehicle's wheels. In contrast to electric vehicles, fuel cell vehicles produce their primary electricity using a fuel cell. The fuel cell is powered by filling the fuel tank with either pure hydrogen gas or by extracting hydrogen from a secondary fuel—as methanol, ethanol, or natural gas. Fuel cell vehicles fueled with pure hydrogen emit no pollutants, only water and heat. Vehicles that use secondary fuels and a reformer produce only small amounts of air pollutants. The most common type of fuel cell for vehicle applications is the polymer electrolyte membrane (PEM) fuel cell. Benefits of Fuel Cell Vehicles: Unlike conventional vehicles, fuel cell vehicles produce no harmful exhaust emissions—their only emission is water. Other benefits include increasing U.S. energy security and strengthening the economy. Incentives: Fuel cell vehicles qualify for alternative fuel vehicle tax credits. For more, see our Incentives page. Additional Information: For further reading on the Technology and Availability of Fuel Cell Vehicles visit [http://www.eere.energy.gov/afdc/vehicles/fuel\\_cell.html](http://www.eere.energy.gov/afdc/vehicles/fuel_cell.html).

Source: U.S. Department of Energy, Energy Efficiency and Renewable Energy, Alternative Fuels & Advanced Vehicles Data Center (<http://www.eere.energy.gov/afdc/>)