



Environmentally Friendly Cars

Activity

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How would you like to own a car that is noiseless, does not pollute, never needs a tune-up, and rarely needs major repairs? An electric car might be the answer.

Plug It In

Auto manufacturers have been experimenting with the idea of replacing gasoline engines with electric motors for many years. One car manufacturer in the United States recently started selling the first mass-produced electric car. Recent improvements allow the car to go between 89 and 153 km or 120 and 209 km before recharging, depending on the type of battery pack.

Widespread use of electric cars would eliminate the pollutants emitted from gasoline engines. Electric cars do not use energy when they are not moving. With an electric car, drivers could save money on gasoline, tune-ups, and major repairs.

Electric cars do have disadvantages, however. They are more expensive to buy than similar gasoline-engine cars. They can travel only short distances before they need to be recharged, and batteries must be replaced two or three times during the life of the car.

The standard lead-acid batteries used in electric cars are heavy, expensive, and take up a lot of space. They are also hazardous to the environment when they are discarded. Electric cars accelerate slowly and reach a top speed of only about 129 km per hour. Although electric car engines burn more cleanly, they still cause some pollution.

A Dual Approach

In response to the problems of electric cars, Japanese automakers began selling hybrid models that use electricity and gasoline. These cars recharge themselves by storing energy produced during deceleration and then convert it back into electric power. They accelerate more quickly and their aerodynamic shape minimizes wind resistance, allowing for better gas mileage. A computer determines when it is most efficient for the car to use electricity or gasoline.

Other automakers have plans to release cars that use electric-diesel engines and fuel-cell-powered engines. Fuel cells are now used in spacecraft. The cells take hydrogen from the fuel and mix it with oxygen. The reaction, in turn, generates electricity. Fuel cells are more than twice as efficient as gasoline engines. Their only emission is water vapor.

Applying Critical Thinking Skills

1. If you were buying a new car, would you buy an electric car? Why or why not?
2. In what ways could governments (federal, state, and local) support the use of electric and hybrid cars?