



FRESH ENERGY FACT SHEET: PLUG-IN FLEX-FUEL HYBRID CARS

WHAT IS A PLUG-IN FLEX-FUEL HYBRID CAR?

A regular hybrid car is a car that runs on both a gasoline engine and an electric motor.

A plug-in hybrid car is a regular hybrid with a battery you can recharge at any 120-volt outlet. The car is essentially an electric vehicle with a gas-tank backup. It's a cleaner, cheaper, quieter car for local travel, with a gas tank for longer distances (over 20 miles). That means if your driving is mostly local, you'd almost never need to buy gas.

A flex-fuel car runs on gasoline or an alternative fuel made of renewable materials like grasses or wood and agricultural wastes (biofuels).

A plug-in flex-fuel hybrid car combines these technologies: you get a vehicle that could run on wind power and *grassoline*!

FACTS ABOUT PLUG-IN HYBRIDS

Plug-in hybrids are cleaner (even using electricity from coal plants)

Battery electric vehicles, taking into account power plants, are far cleaner than gasoline cars.

The emissions of electric vehicles are lower than those from gasoline internal combustion vehicles. California Air Resources Board studies show that battery electric vehicles emit at least 67 percent less global warming pollution than gasoline cars.

Nationally, two government studies have found plug-in hybrids would result in large global warming pollution reduction even with half the electricity coming from coal. Plugging in the car at night (during off-peak hours) reduces global warming pollution by 46 to 61 percent.

Also, plug-in hybrids get cleaner as they get older, because electricity gets cleaner every decade.

Plug-in hybrids are cheaper to run

It costs so little to drive a plug-in hybrid because electric motors are much more efficient than gas engines, so a \$3 gallon of gas has the same amount of useful energy as 50 cents worth of electricity.

Don't plug-in hybrids just shift pollution from gasoline cars to power plants?

Yes. But it's monumentally less pollution, even with half the electricity coming from coal. And it's easier to clean up central power plants than millions of vehicles...utilities nationwide are increasingly being mandated to increase their percentage of power from renewable sources.

Won't all these cars require us to build even more power plants?

No, since the cars will be plugged in mostly at night. The Electric Power Research Institute estimates that the current national electric system could handle many tens of millions of cars plugging in at off-peak hours.

How do I get a plug-in hybrid?

Right now, the only way to get a plug-in hybrid is to add a plug-in battery system to a regular hybrid. But automakers have the technology to produce these cars! They need to hear from you that you want access to this technology.

FACTS ABOUT FLEX-FUEL VEHICLES

Flex-fuel vehicles have a single fuel tank and can run on regular gasoline and an alcohol fuel (like ethanol). Ethanol produces less pollution than regular gas and can be produced locally, so it can benefit local economies and help reduce dependence on foreign oil.

Ethanol made from corn is very energy intensive and in some cases uses nearly as much energy to produce as it supplies. However, alternative fuels now under development—like *grassoline*, ethanol made from grass—have more energy than corn ethanol and produce less pollution. And recent technological innovations are improving yields and driving down production costs.

FACTS ABOUT PLUG-IN FLEX-FUEL HYBRIDS

The best solution is combining both technologies to get a car that uses renewable electricity as the primary fuel and *grassoline* for longer distances.



Fresh Energy

408 St. Peter Street, Suite 220 / St. Paul, MN 55102
651 225 0878 phone / 651 225 0870 fax
www.fresh-energy.org
info@fresh-energy.org

The energy system needs an overhaul, and the clock is ticking. Fresh Energy's job is to catalyze state and regional policy and regulation that will stimulate the technological advancements necessary for an energy system that sustains our economy, our people and our planet.