What is a plug-in car?

A plug-in car uses clean, affordable, domestic electricity for some or all of its energy. An all-electric vehicle (EV) stores all its energy in batteries. Plug-in hybrids (PHEV) store some energy in batteries, and have a gas engine to extend range. Conventional hybrids have batteries, but all their energy comes from gasoline. They cannot plug in to cleaner, cheaper power!

Sounds great! Can I get one?

Carmakers should offer us the choice of electric cars and plug-in hybrids. The automakers made great electric cars during the 1990s. But only a small number of these electric cars were ever offered for sale. Those EVs are still on the road, using no gasoline and driving emission-free.

Finally, plug-in electric cars are beginning to appear in the market. Many large automakers are promising plug-in cars starting in late 2010. Aftermarket conversions of hybrids are available now. But today the major automakers still sell only gasoline cars.

Plug In America is working with automakers and policymakers to ensure that affordable plug-in vehicles come to market soon.

Plug-in Vehicle Tracker: What's Coming and When

Virtually every major automaker and several smaller companies are developing plug-in vehicles. Plug In America is tracking their progress. Our online Plug-in Vehicle Tracker is updated monthly and includes highway-capable cars, trucks as well as two- and three-wheeled vehicles.
pluginamerica.org/vehicles

Plug-in car resources

GM EV1

Plug In America
www.pluginamerica.org

Plug-In Vehicle Tracker
pluginamerica.org/vehicles

Electric Auto Association
www.electricauto.org

Fisker Karma

Who Killed the Electric Car?
Must-see documentary
Available now on DVD
whokilledtheelectriccar.com

CalCars Plug-In Hybrid Project
www.calcars.org www.eaa-phev.org

Plug-In Hybrids: The Cars that will Recharge America
Book by Sherry Boschert
www.sherryboschert.com

Ford Electric Van

Plug In America drives change. We accelerate the shift to plug-in vehicles powered by clean, affordable, domestic electricity to reduce our nation's dependence on petroleum and improve the global environment. Join us.

Plug In America

www.pluginamerica.org

Why Plug-in Cars?

2011 Nissan Leaf

No Gas Required
Zero Emissions
No Noise
No Kidding!

2011 Chevrolet Volt

Plug In America

Toyota RAV4 EV
All-electric
1997-2003

All-Electric Range: 125 miles
Top Speed: 80 mph
Weight: 3480 pounds
Motor: 50 kW (67 hp)
Batteries: Nickel Metal Hydride (NiMH)
Charger: 208/240 volt/30 amp; inductive
Battery Capacity: 27 kWh

Tesla Motors Roadster
All-electric
For Sale Now

All-Electric Range: 220 miles
Top Speed: 125 mph
Weight: 2723 pounds
Motor: 185 kW (248 hp peak)
Batteries: Lithium-Ion
Charger: 120 to 240 volts; conductive
Battery Capacity: 56 kWh

Chevrolet Volt
Plug-in Hybrid
Nov. 2010

All-Electric Range: 40 miles
Total Range: 300 miles
Top Speed: 100 mph
Weight: 3520 pounds
Motor: 111 kW (149 hp peak)
Batteries: Lithium-Ion
Charger: 120 to 240 volts; conductive
Battery Capacity: 16 kWh
I.C. Engine: 1.4 Liter Gas/E85

• *How many miles can a battery electric car (EV) go between charges?*
Most new EVs will have 100 miles range. Most cars travel under 40 miles a day. An EV begins each day with a full charge.

• *How many miles can a plug-in hybrid (PHEV) go on electricity?*
PHEV conversions have an all-electric range of 10-40 miles, depending on the battery size and type. The 2010 Chevy Volt will have an all-electric range of 40 miles. After that, the gasoline engine kicks in to maintain the battery's charge, extending the range to over 300 miles.

• *How long to recharge the batteries of electric cars and plug-in hybrids?*
A few hours overnight will charge to full.

• *Where do you charge?*
Usually overnight in one's garage. There are also public chargers for electric cars in parking garages and shopping centers. (see www.evchargermaps.com). New electric cars will be capable of charging at any electric outlet.

• *Is it expensive to charge?*
Less than $1 to fill up a plug-in hybrid; $2-4 for an all-electric car.

• *Aren't electric vehicles inefficient?*
EVs are the most efficient cars on the road. Compare the gas & electric RAV4:
Gas: 21(city)/26(hwy) MPG, 8 tons of greenhouse gas emissions per year
Electric: 125/100 MPG (equivalent), 3.9 tons GGE per year
http://www.fueleconomy.gov/feg/bymodel/2002_Toyota_RAV4.shtml

• *How does a plug make hybrids better?*
Plugging in a PHEV is like filling up with 60 cent per gallon gasoline. And you still have a gas tank for longer trips.

• *Isn't hydrogen the solution?*
No. Electricity is less expensive and more efficient. Hydrogen powered cars are 4X less efficient than EVs when the hydrogen is produced from electricity and 1.4X less efficient when made from natural gas. Billions of dollars will be required for new fueling infrastructure. For plug-in cars, the infrastructure is largely in place - the electric grid.

• *What about the pollution created making the electricity? Aren't you just moving all the pollution?*
No. Emissions from plug-in cars are lower even on the 50%-coal U.S. grid. Moving the pollution away from population centers is a good thing.
The US Dept. of Energy says utilities have enough excess generating capacity at night to charge 185 million plug-ins. While electricity is getting cleaner and more renewable every year, even the cleanest gasoline car becomes more polluting over time. An electric car gets cleaner as the grid gets greener.

• *Can I charge a plug-in car with solar or wind power?*
Yes. Putting solar panels on your home or business makes even more sense with a plug-in car. That investment pays off faster, and the car becomes truly zero-emission. The cleaner the power, the cleaner the car.

What can I do?

• Join Plug In America.
• Tell your local auto dealer you won't buy a new car until it has a plug. **No Plug? No Deal!**
• Tell your friends to see the film Who Killed the Electric Car?

Plug In America