

# Electrifying Your Drive

Energy Savers Blog

For anyone who grew up watching The Jetsons (or Back to the Future, depending on your generation), the "Car of the Future!" flew through the skies with the greatest of ease. Although most of us have given up on our hopes of a flying car, anything beyond the internal combustion engine has seemed hopelessly out of reach until recently. However, with several manufacturers planning on producing plug-in and all-electric vehicles, the Car of the Future will be available soon!

But before you put down a deposit, it's helpful to understand the different types of electric drive technologies. The most basic form of electric drive is found in [hybrid electric vehicles](#) [1], which are familiar to most people. Hybrid electric vehicles do not need to be plugged in at all. Instead, they obtain their electric power by capturing the energy from braking and storing it in a battery pack. This reserve energy gives the vehicle a boost to take the pressure off of the internal combustion engine. Some models even drive completely on electricity for short distances. To compare the many models of hybrids available now, check out [FuelEconomy.gov](#) [2].

[Plug-in hybrid electric vehicles](#) [3] (PHEVs) take the idea of the hybrid and greatly extend the all-electric driving period. Once a plug-in hybrid electric vehicle has recharged its batteries using an electric charger, it can drive from 10 to 40 miles on all-electric power. However, when its battery is drained, the vehicle's internal combustion engine kicks in and runs on other fuels. Although manufacturers have only announced PHEVs designed to run on gasoline, there is the potential for future one to run on [diesel](#) [4], [biofuels](#) [5], or other alternative fuels. There are no PHEVs currently for sale, but there are a number [in development](#) [6]. Some current hybrid owners have also chosen to [convert their vehicles](#) [7] to PHEVs. Read a Clean Cities' coordinator's experience with a test PHEV in the previous blog entry, [Honey, Did You Plug in the Prius?](#) [8]

[All-electric vehicles](#) [9] do not have internal combustion engines at all. Instead, they completely rely on their batteries for their power. As a result, they release no emissions from their tailpipe. However, because most electricity in the United States comes from burning coal, charging up an electric vehicle does produce some smog-forming and greenhouse gas emissions. Powering it with renewable energy, such as [wind](#) [10] or [solar power](#) [11], really brings the vehicle's green credentials to the next level.

The U.S. Department of Energy is carrying out a number of projects to encourage the development and adoption of electric drive vehicles. The DOE has [given loans](#) [12] to several car manufacturers to build these vehicles and create great American jobs. Through the Recovery Act, the Vehicle Technologies Program funded \$2.4 billion in [transportation electrification and battery development projects](#) [13] across the country. These projects included demonstrating up to 5000 Nissan Leafs,

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developing PHEV minivans with Chrysler and Ford, and training automotive technicians.

If you want to reduce your environmental footprint and petroleum use, electric drive vehicles are a great bet. Whether you wish to purchase a hybrid today or an all-electric car soon, you'll truly be driving the next generation of vehicles forward.

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### Links:

- [1] <http://www.fueleconomy.gov/feg/hybridtech.shtml>
- [2] [http://www.fueleconomy.gov/feg/hybrid\\_news.shtml](http://www.fueleconomy.gov/feg/hybrid_news.shtml)
- [3] [http://www.afdc.energy.gov/afdc/vehicles/plugin\\_hybrids.html](http://www.afdc.energy.gov/afdc/vehicles/plugin_hybrids.html)
- [4] [http://www.fueleconomy.gov/feg/di\\_diesels.shtml](http://www.fueleconomy.gov/feg/di_diesels.shtml)
- [5] <http://www.afdc.energy.gov/afdc/ethanol/index.html>
- [6] [http://www.afdc.energy.gov/afdc/vehicles/plugin\\_hybrids\\_availability.html](http://www.afdc.energy.gov/afdc/vehicles/plugin_hybrids_availability.html)
- [7] [http://www.afdc.energy.gov/afdc/vehicles/plugin\\_hybrids\\_conversions.html](http://www.afdc.energy.gov/afdc/vehicles/plugin_hybrids_conversions.html)
- [8] <http://www.eereblogs.energy.gov/energysavers/post/Honey-Did-You-Plug-in-the-Prius.aspx>
- [9] <http://www.afdc.energy.gov/afdc/vehicles/electric.html>
- [10] [http://www.energysavers.gov/renewable\\_energy/wind/index.cfm/mytopic=50014](http://www.energysavers.gov/renewable_energy/wind/index.cfm/mytopic=50014)
- [11] [http://www.energysavers.gov/renewable\\_energy/solar/index.cfm/mytopic=50011](http://www.energysavers.gov/renewable_energy/solar/index.cfm/mytopic=50011)
- [12] <http://www.energy.gov/news/8581.htm>
- [13] [http://www1.eere.energy.gov/vehiclesandfuels/news/news\\_detail.html?news\\_id=12697](http://www1.eere.energy.gov/vehiclesandfuels/news/news_detail.html?news_id=12697)
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