

PLUG-IN HYBRID ELECTRIC VEHICLES

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(PHEV) combine the technology of conventional gasoline vehicles and battery electric vehicles, fueling with both gasoline and electricity. These versatile vehicles offer the familiarity of conventional fueling as well as electric motors that offer sufficient range for many daily driving activities. PHEVs may fit your lifestyle and transportation needs. This fact sheet provides answers to common questions, to aid in informed decision making about PHEVs.

What powers PHEVs?

Both electricity and gasoline. PHEVs have an electric motor with a small battery pack and an internal combustion engine working in tandem. Generally, a PHEV will run on electric power only until the battery is nearly depleted (usually between 15-50 miles). The vehicle then automatically transitions from electric to gasoline power, generally unnoticeably to the driver.

How are PHEVs refueled?

PHEVs have both a gasoline tank as well as a chargeable battery. Most of the battery's charge comes from an external source (a charger or common electrical outlet); a small portion of this energy is generated on-board through regenerative braking (where kinetic energy created by braking is converted into electrical energy).

Many PHEV users charge at their residence using Level 1 charging (standard electrical outlets). Faster, level 2 public charging is also available.

Gasoline tanks on the vehicles are around 12-15 gallons and can be refueled at any gas station.

Do PHEVs generate air pollution?

While operating on electric power, PHEVs produce no tailpipe emissions, contributing to cleaner air and reducing harmful pollutants. Since most trips taken are short and local, they may spend most of their time operating primarily in electric mode without emissions. PHEVs will produce tailpipe emissions when operating on gasoline only.

How are PHEVs different than a conventional hybrid car?

PHEVs are able to charge via an external source and have larger batteries than conventional hybrid cars. The electric motor in conventional hybrid cars usually supports auxiliary functions like air conditioning or aiding acceleration. PHEVs' electrical motor actually powers the vehicle's motion.

Are PHEV chargers different than other electric chargers?

No. They are the same. Level 1 and level 2 chargers will charge the vehicle as they would a full electric vehicle. Due to the smaller battery sizes of PHEVs, Level 3 fast chargers are not typically compatible.

HOW ARE PHEVS REFUELED?

ELECTRICITY



Most PHEV batteries charge via a standard electrical outlet (Level 1). Faster, level 2 charging is also available.



GASOLINE

PHEVs have a 12-15-gallon gasoline tank, which can be refueled at any gas station.



REGENERATIVE BRAKING

A small portion of the energy is recovered through braking, converting motion into electricity.