



clean vehicle assistance program

Battery Electric Vehicles

Battery electric vehicles (BEVs) are all electric and have no tailpipe emissions, which helps our air quality and promotes better health. In California, it costs roughly one-half the price to charge a BEV compared to fueling a standard gasoline-powered vehicle to drive the same distance.*



What is the driving range and cost of BEVs?

Driving range is determined by vehicle battery size and individual driving patterns. In general, BEVs have an average driving range between 60-200+ miles.

Electric vehicle charging costs depend on the vehicle's battery size. The cost to charge an electric vehicle can be calculated by multiplying the kWh battery size by the number of cents per kWh you are charged. To learn more about vehicle charging costs, programs and special time-of-use (TOU) rates, contact your local utility.

Do BEVs come with a Battery Warranty?

Typically, BEVs come with a manufacturer's battery warranty of 8 years/100,000 miles.**

What should I know about BEV Vehicle Maintenance?

BEVs do not require oil changes, smog checks, or upkeep of the transmission, filters and belts. They have simpler mechanics than a gas vehicle and maintenance usually consists of basic tire rotations.

BEVs also offer regenerative braking that uses the motor to slow the vehicle rather than only using the brake pads, extending the brake system lifespan and significantly reducing brake wear. Braking energy is also transferred to the battery to extend the driving range.

How many models are there to choose from?

There are numerous types of battery electric vehicles, ranging from sedans to SUVs. To explore available BEVs, please visit: pluginamerica.org/vehicles/.

* Office of Energy Efficiency & Renewable Energy, U.S. Department of Energy, [Saving on Fuel and Vehicle Costs](#)

** Office of Energy Efficiency & Renewable Energy, U.S. Department of Energy, [Fact #913](#)

Where and how do I charge a BEV?

Level 1 charging



provides power using a standard 120-volt household outlet. Most plug-in hybrids and battery electric vehicles come with a level 1 charging cord.

Level 2 charging



uses 240 volts, found at public charging stations, or you can install a level 2 charging station in your garage or outside your home.

DC Fast charging



is much faster than Level 1 and 2 and can charge up to 80% of battery capacity in about 30 minutes. Charging locations tend to be close to major highways.

Locate an electric vehicle charging station near you at

afdc.energy.gov/stations

Hybrid Vehicles

Hybrid electric vehicles (HEVs) are powered by a gasoline engine and an electric motor, which runs on energy stored in batteries. Together, these features result in better fuel economy and high performing vehicles.

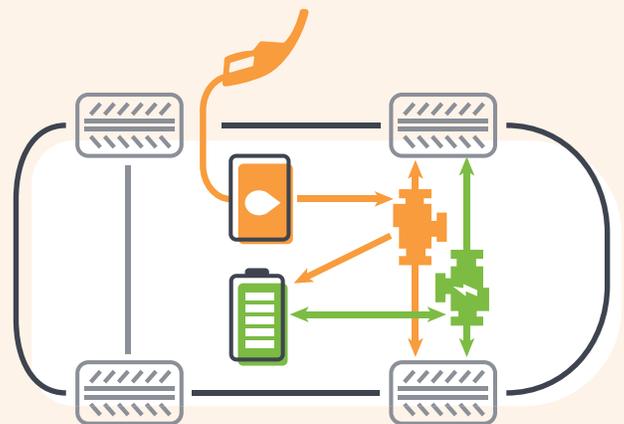
Do I need to charge a hybrid? What is the fuel mileage?

Conventional HEVs do not need to be plugged in to recharge. Instead, the vehicle uses regenerative braking and the internal combustion engine to charge the battery. Although fuel economy will vary depending on make and model, HEVs typically get better fuel economy than comparable gas-powered vehicles.

How does a hybrid recharge?



HEVs capture energy normally lost during braking by using the electric motor as a generator and storing the captured energy in the battery. The energy from the battery provides extra power during acceleration. Most hybrids are much quieter and feel less strained than their equivalent gas-only models in most situations. To find out how a hybrid vehicle recharges, find out more: www.afdc.energy.gov/vehicles/electric_basics_hev.html



What should I know about Hybrid Vehicle maintenance?

Hybrid electric vehicles require the same general maintenance as conventional vehicles.

Do Hybrids come with a battery warranty?

Just like a battery electric vehicle, hybrid batteries are designed to last the expected lifetime of the vehicle. Make sure you compare battery warranties, so you can select a vehicle that meets your needs.

How many models are there to choose from?

There are numerous types of hybrid models available in the marketplace today. To find out more on what types are available, visit www.hybridcars.com/top-hybrid-cars-list/.

Partial list of grant-eligible vehicles

Ford Fusion Hybrid, Toyota Prius, Kia Optima, Honda Accord and many others.

For more information, visit our website

www.cleanvehiclegrants.org

Plug-in Hybrid Electric Vehicles

Plug-in Hybrid Electric Vehicles (PHEV) combine the benefits of a gasoline-powered engine and an electric motor. You can charge a plug-in hybrid's battery by connecting it to an outlet and you can fill up with gasoline. PHEVs run in the all-electric mode until the battery is depleted, then converts over to the gas engine.



What is the driving range and cost of PHEVs?

PHEVs can have a total range of up to 500+ miles. The battery can have a range of up to 50 miles, with an extended range that runs on powered by gas.

PHEV charging costs depend on the vehicle's battery size, which is generally much smaller than a BEV battery. The cost to charge an electric vehicle can be calculated by multiplying the kWh battery size by the number of cents per kWh you are charged. To learn more about vehicle charging costs, programs and special time-of-use (TOU) rates, please contact your local utility.

What should I know about PHEV Vehicle Maintenance?

PHEVs require the same general maintenance as conventional vehicles.

PHEVs also offer regenerative braking that uses the motor to slow the vehicle rather than only using the brake pads, extending the brake system lifespan and significantly reducing brake wear. Braking energy is also transferred to the battery to extend the driving range.

Do PHEVs come with a Battery Warranty?

Yes, most PHEV manufacturers offer warranty options that cover the battery.

How many models are there to choose from?

There are numerous types of PHEVs, ranging from sedans to SUVs. To explore available PHEVs, please visit: pluginamerica.org/vehicles/.



clean vehicle
assistance program

For more information, visit our website

www.cleanvehiclegrants.org



facebook.com/CVAProgram



instagram.com/CVAProgram



twitter.com/CVAProgram



beneficial state foundation



CALIFORNIA
AIR RESOURCES BOARD

