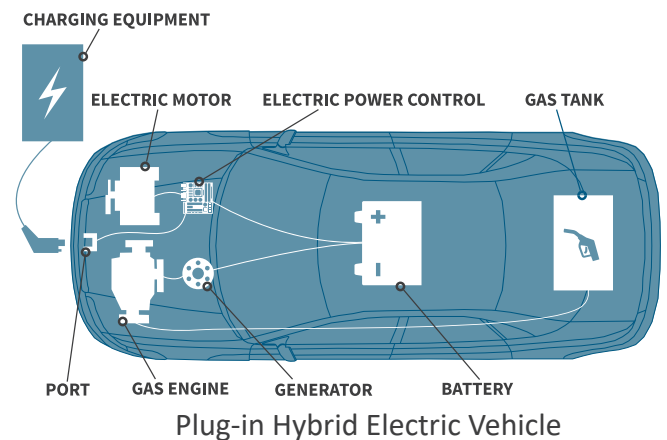
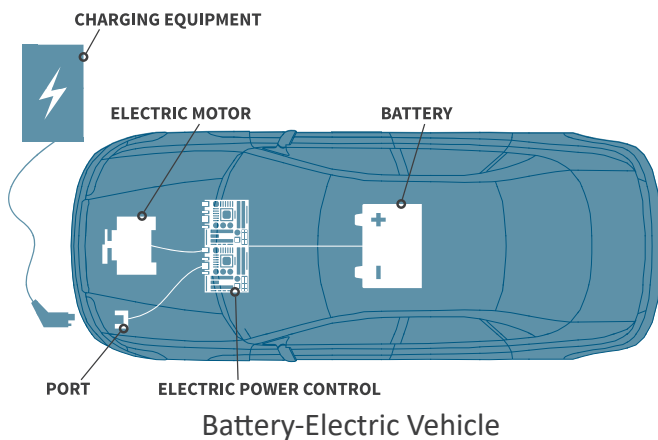


ELECTRIC VEHICLE 101



Electric vehicles (EVs) are powered by electricity from the grid. Drivers either plug their cars into an outlet or a charging station to charge the battery. There are two types of EVs: battery-electric, which are powered solely by electric energy stored in the battery, and plug-in hybrid electric, which are powered by a combination of battery power and a gasoline engine that is typically used as backup.



EV charging comes in three levels: Level 1, Level 2 and DC fast charge. Level 1 and Level 2 charging are common in homes, workplaces and public locations where people might visit for longer periods. DC fast charging is more suited for supporting long-distance travel and is typically found along heavily trafficked corridors.

Electric Vehicle Charging Levels

Level 1
 Voltage
 120V 1-Phase AC
 Amps
 12 - 16 Amps
 Charging Loads
 1.4 - 1.9 kW
 Charge Time
 3 - 5 miles per hour

Level 2
 Voltage
 208 - 240 1-Phase AC
 Amps
 12 - 80 Amps (Typ. 32 Amps)
 Charging Loads
 2.5 - 19.2 kW (Typ. 6.6 kW)
 Charge Time
 12 - 60 miles per hour

DC Fast Charge
 Voltage
 208 - 480V 3-Phase AC
 Amps
 >100 Amps
 Charging Loads
 50 - 350 kW
 Charge Time
 60 - 80 miles in 20 minutes

Frequently Asked Questions

Why drive electric?

- Save money on gasoline and maintenance costs
- Enjoy great vehicle performance with a smooth, quiet ride and quick acceleration
- Be environmentally friendly by reducing vehicle emissions
- Support energy independence by purchasing domestically produced electricity

Miles per Year	Miles per Day	Gasoline Cost per Year	Electricity Cost per Year	Annual Savings
10,000	27	\$1,000	\$319	\$681
12,000	33	\$1,200	\$383	\$817
15,000	41	\$1,500	\$479	\$1,021
20,000	55	\$2,000	\$639	\$1,361
25,000	68	\$2,500	\$799	\$1,701

Assumptions: Cost per gallon gasoline: \$2.50; Cost per kWh: \$.10; Gas vehicle gets 25 MPG; EV gets 3.13 miles per kWh

How far can I drive?

Battery-electric vehicles that can travel more than 200 miles continue to enter the market. Plug-in hybrid electric vehicles typically get between 12 and 50 miles of electric range before switching over to a hybrid gasoline engine.

How do I locate a public charging station?

There are many websites and apps to help you locate charging stations. One of the most popular is PlugShare (www.plugshare.com). If you're going on a longer trip, A Better Routeplanner (www.abetterrouteplanner.com) can help you plan charging along the way based on your vehicle model and other conditions. Google Maps and Apple Maps also continue to make it easier to find charging stations.

What maintenance will my EV need?

EVs contain a fraction of the parts of gasoline vehicles, so they typically require little maintenance aside from keeping up with windshield wipers and tires. Many of the vehicles also use regenerative braking, which recovers lost energy from slowing down and puts less wear on the braking system, allowing you to go longer between service.

Are EVs truly environmentally friendly?

EVs, compared to conventional vehicles, help improve local air quality because they have no tailpipe emissions when operating in all-electric mode. This is true even when accounting for power plant emissions associated with charging because the power grid is getting cleaner every year with new technologies and the addition of renewable energy.

