



Are you looking for a ride offering higher fuel efficiency, superior performance and energy independence? Electric vehicles (EVs) can help put you in the driver's seat. EVs may still represent a road less traveled in the overall vehicle market, but the number of buyers making the connection is growing. U.S. EV sales jumped 22 percent in 2017, with total sales of nearly 195,000 vehicles.

Why are plug-in electric vehicles (PEVs) making such inroads? They offer a number of advantages over conventional vehicles:



Lower operating costs. PEVs are less expensive per mile than gasoline vehicles. Also, electricity rates are consistent over time; no more worries about jumps in gasoline prices.



Fuel efficiency. PEVs convert about 60 percent of electrical power to the wheels, while conventional vehicles convert only about 20 percent of the fuel stored in gasoline.



Improved performance. Electric motors provide quiet, smooth operation and stronger acceleration and require less maintenance than internal combustion engines.



Energy independence. Electricity is a domestic fuel source.



Reduced emissions. While PEVs have no tailpipe emissions, there are emissions from generating electric power. Still, PEVs reduce emissions by 30 to 60 percent compared to internal combustion engines.

The power to choose

You've got plenty of options when it comes to purchasing EVs. There are two main types: battery-electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). Both types use batteries to power an electric motor and plug in for recharging. There are, however, some important differences.

BEVs run only on electricity. Most range up to 80 to 100 miles on one charge, while some more expensive models have ranges of up to 250 miles. Examples include the Nissan Leaf and Chevy Bolt.

PHEVs run on electricity for a shorter range, then switch over to a conventional gasoline engine when the battery is depleted. Some PHEV models also use biofuels and other alternative fuels. Popular PHEV models include the Chevy Volt and the Ford Fusion Energi. See cars.nationalgridus.com for more information about EVs and to compare different models.

Getting a charge

You can charge your vehicle at home, at work or at the growing number of public charging stations available. There are more than 17,500 public charging stations across the country, according to the U.S. Department of Energy.



Level 1 chargers require 120-volt service and most vehicles come with a Level 1 charger, so no additional charging equipment is necessary. Level 1 chargers can add 2 to 5 miles of range per hour of charging; they are mainly used for overnight charging in homes.



Level 2 chargers require 240-volt service and add 10 to 25 miles of range per hour of charging time.



DC fast charging stations add up to 80 miles of vehicle range in 20 minutes.

Home and workplace Level 1 cables generally cost \$150 to \$400 to purchase, depending on type, although the cables typically come with the vehicle. Level 2 charging stations cost \$400 to \$700 to purchase and DC fast chargers can cost much more. Contact a qualified electrician for safe and proper installation.

Incentives smooth the way

Although EVs often cost more than conventional vehicles, financial incentives can help. By purchasing an EV, you may be eligible for a [federal tax credit of up to \\$7,500](#) and [incentives up to \\$2,000](#). There are a variety of state and local programs as well. Search the [Alternative Fuels Data Center](#) for incentives available in your area.