



ELECTRIC VEHICLES AND CHARGING STATIONS



As your Touchstone Energy® cooperative, we want to be your source for energy and information. Since electric vehicles (EVs) are becoming more mainstream, we put together a variety of fact sheets and information to help answer questions you might have.

Contact us for more information about EVs.

In the early 20th century, electric vehicles (EVs) made up close to 40% of the U.S. vehicle market. They quietly zipped around cities where driving distances were short and charging stations were readily available. Despite this early popularity, they began to disappear from the streets after just a few years. As roadways improved beyond the city limits, people wanted to get out and explore. With their slower speeds and shorter ranges, EVs were not ideal for this type of travel. At the same time, gasoline cars began to improve and became both accessible and affordable. By 1930, EVs had mostly vanished from roads.

ELECTRIC CONVENIENCE

Drivers have reported spending about \$30 a month to charge up their EVs compared to about \$100 a month they used to spend on gasoline. Additionally, EVs have fewer moving parts and do not require as much maintenance as gasoline vehicles, which saves drivers even more money.



Interest in EVs made a bit of a resurgence in the mid- to late-1900s, but it wasn't until recently that a more substantial push developed. EVs were reintroduced to the U.S. market in 2010, and each year more shoppers are forgoing gasoline models in favor of new battery electric or plug-in hybrid electric models. A battery electric vehicle solely uses electricity as its fuel, while a plug-in hybrid electric vehicle uses electricity and has a conventional engine for backup. Both fall under the "EV" umbrella.

There are numerous reasons people choose to drive electric, including the fuel and maintenance savings, the driving experience, and the environmental and economic development benefits.

PLUGGING IN TO FUEL



Making the switch from a gas pump to a plug is a big decision, but millions of drivers across the U.S. have done it. EV owners have multiple options when it comes to charging their vehicle. Charging is often categorized into three levels: Level 1, Level 2 and DC Fast Charge.

Level 1 charging: Uses a standard 120-volt outlet and provides the slowest charge, around 3 to 5 electric miles per hour. Even at this slow speed, Level 1 charging may be sufficient for people with shorter commutes or who drive a plug-in hybrid electric vehicle.

Level 2 charging: Commonly found in public locations, including shopping centers, downtown areas, multifamily communities and workplaces. Level 2 charging stations can also be installed at home. Level 2 charging provides between 12 and 60 electric miles per hour. It is a great option for public locations where people may be parked for a few hours.

DC Fast Charge: Provides the quickest charge. DC Fast Charge stations are capable of charging an EV's battery to 80% in about 30 minutes. They are usually located in high-traffic public areas and along highway corridors.

There are multiple apps and websites to help people locate charging stations and plan trips. Popular ones include the U.S. Department of Energy's Alternative Fuels Data Center, PlugShare, A Better Routeplanner and Chargeway.

THE FUTURE IS ELECTRIC

EVs have come a long way since they re-entered the market in 2010. Now, all major car manufacturers are showing support by developing models with longer ranges and more affordable prices.

Over the next few years, EV growth is expected to continue across the U.S. There are also plans to install thousands of additional charging stations. With the infrastructure expanding, it's becoming easier and easier to drive electric from coast to coast with plenty of options to plug in along the way.

This article was provided by Advanced Energy, a nonprofit energy consulting firm. For more information, visit www.advancedenergy.org.

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