

# ELECTRIC VEHICLE FREQUENTLY ASKED QUESTIONS



## **What are the differences between a conventional vehicle, hybrid, plug-in hybrid and an electric vehicle?**

We are most familiar with conventional combustion-engine vehicles, the standard for many years. The market is changing, and it's hard to keep up with the newest technologies, models, terminology and more. For simplicity, this separates the options into four basic types of vehicles. In our listing, the range is from most to least amount of fossil-fuel used in operation.

1. Conventional vehicles have an internal combustion engine; the most common fuels are gasoline and diesel.
2. Hybrid vehicles have both a gasoline engine and an electric motor and battery; both gas and electricity power the wheels. The electric motor and battery are designed to improve fuel economy, so less gasoline is used to operate the vehicle. The battery is charged solely by operating the vehicle; no plug-in is required or possible.
3. Plug-in Hybrid Electric Vehicles (PHEVs) have larger batteries than hybrids and use both gas and electricity to power the wheels of the car. These vehicles vary in their electric range, but shift to gasoline-only operation when battery power is depleted. These vehicles must be plugged in to recharge the battery.
4. Electric Vehicles (EVs) are powered solely by electricity and are recharged by plugging in the vehicle.

## **What is the cost to own and operate an EV vs a gas-powered conventional vehicle?**

It's hard to compare apples to oranges. While battery electric vehicles and plug-in hybrid electric vehicles may have a higher purchase price, that can be at least partially offset by lower operating costs and incentives for battery-containing vehicles. Below is an example with the following assumptions: driving the vehicle 15,000 miles a year, with 225 days of 50 miles each, and 50 days of 75 miles each. EPA fuel economy numbers and average costs of energy as reported by the U.S. Energy Information Agency were used.

Comparing electric vehicles to a hypothetical gas-powered vehicle that gets 25 mpg; this gas-powered vehicle would cost approximately \$1,320 for gas per year. In this comparison:

- A typical EV would save \$730 in annual energy costs per year; electricity costs would be less than half the cost fuel for the gas-powered vehicle.
- A typical PHEV would save \$600 per year when combining the cost of gas plus the cost of electricity to operate the vehicle.



# ELECTRIC VEHICLE FREQUENTLY ASKED QUESTIONS

## What types of chargers are available for EVs?

- Level 1: 120V charger - This charger included with the car (plugs into a conventional wall outlet)
- Level 2: 240V charger - This charger an electrician would install in your garage or at your home residence. It is most common to utilize this charger at home for example overnight.
- DC fast charger - This charger is the up and coming charger and not all vehicles are capable of this.

## How long will it take to charge my EV?

- Level 1: charges at a rate of 4 miles in 1 hour - For the Chevy Bolt, it will take approximately 60 hours to charge the Bolt on a 120V charger from empty to a full charge.
- Level 2: charges at a rate of 25 miles in 1 hour - For the Chevy Bolt, it will take approximately 9 hours to charge the Bolt on a 240V charger from empty to a full charge.
- DC Fast charger: charges at a rate of 180 miles in 1 hour up to 80% charge and then charges at a rate of 25 miles in 1 hour for remainder of the charge - For the Chevy Bolt, it will take approximately 3 hours to charge the Bolt on a DC Fast charger from empty to a full charge. (Please note: the DC Fast charger charges at a slower rate for the final 20% to keep the battery from overheating or overcharging.)

## What apps and websites can you utilize to locate charging stations?

Below are a few of the many apps and websites available to direct you to nationwide charging stations.

- Plugshare, (<http://www.plugshare.com/>)
- ChargeHub (<https://chargehub.com/en/charging-stations-map.html>)
- U.S. Department of Energy Alternative Fuels Data Center ([http://www.afdc.energy.gov/fuels/electricity\\_locations.html](http://www.afdc.energy.gov/fuels/electricity_locations.html)).
- ChargePoint ([https://na.chargepoint.com/charge\\_point](https://na.chargepoint.com/charge_point))

## Does Corn Belt Energy offer an EV rate?

An electric vehicle rate is currently being evaluated.

## Who do I contact with further questions?

We will provide information about our EV experience on our website at <http://cornbeltenergy.com/ev>. We encourage you to follow our blog posts as well as social media posts about the EV, and if you have any specific questions, please contact Jeremy Myers at [jeremy.myers@cornbeltenergy.com](mailto:jeremy.myers@cornbeltenergy.com) or by calling us at 800-879-0339 x221.

## CONTACT US

1-800-879-0339 | [cbec@cornbeltenergy.com](mailto:cbec@cornbeltenergy.com) | [www.cornbeltenergy.com](http://www.cornbeltenergy.com) |    
1 Energy Way, Bloomington IL 61705 | Office hours: Monday - Friday, 8:00 AM to 4:30 PM



Your Touchstone Energy® Cooperative 