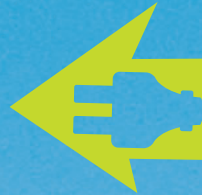




# PLUG-IN ELECTRIC VEHICLE READINESS

## Frequently Asked Questions



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## ➤ 1) What are the different levels of charging?

Most plug-in electric vehicles (PEVs) will charge at one of three charging “levels.” Depending on which charging level you select, you may need to upgrade your home electrical system in order to be plug-in ready.

**Level One.** Charging at Level One is done on a standard 120-volt outlet that typically won't require customers to make modifications to their electric panel or home wiring. The electrical draw is the rough equivalent of a 1400-watt personal hair dryer. Plug-in vehicles that travel an average of 40 miles will require approximately 9 – 12 hours of charging at Level One, although a full recharge of a battery electric vehicle with greater range could take 16 – 20 hours.

**Level Two.** Charging at Level Two is done on a 240-volt rated charging unit and will result in a power draw equivalent to a clothes dryer or air conditioner. A “safety appliance” device, sometimes called an EVSE (Electric Vehicle Supply Equipment), will also need to be installed, which will have the cord set permanently attached. Plug-in vehicles that travel an average of 40 miles will require approximately 3 – 4 hours of charging at Level Two, although a full recharge of a battery electric vehicle could take 6 – 8 hours.

An electrical contractor can install this for you and inform you if your electrical system needs to be upgraded to accommodate the circuit and if the utility must be called in to review service delivery to the residence.

**DC Fast Charging.** DC fast charging is intended to charge your vehicle 80 percent in 30 minutes and is designed for public or fleet charging. Although the North American standard is not yet finalized, some automakers are currently utilizing a Japanese standard.

## ➤ 2) Can I charge on a standard household 120-volt outlet?

Yes. All plug-in vehicles are capable of plugging into a standard household outlet utilizing a special cord set provided with the car. The charge rate is relatively low and could take 9 – 12 hours for an average daily charge, so this is best suited for plug-in hybrids and may be completely satisfactory.

## ➤ 3) When should I plug in my car?

It is generally recommended to plug in as soon as you arrive home since you may forget otherwise. From a utility standpoint, it is also preferred that Level Two (240-volt) charging be delayed until the overnight hours to avoid peak electricity hours. This helps the utility maximize efficiency and reduce the cost to serve customers. Most new plug-in vehicles will allow owners to program their vehicles to delay the start of charging until a preferred time, for example starting at 10 or 11 p.m. If available, another great option is to program the vehicle to be fully charged by a set time in the morning. Either way, it's yours to control.

## ➤ 4) Where can I charge my car away from home?

It is possible to find a standard outlet to charge at Level One in many areas away from home, although be sure to get the outlet owner's permission. To charge faster, you will need to find a dedicated Level Two charging station. Access to public charging is increasing every day and you can find a complete list of stations near you on the Alternative Fuels Data Center website, [afdc.energy.gov/afdc/locator/stations/](http://afdc.energy.gov/afdc/locator/stations/). Keep in mind that battery electric vehicle owners should plan trips according to their range and that plug-in hybrids do not require public charging, thanks to the backup gasoline engine.

➤ **5) Does Progress Energy have special rates related to electric vehicles?**

There is no required change to your metered service or rates. Carolinas and Florida customers may keep their existing rate structure with the vehicle energy usage simply added to your monthly bill.

Carolinas customers have the option to select a time-of-use rate for their entire house that provides for a cheaper rate during off-peak hours. This can include charging your vehicle provided you program the vehicle to charge at the appropriate time. Keep in mind this requires managing your entire household energy and could result in higher overall costs for your existing usage if you still use a significant amount of your household energy on-peak. Two time-of-use options are available: R-TOUE, which is billed on energy (kWh) only, and R-TOUD, which is based on energy (kWh) and peak demand (kW). For more detailed information on all our rate options, please see our Electric Rates page.

➤ **6) How much will it cost me to charge my car?**

It depends on the size of the battery, the level of charge when you plug in, the billing rate and the time of day you charge your vehicle if on a time-of-use rate. The average fill-up can cost \$1 a day for a 30 – 40 mile charge, although a full charge on a battery electric vehicle might cost \$2 – \$3. It's estimated to cost 2 – 3 cents per mile on electricity versus 12 – 16 cents per mile for the average conventional gasoline car, potentially saving you over a thousand dollars a year in fuel costs.

➤ **7) Will I see my vehicle energy use/costs separately on my Progress Energy bill?**

No. Progress Energy meters all electricity entering a point of service and therefore the breakdown of individual use beyond that point is not currently possible. However, most automakers are providing the ability to know how much electricity a car uses onboard the vehicle itself.

➤ **8) What will it cost to install a circuit or charging station?**

This will vary based on your home wiring infrastructure and what level of charging you desire. Call a certified electrician for an installation quote and your electric vehicle provider for Level Two hardware costs if desired.

➤ **9) Can Progress Energy install a charging outlet/station for me or recommend someone?**

Not directly – Progress Energy personnel can only work on the utility side of the meter, providing the necessary service to the house. However, we are able to recommend licensed electricians that we currently do business with. Please call our solutions center at 1.888.999.8856, option #3 for recommendations. For those customers participating in our HomeWIRE® or HomeWIRE Deluxe program, we also offer a discounted contractor rate for charging station installation and a \$100 rebate for Deluxe program customers. Please see the HomeWIRE page for additional information and FAQs.

➤ **10) Does Progress Energy offer a charging station (EVSE)?**

Progress Energy Carolinas is providing a home charging station as part of the recently launched Plugged In program. The initiative is partially funded by a DOE Smart Grid grant and is part of a comprehensive load research project to help better understand plug-in vehicle technology and charging behaviors. The program is open to Progress Energy residential customers in North Carolina and South Carolina who own their own home or condo and have acquired a plug-in electric vehicle. If you qualify, Progress Energy will install a free charging station in your home and cover the cost of installation up to \$1,500. For more details and to enroll, please visit [progress-energy.com/plugin](http://progress-energy.com/plugin) or click [here](#).

➤ **11) Do I need to contact Progress Energy to inform it of my vehicle or charging station?**

Your licensed electrician will be able to determine if your home wiring infrastructure requires an upgrade and, if so, will require notification of Progress Energy to schedule a service disconnect and utility service review.

➤ **12) What do I have to do to get my home ready to charge a plug-in vehicle?**

**Step 1:** Review vehicle charging options and recommendations. Engage an electrical contractor to evaluate current residential charging capabilities and provide an estimate for any necessary work, including accommodating Level One or Level Two charging.

**Step 2:** Although unlikely, if the electrician indicates your existing electrical panel needs to be upgraded, you will need to contact the utility customer service ([Carolinas](#) and [Florida](#)). This is necessary to schedule a service review to determine if any utility upgrades are necessary outside your home and to schedule a temporary service disconnect for the panel upgrade to be completed by the electrician. A homeowner may also call us to authorize a contractor to directly schedule the utility review and service disconnect.

**Step 3:** Authorize the electrical contractor to obtain required permits and complete desired electrical work. In most cases, an inspection by the local city or county will be required before energizing the new circuit.

➤ **13) What is the inspection and permitting process?**

Local government permits may be required prior to installation or construction. The local building and safety department should be consulted to determine specific requirements. If an electrical contractor is hired to perform the work, it is still the homeowner's responsibility to ensure that the appropriate permits have been obtained.

➤ **14) Can Progress Energy help me decide on a vehicle or charging station?**

There are many options for plug-in vehicles and charging stations. The right vehicle and whether you need a Level Two charging station is really a matter of personal preference and needs. [GoElectricDrive.com](#) and [Advanced Energy](#) are great resources for additional information on charging.

➤ **15) Where can I get a charging station or cord set?**

Most plug-in vehicles will provide a Level One charging cord set as a standard accessory and should provide an option for Level Two charging if desired. Level Two charging units can also be purchased as an aftermarket unit from many different suppliers.

➤ **16) I have a business and want to provide charging for customers/employees at our location. What do I need to do?**

Much like a residential installation, a licensed electrical contractor will need to review your site and determine whether power is available behind your existing meter service or if new utility service should be requested. To request a utility service review, you may call your Progress Energy account manager or our Customer Call Center at 1.800.452.2777 in the Carolinas or 1.877.372.8477 in Florida.

➤ **17) Does Progress Energy offer any surge protection for plug-in vehicle charging?**

Progress Energy offers a meter-based surge protection program that will help protect all major appliances in your house – including an electric vehicle if plugged in and charging behind your meter. For more information on this program, please visit [www.endzaps.com](http://www.endzaps.com). Progress Energy currently does not sell point-of-use surge protection devices for use at the charging station itself. However, such devices are available on the market and a licensed electrician can install one for you.