Charging Installation Checklist

As you move through the process of considering the installation of a charging station in your home, here are some questions you will want to ask yourself. But, first refresh your charging knowledge with the chart below on EV Charging Basics.

**EV CHARGING BASICS**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MILES OF RANGE PER HOUR OF CHARGING (RPH)</th>
<th>TIME TO FULLY CHARGE</th>
<th>WHEN TO CHARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1, Standard Wall Outlet (AC), 110-volt&lt;br&gt;&lt;em&gt;Slow and Steady Method&lt;/em&gt;</td>
<td>5 RPH</td>
<td>16 hours for an 80-mile battery</td>
<td>While you sleep</td>
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<td></td>
<td></td>
<td>40 hours for a 200-mile battery</td>
<td>Not in a rush</td>
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<tr>
<td>Level 2 (AC), 240-volt&lt;br&gt;&lt;em&gt;Faster and Every Day Efficient Method&lt;/em&gt;</td>
<td>12 RPH for cars with 3.7 kW onboard charger&lt;br&gt;25 RPH for cars with 6.6 kW onboard charger</td>
<td>3.5 hours for an 80-mile battery&lt;br&gt;8 hours for a 200-mile battery</td>
<td>While you sleep&lt;br&gt;At work&lt;br&gt;Topping up around town</td>
</tr>
<tr>
<td>DC Fast&lt;br&gt;&lt;em&gt;On the Go and Fastest Method&lt;/em&gt;</td>
<td>100 RPH or more, depending on the power level of the charger</td>
<td>Depends on the power level of the charger and car model, but could be 80% charged within 30 minutes</td>
<td>Long Trips Highway Corridor Locations</td>
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<tr>
<td>Primarily used in&lt;br&gt;commercial or&lt;br&gt;industrial settings</td>
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</table>

Note: it’s important to recognize that different electric models charge at different speeds based on the capacity of the car’s onboard charger: Smaller = longer time on charge speed

**QUESTIONS TO ASK YOURSELF BEFORE BUYING A HOME CHARGER:**

- How many miles do you typically drive in a day?
- How often and for how long can I leave the car plugged in?
- Can you make decisions about making changes to your home’s electrical system?
- If you own or rent a condominium, do you have permission from the homeowner’s association or landlord to install a charging station or use a public outlet?
• How much power should your charging station output to maximize your car’s charging rate?
• Are there special features you want to manage your charging remotely or would you prefer a basic model of EVSE?
• Do you have room in your garage or near your circuit breaker to install and mount a charging station?
• If you plan on installing your station outside, is there space where you park to mount the station?
• How long should your cable be to reach your car from the station?
• Does your home have electrical capacity to support a charging station?
• Are there any upgrades necessary for your home’s electrical panel?
• Do you have a quote from a licensed electrician about the cost of work needed?
• Will the electrician handle permit for any electrical upgrades? Does quote include permit costs?

**TYPES OF EV’S AND HOW THEY CHARGE**

**Hybrid Electric Vehicle (HEV)**
HEVs combine an internal combustion engine with an electric motor and batteries.
They rely on gasoline or alternative fuel for power and are not plugged in to charge.
Batteries are charged by the engine and when braking, a process called regenerative braking.

**Plug-in Hybrid Electric Vehicle (PHEV)**
PHEVs offer both gas-only and electric-only driving—even at high speeds.
With smaller batteries than BEVs, they charge by plugging in and using regenerative braking.

**Battery Electric Vehicle (BEV)**
BEVs use a larger battery to power one or more electric motors and can be plugged in at home, work or public charging stations.
As a benefit, BEVs require limited maintenance—you will never need oil changes or new spark plugs again!