Plug-in Electric Vehicles & Charging: Getting Started

California is leading the nation in plug-in electric vehicle (PEV) adoption, and about 20% of PEVs in California are in the San Diego region. Interested in learning more about these new vehicles on our roads and highways? Here are some answers to your questions about the basics of PEVs, benefits of PEVs, charging options, and available incentives.

**What is a plug-in electric vehicle?**

A plug-in electric vehicle (PEV) is the generic term for cars that operate, fully or partially, on battery power and that are charged from the electricity grid. There are two main types of PEVs: battery electric vehicles and plug-in hybrid electric vehicles.

**Battery Electric Vehicle (BEV)** - Runs on electricity stored in batteries and has an electric motor rather than an internal combustion engine.

**Plug-in Hybrid Electric Vehicle (PHEV)** - Plugs into the grid and operates on electricity as well as an internal combustion engine.

**Why should I drive a PEV?**

- Help to reduce emissions and improve air quality
- Lower fueling costs
  - Save money and charge your vehicle overnight with SDG&E’s time-of-use rates.
- Lower maintenance costs
  - No more oil changes, fewer tune-ups

**How do I charge?**

Most PEV drivers will do the majority of their charging at home, but the availability of public charging stations is growing. Public stations offer drivers more charging options. A list of public charging locations can be found at: [http://www.afdc.energy.gov/afdc/locator/stations](http://www.afdc.energy.gov/afdc/locator/stations).

**How long does it take to charge?**

Charging times depend on three primary factors: the size of the battery, the onboard vehicle charger, and the type of charging equipment. The onboard charger is located in the vehicle and determines the amount of power that can enter the vehicle from the grid. Generally, BEVs have a larger battery compared to PHEVs. Three types of charging equipment are described in the table below:

<table>
<thead>
<tr>
<th>Type of Charger</th>
<th>Miles of Range for 1 hour of charge</th>
<th>Where to charge?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 (120 volt)</td>
<td>3 to 4</td>
<td>Standard three-pronged outlet</td>
</tr>
<tr>
<td>Level 2 (240 volt)</td>
<td>8 to 20</td>
<td>At-home or public charging station</td>
</tr>
<tr>
<td>DC Fast Charger</td>
<td>50 to 60</td>
<td>Few public DC Fast Chargers</td>
</tr>
</tbody>
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**Are there incentives for buying or leasing a PEV?**

For a limited time, rebates and tax breaks are available for PEV purchasers and lessees. Incentives include a state rebate of up to $2,500, a federal tax credit of up to $7,500, and HOV lane access.

- Find information on PEV rebates, discounts, HOV access, tax breaks, and other incentives available in your area at: [http://driveclean.ca.gov/pev/Incentives.php](http://driveclean.ca.gov/pev/Incentives.php).
- Tax credits are also available for charging stations and allow consumers to claim up to 30% of the cost of hardware and installation, find out more here: [http://www.afdc.energy.gov/laws/law/US/10513](http://www.afdc.energy.gov/laws/law/US/10513).

**What are all the options?**

There are currently more than 20 different PEV models on the market, offered by a variety of manufacturers. Check out an EV buying guide at: [http://www.driveclean.ca.gov](http://www.driveclean.ca.gov).

**How far can I drive?**

Battery electric vehicles can generally go 60 – 120 miles on a full charge, which is plenty of range for most people (the average Californian travels less than 30 miles a day). If more range flexibility is needed, a plug-in hybrid might be a better choice. They can generally run on battery alone for 10 – 40 miles, and then continue for up to 400 miles as a gasoline-electric hybrid.