

Sample Employee Newsletter Articles: Plug-In Electric Vehicles 101

This document introduces the basics of Plug-In Electric Vehicles (PEV) and includes a list of engaging top 10 facts about PEVs that will peak the interest of your employees.

- [Vehicle Basics: Hybrid and Plug-In Electric Vehicles](#)
Use this article to explain the difference between various ways of referring to electric drive vehicles.
- [Energy 101: Plug-In Electric Vehicles \(with \[video\]\(#\)\)](#)
Your employees have seen your workplace charging installation, now use this article and video to help them understand the benefits of driving electric.
- [Top 10 Things You Didn't Know about Plug-In Electric Vehicles](#)
This list gathers ten striking factoids about PEVs. Use it to draw attention and educate your employees.

Vehicle Basics: Hybrid and Plug-In Electric Vehicles

Hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), and all-electric vehicles (EVs)—also called electric drive vehicles collectively—use electricity either as their primary fuel or to improve the efficiency of conventional vehicle designs.

- [Hybrid Electric Vehicles](#): HEVs are primarily powered by an internal combustion engine that runs on conventional or alternative fuel and an electric motor that uses energy stored in a battery. The battery is charged through regenerative braking and by the internal combustion engine and is not plugged in to charge.
- [Plug-In Hybrid Electric Vehicles](#): PHEVs are powered by an internal combustion engine that can run on conventional or alternative fuel and an electric motor that uses energy stored in a battery. The vehicle can be plugged into an electric power source to charge the battery. Some types of PHEVs are also called extended range electric vehicles (EREVs).
- [All-Electric Vehicles](#): EVs use a battery to store the electric energy that powers the motor. EV batteries are charged by plugging the vehicle into an electric power source. EVs are sometimes referred to as battery electric vehicles (BEVs).

Energy 101: Plug-In Electric Vehicles (with [video](#))

The basic principles behind the technology are this: the all-electric vehicle's battery transfers energy to an electric motor, the motor turns a drive train, which then turns the wheels. Up to 60 percent of the energy in the battery is transferred directly to power the car, making it a highly efficient vehicle. That means as the owner of an all-electric vehicle, you never have to fuel up at the gas pump -- instead, you just recharge the battery at home or at charging stations along your route. An example of an all-electric vehicle is the Nissan Leaf.

Compared to conventional vehicles, the driving range of an all-electric EV -- typically about 100 miles per charge -- may seem limited. However, when you consider the average American daily commute is under 40 miles roundtrip, it becomes clear that PEVs are a reliable and comfortable way to regularly get from point A to point B, while reducing a dependence on oil and gasoline and contributing to a sustainable

environment. And with an ever-increasing number of charging stations, it's also becoming easier to top off your charge, even when you're on the go.

Take a lot of lengthy road trips and worried if the range of an all-electric EV can meet your needs? Then maybe a plug-in hybrid electric vehicle is more your style. These vehicles rely primarily on an electric motor, but switch over to a gasoline-fueled engine to supplement power when the battery is low. An example of this kind of technology is the Chevrolet Volt.

The costs of today's PEVs are coming down relative to similar-sized conventional and hybrid vehicles, and long-term savings can be realized through fuel savings and by taking advantage of a federal tax credit and state and local incentives. Learn about the advantages of PEVs and find out how they work by checking out this [video](#) and exploring the U.S. Department of Energy's [Alternative Fueling Station Locator](#) to find public charging stations in our area.

Top 10 Things You Didn't Know about Plug-In Electric Vehicles

10. Did you know that the average American's daily round-trip commute is less than 30 miles? With many all-electric vehicles having a range of more than 70 miles a charge, they are a reliable and comfortable way for Americans to get from point A to point B. For longer trips, a plug-in hybrid electric vehicle with a back-up internal combustion engine may be a good alternative. Both help reduce our dependence on foreign oil and contribute to a cleaner environment.

9. The plug-in electric vehicle (PEV) market is growing faster than you might realize. As of July 2015, there are 339,000 plug-in electric vehicles on the road, with U.S. sales more than doubling from 2012 to 2014.

8. The number of models of vehicle models available is on the rise. In 2014 and 2015, auto manufacturers have already introduced at least 15 new models of plug-in electric vehicles.

7. PEVs are a highly efficient mode of transportation. Up to 80 percent of the energy in the battery is transferred directly to power the car, compared with only 14-26 percent of the energy from gasoline-powered vehicles.

6. Unlike gasoline-powered vehicles, electric cars emit no tailpipe pollutants when running on electricity – cleaning the air we breathe and helping automakers meet the [federal fuel economy and emissions standards](#).

5. The battery technologies in almost all of the PEVs on the road today were created with support from the U.S. Department of Energy, which also played a key role in the development of today's lithium-ion batteries.

4. The battery is one of the most expensive parts of a PEV, but technological advances are making batteries less costly. Department of Energy research and development has reduced the modeled, high-volume cost of advanced battery technology to \$289 per kilowatt hour—that's 40 percent lower than what it was in 2012.

3. Beyond wiper blades and tires, all-electric vehicles require little maintenance, saving consumers money over the life of the car. Even the brake pads last longer in PEVs because they use regenerative braking to

slow down – a method of converting the energy used to reduce the car’s speed into power that is stored in the car’s battery.

2. Traveling electric costs less. It costs just \$1.28 for today’s all-electric vehicles to travel the same distance as a similar-sized gasoline car would on a gallon of fuel.

1. A majority of the PEV owners charge their cars overnight at home when the electricity costs are lower. But with more than 9,000 public charging stations across the country, refueling your electric vehicle while away from home is even easier. Check out DOE’s [Alternative Fueling Station Locator](#) to find one near you.