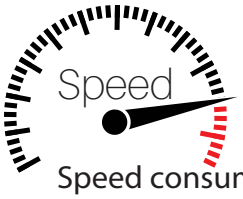
Range Anxiety

Most people drive well within their EV's range each day and have access to charging either every night or as soon as the battery shows half-full. The norm for new EVs is on the order of 260 miles of range, which is a huge improvement over early models that offered under 100 miles.

But these ranges are estimates, and do not reflect real-world variables that affect range. If you have an EV rated for 300 miles of driving range, it's best to think of it as a 250-mile EV just to be safe. Some EV makers warn not to charge past 90% (to extend battery lifetime) except before a long trip, which drops it down to 225.

What factors can affect range?



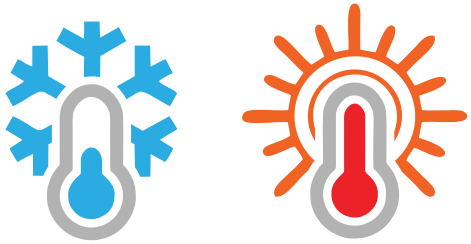
Speed consumes energy, so the faster an EV is driven the more likely it is to lose a bit of range. Maintaining an average of 60 mph on a freeway might be fine, but go faster and range could drop anywhere from a few percentage points to 10%.

Hefty Cargo & Hills

Hefty cargo and passenger loads as well as hilly or mountainous terrain also can lop miles off the EPA-estimated range. Hills don't cause as much loss of range as you might think though. Traditional cars burn extra gas to go up a hill, then continues burning gas (less gas - essentially at idle) on the way down. Hybrids and EV's Burn energy on the way up, but gain energy on the way back down.

Temperature

In cold weather, you may lose as much as 40% of range. That's especially true if you 1) don't have a heat pump to warm the cabin (a device that captures waste heat from the drive system and pumps it into the cabin to avoid using the conventional heater), 2) if you don't pre-condition (warm) the car while it's still plugged in and 3) if you use the seat heaters. Really warm weather (95 degrees) can cut range 17%.



There are steps you can take to minimize the effects of range loss:

Park the vehicle in a garage to raise the temperature of your car's engine or battery and cabin. Preheat or cool an EV's cabin while plugged into the charger to help extend its range.

Don't let an EV sit at idle while running the heater to warm the cabin before driving.

Check your tire pressure regularly and maintain the optimal pressure as determined by the automaker, as it takes more energy to drive on under-inflated tires.

Remove accessories that adversely affect its aerodynamics, like roof racks, when not in use. As it is, colder air is denser than warm air, and it takes more effort for a vehicle to overcome aerodynamic drag, especially at higher speeds.