All About Eve

Charging costs, part II – fast chargers

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LAST MONTH, we shared information about charging Eve, the nickname given to our electric car. We discussed Level 2 (240-volt) charging and Level 1 (120-volt) charging, both of which use about $8 of electricity (at Claverack rates) to fully charge Eve if the batteries are depleted and take from eight to 48 hours, respectively.

But many members have asked, "How do I charge if I take an electric vehicle (EV) on a long trip?" To recharge an EV in a short period of time, you will need to use a Level 3 charger. Sometimes called a DC fast charger or a super charger, Level 3 chargers replenish the batteries of your EV quickly while you wait.

Level 3 chargers are typically found in rest areas along traffic corridors like Interstate 81 or the Pennsylvania Turnpike. They can also be found at some traditional gas stations, restaurants, hotels and sometimes at shopping centers. In our region, there are Level 3 chargers in Mansfield and Williamsport at Sheetz convenience stores, in the Binghamton area at a restaurant and at the shopping area on Montage Mountain in Scranton. Additional charging networks are being installed throughout the country.

When we tested the Level 3 charging option, we discovered several things you should know, including charge times, charge levels, costs, and while-you-wait activities.

We found Level 3 charging was fast, giving us about 200 miles of range in about 20 minutes. The charge level will vary somewhat depending on the type of fast charger available to you. Some Level 3 chargers are brand specific and charge faster, like the Tesla Super Chargers. Some are more generic, like the ChargePoint products.

Fast charging does not "top off" the batteries. Because of the rate of charge and to avoid damage to your batteries, these charging options usually only charge to 80% of the full battery capacity. So you'll have to plan your fill-ups accordingly when traveling.

Like the price of gas, costs vary. As we tested these fast chargers with our EV, we found the electricity cost per kilowatt-hour (kWh) to be two to three times higher than your current Claverack rates. Although we could fully charge for $8 at the office, we found that partial (up to 80%) charging using a fast charger often costs $15 to $25.

What did we do while waiting for the car to charge? We used the restroom, got a coffee, stretched our legs and checked our messages, which made the 20-minute wait go quickly. It seemed the gas-purchasing customers spent a similar amount of time to fuel up and take these breaks while on a long-distance trip.

We should also note the technology built into our electric vehicle allows us to program a destination into the GPS and shows all the available charging options along the way, specifically the Level 3 chargers. The car even provides low-charge warnings and strenuously tries to reroute us to the nearest charger when critically low on range. We have discovered that by downloading the applicable apps, our cellphones also have charging details.