

About the EV Project Reports

The EV Project fact sheets and reports are based on data from several different sources (vehicle and electric vehicle supply equipment [EVSE] manufacturers). These multiple data streams introduce variables in reporting that do not normally occur when data is collected from a single source. Matching vehicle data to charging data, both from different data streams, result in what may seem to be reporting inconsistencies. Clarifications for the EV Project Overview Report, the EV Project Charging Infrastructure Summary Report, the EV Project Nissan LEAF Summary Report, and the EV Project Chevrolet Volt Summary Report are given below to highlight what may be perceived as reporting inconsistencies, but are, in fact, accurate results.

- The Overview Report identifies all EVSE that have reported a charging event in The EV Project areas. Additional residential EVSE that have been installed and are awaiting vehicle delivery have not been included in this report.
- The Overview Report counts the vehicles enrolled in The EV Project from which data has been received. This report includes all reported miles driven, irrespective of whether charging data from a vehicle's residential EVSE was reported, and without regard to when the vehicle entered The EV Project.
- The Overview Report lists electricity consumed by EV Project EVSE when charging vehicles and miles driven by EV Project vehicles. EV Project EVSE may be used by vehicles that are not part of the EV Project. Likewise, EV Project vehicles may connect to non-EV Project charging units or standard 120-V outlets whose usage is not being monitored. Therefore, vehicle and charging infrastructure usage shown on this report are not directly comparable. The vehicles' miles driven cannot be divided by the EVSE energy consumed to calculate the vehicles' average miles-per-kilowatt-hour efficiency. The EV Project is an infrastructure study. No information is intended to, nor should be used to quantify vehicle performance.
- The Charging Infrastructure Summary Report presents Charging Availability and Demand curves relative to time of day. These curves may contain discontinuities at midnight, because they are separated to show weekday and weekend use.
- In the Infrastructure Report, the table "Vehicles Charged" contains a category "Unknown." When describing publicly accessible EVSE, this category includes charging events performed by vehicles that are not registered as part of the EV Project or Blink Network.
- It is recognized that some households may have more than one plug-in vehicle. EV Project Residential EVSE cannot identify which vehicle is being charged, so all charging at residential EVSE is assumed to be performed by vehicles enrolled in The EV Project.
- The Nissan LEAF and Chevrolet Volt Summary Reports are based on data from the subset of vehicles which have reported driving data and whose respective EV Project residential EVSE have also reported charging data.

- The Nissan LEAF and Chevrolet Volt Summary Reports include information on vehicle charging location. The charging location classification “Unknown” is given because some vehicle charging locations cannot be clearly identified as either “Home” or “Away from Home,” due to GPS data anomalies.

Privacy rules adopted by The EV Project allow only aggregated information to be presented. The minimum number of EVSE or vehicles required for reporting is 10. Some regions may not be displaying certain information because the number of EVSE or vehicles of a certain make or type in the region was below the minimum requirement.

Note that the above discussion is only concerned with Nissan LEAFs and Chevrolet Volts that are participants in The EV Project. Nissan and Chevrolet have sold vehicles in the United States that are not reported by The EV Project.

Changes in Reporting

The Infrastructure Report presents time-of-day Charging Availability and Demand. Previous to Q2 2012, these plots depicted the overall range of data for the quarter, along with a curve that represented the availability and demand on the day with the greatest demand. While interesting, it was determined that showing the overall range, median of all values, and the 25th and 75th percentile values would be more informative. The Q2 2012 report was the first report to adopt this new format for the time-of-day plots.

Charging Availability and Demand plots in Infrastructure Reports previous to Q2 2012 used midnight at the end points on the time scale. However, this did not clearly illustrate some of the major effects that have been seen directly at midnight, especially in areas where the electric utility may have time of use (TOU) rates. Consequently, as of the Q2 2012 report, the time scale has been shifted so that 6 AM is at the end points.

In making this time shift, it was discovered that an anomaly may occur at midnight in the Weekday and Weekend Charging Demand plots. In some territories, Friday night/Saturday morning demand is significantly higher than Saturday night/Sunday morning and Sunday night/Monday morning demand.

This is likely because EV Project participants drive during the day on Friday in a manner similar to other weekdays. Therefore, when they plug in their cars Friday night, the charging demand and the duration of charging is representative of Weekday nighttime charging. Charging that starts on Friday night often continues past midnight into Saturday morning. On Saturday and Sunday during the day, EV Project participants tend to drive fewer miles, and they tend to plug in their cars earlier in the day or leave the cars plugged in throughout the day. This results in lower charging demand on Saturday and Sunday night. Therefore, on the Weekend Charging Demand plot, there is sometimes a spike in demand at midnight. It looks the same as if EV Project participants are scheduling their charging to start at midnight. In actuality, this apparent spike in demand at midnight is caused by high Saturday-after-midnight demand and low Saturday-and-Sunday-before-midnight demand. This is simply a result of the fact that Weekend is defined to start at Saturday 0:00 (commonly referred to as “Friday midnight”).

In recognition of this effect, future quarterly reports will redefine the start of the weekend to be 6 AM on Saturday morning and the end of the weekend to be 6 AM Monday morning. This will include charging demand on Friday night into Saturday morning on the weekday plot and demand on Sunday night into Monday morning on the weekend plot. This will provide a more intuitive link between driving and charging behavior.

More in-depth discussions of the data reporting will be provided in future technical papers and presentations at industry gatherings that are better venues for detailed discussions of results.

