



Enabling EV Infrastructure Investments

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EVs: Electric Vehicles EVSE: Charging Infrastructure





Two Types of Electric Vehicles

Battery Electric Vehicles (BEVs) powered solely by an electric battery

Plug-in Hybrid Electric Vehicles (PHEVs) powered by a combination of an electric motor and a gasoline engine

Both BEVs and PHEVs are considered Plug-in Electric Vehicles (PEVs) and require electricity to charge (or "fuel") the electric battery.

Types of Charging

Level 1

2 to 5 miles of range per hour of charging (full charge in 11-20 hrs.)

Standard 120v AC Wall Outlet

1.4 kW - 2.4 kW



Level 2 (J1772)

10 to 25 miles of range per hour of charging (full charge in 8 hrs.)

Requires 240v outlet and dedicated 40-amp circuit – the same kind used by a clothes drier or stove

3 kW to 19 kW (Avg 9.6 kW)



DCFC

60 to 80 miles of range per 20 minutes of charging* Generally requires three-phase 480v AC electric circuit Needs to be mounted on an equipment pad 50 kW – 150 kW – 350 kW





DC Fast Chargers

DCFCs range from 50 to 350 kilowatts

There are three different plug types that are used by different vehicle manufacturers:



Combined Charging System (e.g., BMW, GM, VW)



estimation (used exclusively by Tesla)

Most new non-Tesla chargers come equipped with both SAE CCS and CHAdeMO plugs.

Learn more USDOE Resource EV Charger Selection Guide: https://afdc.energy.gov/files/u/publication/EV_Charger_Selection_Guid e_2018-01-112.pdf

EV-Readiness Requirements Poll: What % of EVC happens at home?

EV-Ready Building Codes & Ordinances

Example: Site Plan Review Regulations Require # or % EVSE based upon:

- project type (e.g., MUD)
- number of new parking spaces

Resource: U.S. DOE EV-Ready Code Guidance

Best Practices for Streamlining EVSE Permitting & Inspection Processes

Source: NESCAUM DCFC Permit Streamlining white paper, May 2019

Avoid Lengthy Zoning Reviews:

Classify stations as an accessory use to the principal use of the site

Remove the Minimum Parking Barrier:

Things spend

Count EV charging spaces as parking spaces



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Thank you!