ELECTRIC VEHICLE

KEY TERMS AND ACRONYMS

TYPES OF VEHICLES

(ZEV) Zero-Emission Vehicles: ZEVs are vehicles that produce no tailpipe emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas emissions from the onboard source of power, such as some plug-in hybrid electric vehicles (PHEV), battery-electric vehicles (BEV), and hydrogen fuel cell vehicles.

(EV) Electric Vehicles: EVs are vehicles powered, at least in part, by electricity and uses a battery to store energy that powers the motor. Unless otherwise noted, EV refers to all plug-in vehicles in this report, including PHEVs and BEVs.

(BEV) Battery-Electric Vehicles: BEVs also known as a pure electric vehicle or an all-electric vehicle, contains batteries which can be charged externally, and store recovered braking energy. It uses an electric motor to power the vehicle. (Examples: Tesla Model 3, Chevrolet Bolt, Nissan Leaf)

(PHEV) Plug-in Hybrid Electric Vehicles: PHEVs are vehicles with both an internal combustion engine and electric motor that can be powered either by gas or electricity through a rechargeable battery. PHEVs may be zero-emission vehicles if they're operated entirely as EVs but are not true ZEVs because the hybrid mode includes use of an internal combustion engine. (Examples: Chevrolet Volt, Chrysler Pacifica, Mitsubishi Outlander)

(FCEV) Fuel Cell Electric Vehicles: Vehicles that produce electricity using hydrogen gas and produce no harmful tailpipe emissions, just water vapor.

(ICE) Internal Combustion Engine Vehicles: ICE vehicles have an engine that is powered by a fossil fuel (gas or diesel) in which the combustion of a fuel occurs with an oxidizer in a combustion chamber. This type of vehicle is associated with tailpipe emissions.

ELECTRIC VEHICLE CHARGING TERMS

(EVSE) Electric Vehicle Supply Equipment: Refers to all of the equipment associated with transferring electric energy to a battery or other energy storage device in an electric vehicle. This includes hardware, including connectors, fixtures, devices, and other components. This is commonly called a charging station.

> **Level 1:** AC Level 1 EV charging (often referred to simply as Level 1) provides charging through a 120-volt (120V) single-phase AC plug (a typical wall outlet) at 12-16 amps. Level 1 EV chargers provide about 3-5 miles of range per hour of charging.
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> **Level 2:** AC Level 2 EV charging offers charging through 240V (typical in residential applications) or 208V (typical in commercial applications) single-phase electrical service (like a dryer plug) at 12-80 amps (typically 32 amps). Level 2 EV chargers provide about 10-20 miles of range per hour of charging.

(DCFC) Direct-current fast charging: DCFC equipment (typically 208/480V AC three-phase input and less than 125 amps), enables rapid charging at a rate of at least 40 kW, with newer chargers rated up to 350 kW. Most commonly, DCFC can provide about 125 miles in 20-30 minutes.

Fleet Charging: EV charging infrastructure to accommodate a light-, medium- or heavy-duty fleet. Fleet charging infrastructure may consist of Level 2 and DC Fast Chargers based on fleet operator's needs.

Employee/Workplace Charging: EV charging infrastructure provided by an employer for employee use while at work.

Public Charging: Public EV charging covers a wide range of situations where an EV driver could potentially charge when away from home or work. Examples: libraries, parks, shopping centers, museums.

Range Anxiety: Range anxiety is the fear that an electric vehicle has insufficient range to reach its destination and would thus strand the vehicle's occupants. Studies show that driving range is one of the primary barriers to EV adoption.

EV EQUITY TERMS

EV Equity: EV equity is increasing access to and use of electric vehicles among low- and moderate-income individuals to reduce impacts of climate change attributed to greenhouse gas emissions and health impacts attributed to air quality emissions.

MOBILITY TERMS

Bike Share: Bike share is a service where bicycles are available for shared use to individuals on a short-term basis.

Car Share: Car share is a service that gives members access to an automobile for short-term use — usually by the minute, hour, or day.

E-Bike: E-bikes are bicycles with an electric motor that can be used for propulsion. There are a few different types of e-bikes:

Class 1: Pedal Assist: The electric drive on the e-bike is only activated by pedaling and ceases to provide assistance once the e-bike reaches 20 mph. Unless otherwise specified, the term e-bike refers to Class 1 pedal-assist e-bikes.

Class 2: Throttle on Demand: The electric drive on the e-bike can be activated through a throttle element and may also be activated through pedaling with top speeds limited to 20 mph.

Class 3: Speed Pedelec: The electric drive system on the e-bike is activated by pedaling and ceases to provide assistance once the e-bike reaches 28 mph.33

Class 4: Motorcycle/Moped: The electric drive system is activated by pedaling or throttle. These e-bikes can reach top speeds above 28 mph.

Micromobility: Use of a low-speed travel mode or use by a single person and includes use of e-scooters and bikes to travel distances five miles or less and often to or from another mode of transportation (bus, train, car).

Multimodal: Characterized by several different travel modes or options.

On Road: On-Road vehicles means any motor vehicle intended for use on the road, being complete or incomplete, having at least four wheels and a maximum design speed exceeding 15 mph.

Off Road: Off-Road Vehicle means any vehicle while it is being operated on a road not maintained by a federal, provincial, state, or local agency**,** not including entrance or departure ways to private property, or any vehicle which cannot be licensed to drive on a public road and is designed and manufactured primarily for off-road usage.

Shared Mobility: Shared use of a travel mode.

(TNCs) Transportation Network Companies: Programs, like ride-hailing apps, that provide prearranged and on-demand transportation services for compensation by connecting drivers of personal vehicles with passengers through mobile applications.

Transit Vehicles: Vehicles which carry passengers or public riders. It does not include school buses or charter buses.

FLEET-RELATED TERMS

LDV: Light-Duty Vehicles: Any Class One or Two motor vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less with a Gross Vehicle Weight Rating of 8,500 or less. This includes sedans, full size pick-ups and minivans.

MDV: Medium-Duty Vehicles: Any Class Two to Six motor vehicle having a Gross Vehicle Weight Rating between 8,500 and 26,000 pounds.

HDV: Heavy-Duty Vehicles: Any class Seven and above motor vehicle having a Gross Vehicle Weight Rating over 26,000 pounds.

SUV: Sport Utility Vehicle

ELECTRICITY-RELATED TERMS

Ampere (Amp): Unit of electrical current (size of conduit)

Kilowatt/hour (kWh): The kilowatt-hour (kWh) is a unit of energy and is commonly used as a billing unit for energy delivered to consumers by electric utilities. A kWh is a measure of how much energy you're using. It doesn't mean the number of kilowatts you're using per hour. It is simply a unit of measurement that equals the amount of energy you would use if you kept a 1,000-watt appliance running for an hour. If you switched on a 100-watt light bulb, it would take

10 hours to rack up 1 kWh of energy. While a 50-watt item could stay on for 20 hours before it used 1 kWh.

Volt: Difference in electrical potential energy between two points in a circuit (pressure).

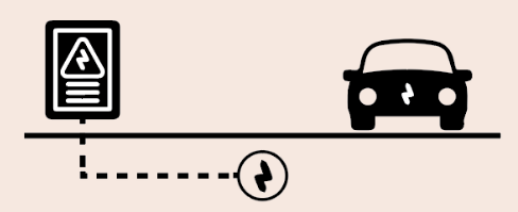
Demand Charges: There are two parts to a commercial electricity bill: Energy charges are based on the total amount of electricity you use, while demand charges are based on your highest "peak usage". These demand charges are determined by the highest 15-minute average usage recorded on your demand meter that month. Demand charges are applied to help pay-down the costs of maintaining the utility's delivery system (the power lines) and preserve power availability for all customers across the grid. Additionally, demand charges are intended to incentivize customers to both reduce their peak energy usage and shift their energy usage to non-peak times of day.

Managed Charging: Relies on communication signals from a utility to be sent to a vehicle or charging device to control charging events. Managed charging programs fall into two categories: passive and active. Passive programs focus on altering customer charging behaviors. One way to achieve this is using time-varying rates to incentivize customers to charge during less expensive off-peak hours. Active managed charging programs provide utility companies with the capability to determine and/or control charging time, scale, and location to manage peaks or absorbing excess renewable generation.

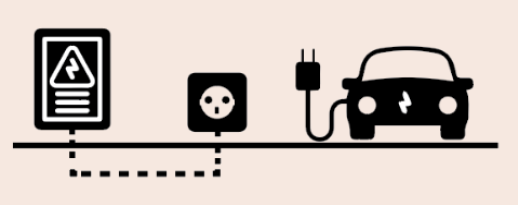
EV BUILDING CODE-RELATED TERMS

EV Infrastructure Building Codes: Require parking in new buildings to include the electrical equipment necessary to enable installation of electric vehicle (EV) charging stations. EV building codes give more people the option to drive an EV by increasing the number of charging stations and by bringing down charger installation costs by 75% or more compared to installing EV chargers during a building retrofit.

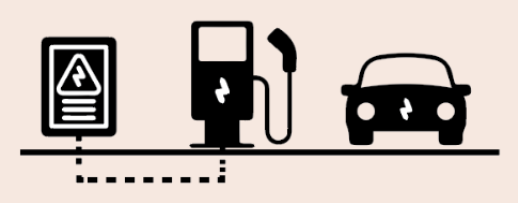
> **EV-Capable:** Install electrical panel capacity with a dedicated branch circuit and a continuous raceway from the electrical panel to the future EV parking spot.



EVSE-Ready Outlet: Install electrical panel capacity and raceway with conduit to terminate in a junction box or 240-volt charging outlet.



EVSE-Installed: Install a minimum number of Level 2 EV charging stations.



CLIMATE-RELATED ACRONYMS:

CAP: Climate Action Plan

GHG: Greenhouse Gas