

## Electric Vehicle Resources:

- ▶ City of Centennial Energy Action Plan and Energy Resources: [www.centennialco.gov/energy](http://www.centennialco.gov/energy)
- ▶ CO Energy Office: <https://www.colorado.gov/pacific/energyoffice/charge-ahead-colorado>
- ▶ CO tax credits: <https://www.colorado.gov/pacific/sites/default/files/Income69.pdf>
- ▶ EV shopping: [plugstar.zappyride.com](http://plugstar.zappyride.com)
- ▶ EV station locator: [afdc.energy.gov/fuels/electricity.html](http://afdc.energy.gov/fuels/electricity.html)
- ▶ Federal tax credits: [fueleconomy.gov/feg/taxevb.shtml](http://fueleconomy.gov/feg/taxevb.shtml)
- ▶ General: [pluginamerica.org](http://pluginamerica.org)
- ▶ Home EVSE comparison: [chargehub.com/en/home-charging-station-comparison.html](http://chargehub.com/en/home-charging-station-comparison.html)
- ▶ Xcel Energy EV info: [https://www.xcelenergy.com/energy\\_portfolio/innovation/electric\\_vehicles](https://www.xcelenergy.com/energy_portfolio/innovation/electric_vehicles)
- ▶ Your Energy Colorado: <http://yourenergy.colostate.edu>

## Common Electric Vehicle Terms

Term	Definition
<b>Alternating current (AC)</b>	The most common form of electricity used in homes and businesses uses alternating current where the current periodically changes direction. Batteries require DC electricity to charge, so EV chargers must convert the supplied AC electricity to DC power.
<b>Amps</b>	The measurement of amount of electrical energy “flowing” through a charger. This is determined by the electrical load required by the equipment and can vary over time.
<b>Battery Electric Vehicle (BEV)</b>	An all-electric vehicle fueled by plugging in to an external charger and has no tailpipe emissions. Requires low maintenance costs.
<b>Direct current (DC)</b>	The form of electricity where the current only flows in one direction. This is the type of electricity that batteries supply and require to charge. EV chargers must convert the supplied AC electricity to DC power.
<b>Electricity consumption</b>	Measured in kilowatt-hours (kWh) and represents the amount of electricity that has been consumed over a certain time period.
<b>Electric demand</b>	Measured in kilowatts (kW) and represents the rate at which electricity is consumed. Most commercial energy rates incorporate a charge for electric demand as well as electric consumption.
<b>Electric vehicle (EV)</b>	A vehicle that uses an electric engine for all or part of its propulsion.
<b>Electric vehicle supply equipment (EVSE)</b>	Infrastructure required to support EVs such as chargers, electrical supplies, etc.
<b>Hybrid Electric Vehicle (HEV)</b>	Contains both an electric motor and a gasoline engine. The gasoline engine powers a generator that charges the electric motor. No external battery charger is used. Runs at a constant speed, which increases fuel efficiency.
<b>Internal combustion engine (ICE)</b>	Traditional vehicle engine that uses the direct combustion of gasoline, diesel, or other fuels.

Term	Definition
<b>Kilowatt-hour (kWh)</b>	The amount of electricity being sent to the EV battery from the charger in one hour. This is calculated by volts times amps divided 1,000.
<b>Level 1 charging station</b>	Uses a standard 120-volt AC outlet and can take 8 to 12 hours to fully charge a depleted battery; intended for residential use only.
<b>Level 2 charging station</b>	Uses a 220-volt or 240-volt AC outlet and can fully charge a depleted battery in 4 to 6 hours; can be used in both residential and commercial settings.
<b>Level 3/DC Fast charging station</b>	Uses an industrial 480-volt DC outlet and can charge a battery to 80% in 20 to 30 minutes; used in commercial settings where the anticipated charge time is limited such as supermarket, gas station, etc.; will be used on the Alternative Fuel Corridors – a national network of major thoroughfares supporting EVs and other alternative fuels.
<b>Light-duty vehicles</b>	Passenger cars with a maximum Gross Vehicle Weight Rating (GVRW) of 8,500 lbs.
<b>Plug-in Hybrid Electric Vehicle (PHEV)</b>	Contains both an electric motor and a gasoline engine. An external plug is used to fuel the electric motor. The electric motor is used until the battery is depleted; at which point, the gasoline engine takes over. Lower tailpipe emissions than traditional ICE and longer ranges than most BEVs.
<b>Range Anxiety</b>	Fear of running out of power in an EV before reaching a charging station or desired destination.
<b>Range per hour (RPH)</b>	A measurement of the miles an EV can travel on one hour of charge. This is generally applied to EV charging stations and expressed in terms of typical EV efficiency.
<b>Vehicle miles traveled (VMT)</b>	A way of measuring integration of EVs and associated reduction in GHG emissions by considering electric miles replacing traditional vehicle miles.
<b>Volts</b>	A measurement of the force pushing the flow of energy through charger. This measurement is determined by electricity supply. Standard household outlets provide 120 volts, outlets for dryers or other high-powered household equipment supply 240 volts.

### Federal tax credits of top 10 EVs sold by June 2019

Rank	Model	Tax Credit
1	Tesla Model 3 (BEV)	\$3,750 first half 2019, \$1,875 second half 2019
2	Tesla Model X (BEV)	\$3,750 first half 2019, \$1,875 second half 2019
3	Chevrolet Bolt EV (BEV)	\$3,750 4/1/19 to 9/30/19, \$1,875 10/1/19 to 3/31/20
4	Tesla Model S (BEV)	\$3,750 first half 2019, \$1,875 second half 2019
5	Nissan Leaf (BEV)	\$7,500
6	BMW i3 (BEV/PHEV)	\$7,500
7	Volkswagen e-Golf (BEV)	\$7,500
8	Audi e-tron (BEV)	\$7,500
9	Jaguar I-Pace (BEV)	\$7,500
10	Smart EQ fortwo (BEV)	\$7,500