



# Is an electric vehicle right for you?

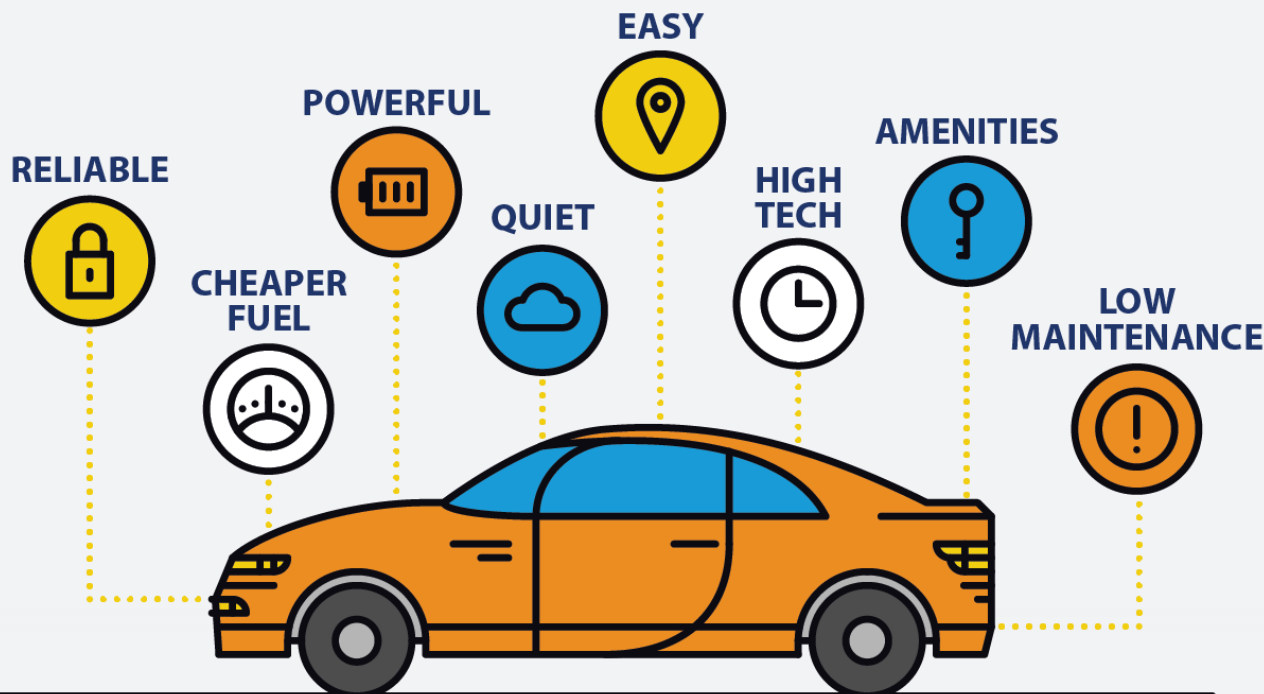
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# Why now?

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- Electric vehicles (EVs) have been around for over 100 years, but they haven't been popular until now. Why?
- Outside of the high gas prices, pollution reduction and government mandates, EVs have recently added several benefits...



# EV basic terms

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**EV/PEV** - Electric Vehicle/Plug-in Electric Vehicle

**BEV** - Battery Electric Vehicle (Battery Only)

**PHEV** - Plug-in Hybrid Electric Vehicle (gas and BEV)

**kWh Capacity** - Kilowatt hour (EV battery capacity, about 3.3 miles/kWh)

**kWh Usage** - How your monthly electricity usage is measured

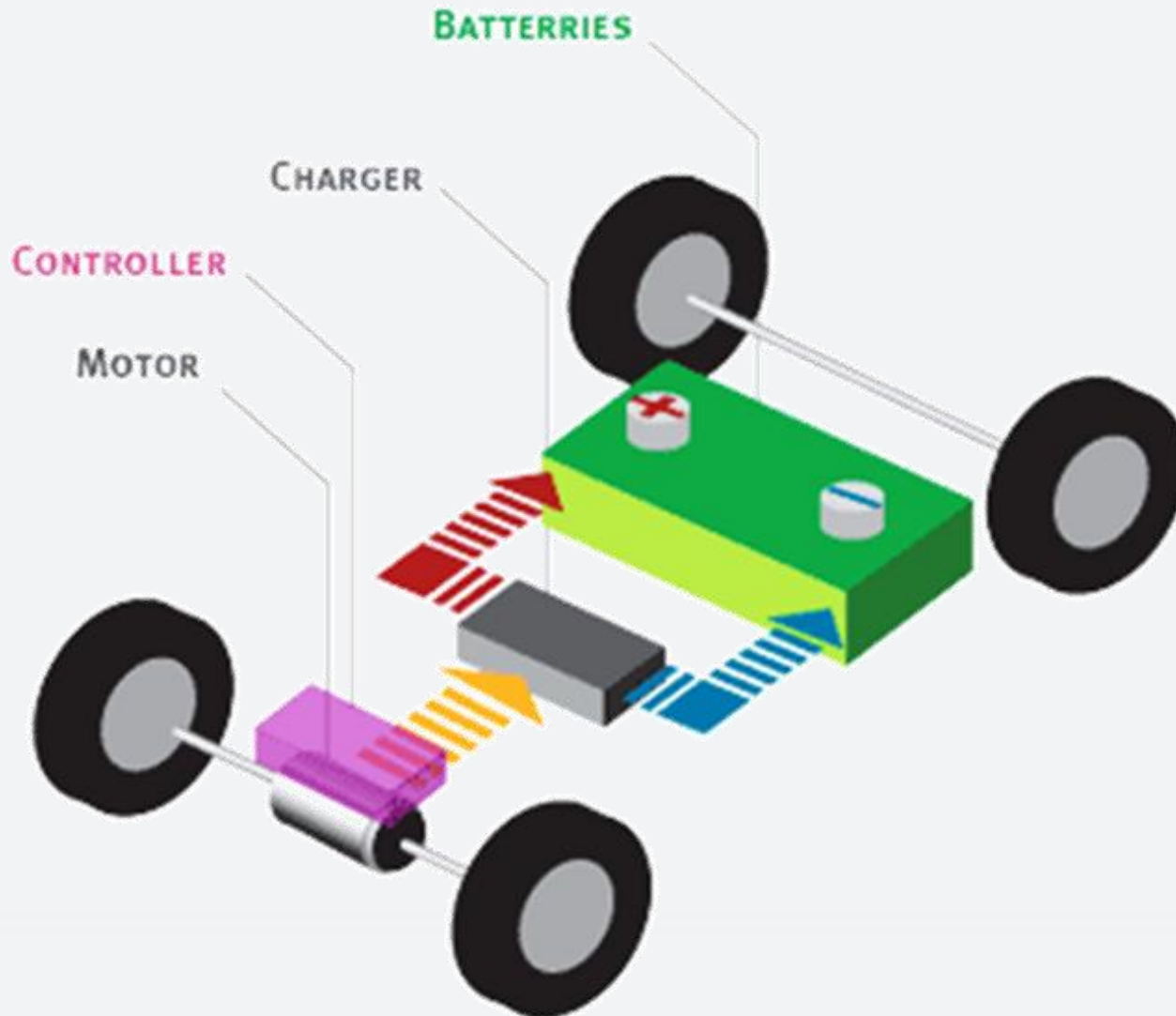
**EVSE** - Electric Vehicle Supply Equipment (delivers electricity to the EV)

**Charger** - Level 1, Level 2, DC Fast Charger

**Connector** - J1772 (L1 & L2 connector) CHAdeMO (Fast charger connector)

# Battery Electric Vehicles

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# How they work

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- Small number of main components
  - Electric Motor
  - Large Battery
  - Charger
  - Electronics
- No oil (no oil changes)
- Regenerative braking (less brake wear)
- Few moving parts (few mechanical problems)
- Less heat generated (parts last longer)
- Lower overall maintenance saves you \$\$

# Will it get me where I want to go?

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Average driver in CA drives 40 miles per day

- **BEV-all electric**
  - Several models in mid 200 mile range (some 300+ miles)
- **PHEV-electric motor and gas engine**
  - EV range up to 93 miles (up to 620 miles total range)
- **Price Range**
  - After incentives, around \$20k-\$180K
- **Battery range depends on many factors**
  - Temperature, habits, terrain, etc.

# How does charging work?

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- The EV has a charger built in, the EVSE connects the electricity to the charger, regulates flow, communicates with the EV
- Home charging
  - Level 1- 120 volt standard outlet (overnight fills up 30 miles)
  - Level 2- 240 volt outlet (the same as electric dryers)
    - Charges at least twice as fast and can be much faster
    - Level two is typical for home and public charging
    - \$600 plus installation

# DC Fast Charging

- High powered public charging
- Mostly near shopping centers and hotels
- Easy and safe
- High commercial grade voltage
- Will charge many EVs to 80% in 20 to 30 minutes
- Not for all EVs

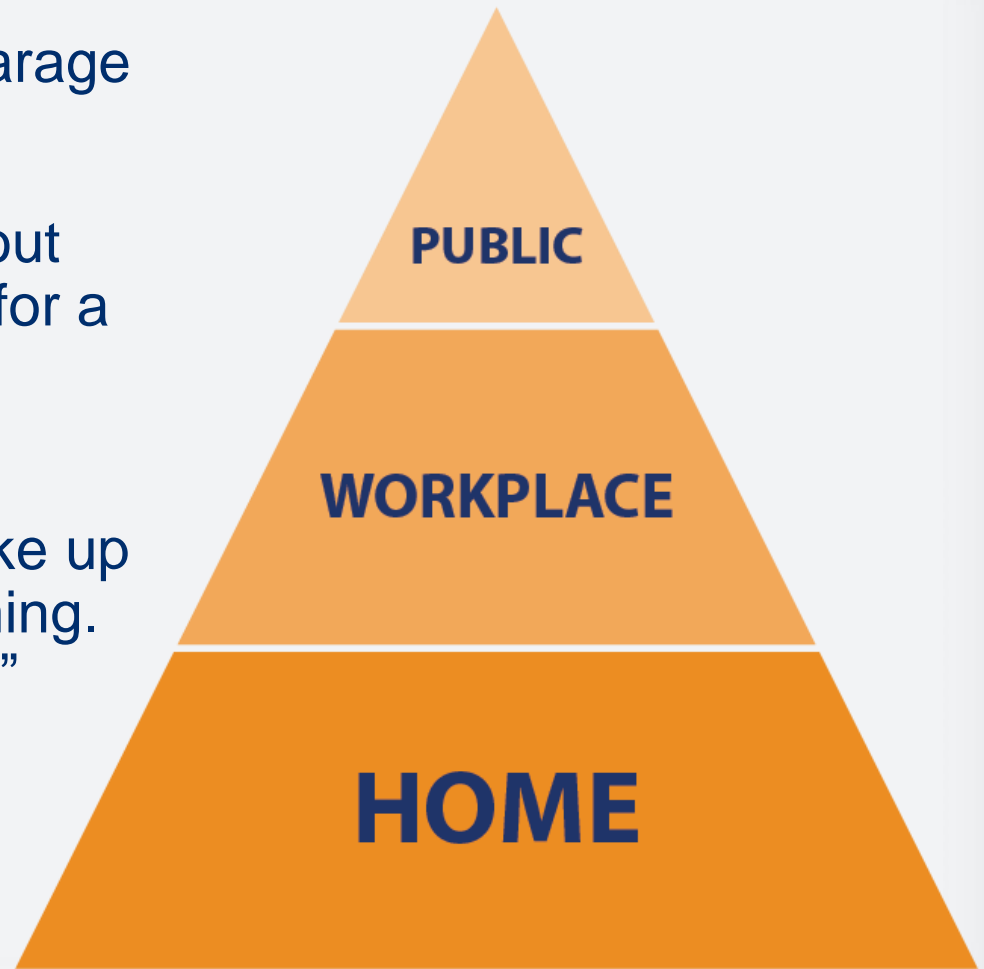




# Where do I charge my EV?

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- Your “gas station” is your garage
- Odorless fuel at home without waiting in line or searching for a gas station.
- You plug in at night and wake up with a full “tank” every morning. For less than \$1 per “gallon”
- Public L2 ~ \$2/gallon



# Is gas or electricity cheaper?

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- The average daily drive is 40 miles, normally less on weekends.
  - 12,000 miles per year = about 33 miles per day
- 33 miles per day (about 300 kWhs) = \$28 to \$43 per month based on Roseville Electric rates
- Driving a normal gas fueled car 33 miles per day (assuming 25 miles per gallon @ \$3.50 per gallon) = \$140 per month in gas

Savings of up to \$112 per month



# Are there environmental benefits?

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- Gas powered vehicles emit smog, soot and other air pollution, which can lead to serious impacts on health and the environment.
- The average EV reduces greenhouse gas emissions by approximately 2 metric tons per year.
- With the increasing number of renewables on the electric grid, the emissions reductions will continue to increase.



# What incentives are available?

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- Federal Tax credit up to \$7,500 on new EVs
- California Clean Vehicle Rebate Project (CVRP) Rebate up to \$2,000 on new EVs
  - May depend on vehicle model and income
- Clean Fuel Reward- State Utility Rebate
  - \$1,500 for a new vehicles at purchase
- Roseville Electric Rebates
  - \$500 for a used EV
  - \$500 for a networked charger
- Up to \$11,500 in incentives and tax credits
  - Caution incentives may change



# Finding the right EV for you

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- Our new online tool helps make electric vehicle shopping easy.
  - PlugStar helps you find the EV that best meets your needs and gets you connected with a qualified EV dealer near you.
- Visit our EV website for more information on:
  - Residential EV programs
  - Commercial EV programs
  - Our EV Ambassador program
  - Charging Stations
  - Commercial rebates

A large, solid orange circle with a slight drop shadow, containing the website URL.

[roseville.ca.us/ev](http://roseville.ca.us/ev)

# Questions?

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