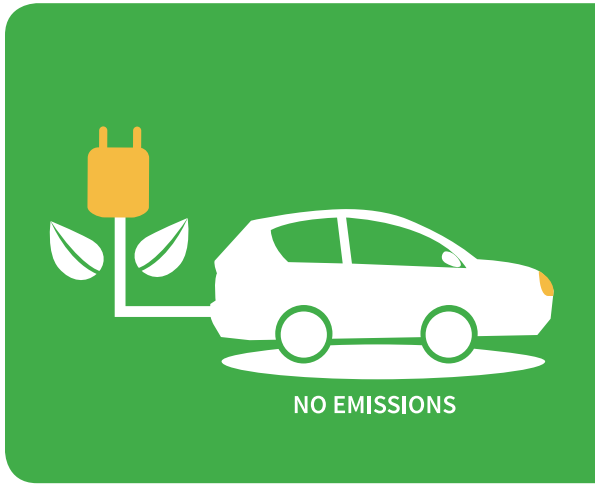


ELECTRIC VEHICLE BASICS



WHAT ARE ZERO EMISSION VEHICLES (ZEVs)?

A zero emission vehicle (or ZEV) is a vehicle that runs on electricity instead of gasoline. ZEVs emit no exhaust gas from the engine. These vehicles may also be called electric cars. A hybrid car is not a ZEV because it uses gas to operate.

HOW FAR CAN YOU GO IN AN ELECTRIC VEHICLE?

Most electric cars can go 80 to 100 miles on a full charge, and some models can have a range of over 300 miles. Depending on the type of charger or battery, an electric car can take 30 minutes to a full day to charge. The average person in the U.S. drives less than 40 miles per day.

HOW DO ELECTRIC VEHICLES WORK?

To operate an electric car, you will need to charge the engine by plugging the car into a power source such as a charging station or a special connection at your home. This is similar to plugging in your cell phone to charge the battery.

Most people charge their cars at home. This enables you to use electricity at a low cost.

When you charge your car at home, it can cost less per year than running an air conditioner. And you will not have the expense of buying gasoline.

HOW DO YOU CHARGE AN ELECTRIC VEHICLE?

You can charge your electric vehicle at home or at a public charging station. You simply plug your car in using a special electric cord that will come with the car or is attached to a charging station.

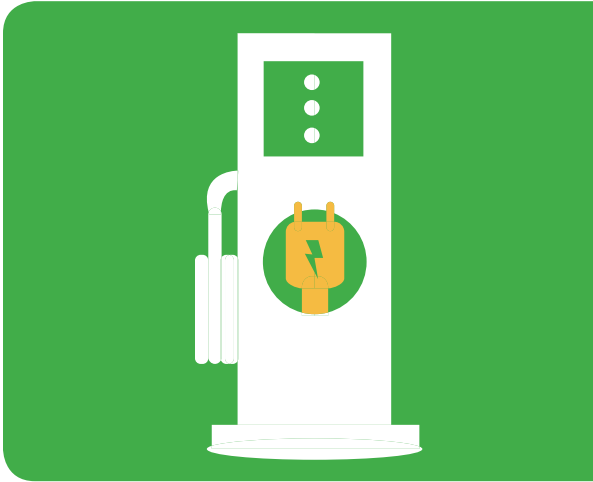
►► CHARGING AT HOME

There are two types of chargers that will charge your car at home. Level 1 electric vehicle supply equipment (EVSE) and Level 2 EVSE. Both types of charging equipment have cords that you need to store safely and keep clean.

LEVEL 1 EVSE

Charging an electric car with Level 1 EVSE does not require any special equipment. You can plug your car into a regular 120 volt AC plug. But you will need to plug into a dedicated circuit that does not supply electricity to anything else in your house such as appliances or lights. Nearly all electric vehicles come with a cord that will fit a standard 3-prong outlet and the car. It will take about an hour of charging time to add a range of

ELECTRIC VEHICLE BASICS



2 – 5 miles to your vehicle, using Level 1 EVSE. Most people will charge their car this way when they are sleeping at night.

LEVEL 2 EVSE

Level 2 EVSE is faster and more convenient, but it requires special equipment. There are incentive programs that can help you pay for the installation of Level 2 EVSE charging equipment. With Level 2 EVSE you can get up to 60 miles of range per hour of charging time. Most EVSE charging units are installed in garages, but you can get an outdoor-rated unit installed in a driveway.

►► CHARGING AWAY FROM HOME

Many workplaces and schools are installing charging stations that make it easy to charge your car during hours that you are usually parked.

A large and growing network of public charging stations are being installed throughout California for you to use during longer trips. Some of these stations are fast enough to charge your car in 30 minutes.

HOW WILL AN ELECTRIC VEHICLE CHANGE MY LIFESTYLE?

There are all types of electric vehicles, including small economy models, minivans and luxury cars. You can find an electric vehicle that fits your needs. And since most charging is done overnight at home, the only change you may experience is that you will not need to go to the gas station anymore.

Contact your local EVE organization for assistance:

THE AFFORDABILITY OF ZERO EMISSION VEHICLES



When you explore the cost of buying a new car, it may seem that electric vehicles are more expensive. It's true that the "sticker price" of an electric car can be higher than a regular gasoline powered car. But electric cars are cheaper to operate and maintain, and there are incentives available that will lower the cost of purchasing an electric car. If you consider all of the benefits and incentives, driving an electric vehicle can actually be less expensive than driving a gasoline-powered car.

Purchase incentives may vary depending on your individual circumstances, but some of them include:

Federal Tax Credit

You can receive a credit on your federal taxes of **up to \$7,500** when you purchase a plug-in electric vehicle. The amount of the credit will depend on the size of the battery in the car you purchase.

Rebates from Your Utility Company

Your electric company will give you rebates on your electric bill when you drive an electric vehicle. These rebates will reduce the amount you pay to charge your car.

▶ **PG&E CUSTOMERS** are eligible to receive a **\$500** clean fuel rebate.

▶ **SOUTHERN CALIFORNIA EDISON** customers can receive a **\$450** rebate.

▶ **SAN DIEGO GAS AND ELECTRIC** also offers rebates in various amounts depending upon how many people apply for the credit.

Lower Electric Rates

Most utility companies offer special lower rates for customers who drive electric cars. Your EVE organization can show you how to apply for the lower rate through the CHANGES program.

Insurance Discounts

Many larger auto insurance companies offer discounts to owners of electric cars. The amount of those discounts will vary among insurance companies.

Clean Vehicle Rebate Program (CVRP)

This rebate program offers a rebate of **up to \$7,000** when you purchase an electric vehicle. The amount of your rebate will depend upon the type of car you buy and your household income. If you are low income, your rebate will be larger.

THE AFFORDABILITY OF ZERO EMISSION VEHICLES

Clean Vehicle Assistance Program

The Clean Vehicle Assistance Program provides grants and affordable financing to help low-income Californians purchase a new or used hybrid or electric vehicle. California residents that meet income qualifications can receive up to \$5,000 toward the purchase or lease of a vehicle. The grants do not need to be repaid. You will need to submit proof of income and residency, such as a tax return and driver's license.

Enhanced Fleet Modernization Program Plus-Up (EFMP PLUS-UP)

The EFMP Plus-Up Program helps low-income individuals and families scrap old cars that make pollution, and replace them with used or new electric cars. Depending on your income and the type of car you get, you can receive a **voucher for \$5,000 - \$9,500** toward an electric car to replace your older car. You may also be eligible for an additional \$2,000 to install a charging station at home.

Discounts for Home Charging Stations

Some areas and utility companies offer rebates or discounts for installing a charging station in your home.

Local Discounts

Many cities also offer rebates or vouchers that will reduce the cost of purchasing or leasing electric cars.

Lower Cost of Ownership

In addition to all of the programs that may help you reduce the cost of buying an electric car, you will save money by not having to buy gas or repair and maintain your car. The cost of electricity to charge your car is about the same as paying \$1 per gallon for gas. And you will not have the costs of car repairs and maintenance



because electric vehicles have fewer parts that can break.

Your EVE organization can help you understand the discounts that you may qualify for, and may be able to help you apply for discounts through the CHANGES program.

Contact your local EVE organization for assistance:

ZERO EMISSION VEHICLES

SMART PURCHASE AND LEASING CONSIDERATIONS



Getting a new car can be a complicated process. There are several decisions to make, including the type of vehicle, whether to get a new or used car, and how much you can spend. One of the biggest choices is whether you will buy or lease your vehicle.

When considering major purchases such as a house or car, a good rule to follow is to buy things that will increase in value over time and lease things that will lose value. Houses typically increase in value over longer periods of time. Cars begin to lose value as soon as you start driving them. Using this theory, it seems that leasing is the better way to go. But there are many other things to consider when you get a new car. When you decide on an electric vehicle, there are additional considerations that can impact the choice between buying and leasing.

WHAT IS THE DIFFERENCE BETWEEN BUYING AND LEASING?

The main difference between buying and leasing a car is ownership. When you buy a car, you own it and can keep for as long as you want. When you lease a car, it's like you are renting it from the dealer and you will have to return it at the end of the lease period, usually 2 or 3 years.

► BUYING A CAR

- When you buy a car, you can drive it for as long as you want. You will not be required to give it back after a few years.
- Once you are ready for a different car, you are free to trade-in your car to the dealer for credit towards a new car. Or you can sell the car on your own.
- Once you have fully paid for the car, or completed all your loan payments, you can continue to drive it without having to make any more payments.
- When you own the car, there is no mileage limit to be concerned about.

► LEASING A CAR

- If you need to finance a car, the monthly payments for leasing can often be lower than buying.
- Leases typically require a lower down payment than a purchase.
- If you return the car early there are often early termination penalties.
- At the end of the lease, you simply return the car and walk away. You don't have to worry about selling the car or negotiating for a trade-in price. But you will have no financial benefit from the car when you return it.

ZERO EMISSION VEHICLES SMART PURCHASE AND LEASING CONSIDERATIONS

- As long as you have the car, you will have to make a monthly payment.
- Leased cars have a limit to the number of miles you can drive. When you return the car at the end of the lease period, you will be charged a fee for any miles over your limit. If you have a long commute or drive as part of your job, you will want to consider the mileage limit.
- You may need to be extra careful with maintaining a leased car. When you return the car, you might be charged extra if you return the car in poor condition.



► SPECIAL CONSIDERATIONS FOR ELECTRIC CARS

- Electric cars are improving rapidly. Newer technology is being incorporated into newer models much faster than it is with gasoline-powered cars. If having the newest technology is important to you, you might want to consider leasing your electric car.
- When you lease an electric car, the federal tax incentive will go to the dealer and not the “owner”. If you typically owe more than \$7,500 in federal taxes at the end of the year, you won’t be able to claim this credit on a lease.
- In California, there are extra incentives that may make up for the federal incentive you would lose on a lease.
- Many electric carmakers offer leasing specials on electric cars that can reduce your monthly payments.

***Contact your local EVE organization
for assistance:***

THE BENEFITS OF ZERO EMISSION VEHICLES



Zero Emission Vehicles (ZEVs) are electric cars that do not require gasoline to operate. An electric car is charged with a cable and plug. There are many benefits to driving an electric car.

Electric Vehicles are Affordable

The purchase price of an electric car can often be higher than a regular gasoline powered car. However, there are incentives available that will lower the cost of purchasing an electric car. Purchase incentives may vary depending on your individual circumstances. Some of them include:

- **Federal Tax Credit of up to \$7,500** when you purchase a plug-in electric vehicle.
- **Rebates from Your Utility Company** will give you rebates on your electric bill when you drive an electric vehicle.
- **Lower Electricity Rates** for customers who drive electric cars.
- **Insurance Discounts** to owners of electric cars.
- **Clean Vehicle Rebate Program (CVRP)** offers a rebate of **up to \$7,000** when you purchase an electric vehicle.

- **Clean Vehicle Assistance Program** provides grants and affordable financing to help low-income Californians purchase a new or used hybrid or electric vehicle.

- **Enhanced Fleet Modernization Program Plus-Up (EFMP PLUS-UP)** helps low-income individuals and families scrap old cars that make pollution, and replace them with used or new electric cars.

- **Discounts** for installing a charging station in your home.

- **Local Discounts** are offered by many cities that will reduce the cost of purchasing or leasing electric cars.

Electric Vehicles are Convenient

► HOV (CARPOOL) LANES

If you own or lease an electric car, you can receive a decal that will allow you to drive in the High Occupancy Vehicle (HOV) lane. Many people call these the “carpool lanes”. The decal will allow you to use these lanes even if you are the only person in the car.

► LOWER MAINTENANCE COSTS

Electric vehicles have fewer parts than

THE BENEFITS OF ZERO EMISSION VEHICLES

gasoline powered cars. They do not have spark plugs, valves, combustion engines, mufflers, tailpipes and other parts that break and need to be repaired or replaced. You will not need to do oil changes or tune-ups.

► NO NEED TO GO TO THE GAS STATION

An electric vehicle will save you time and money because you will not need to go to the gas station anymore. If you charge your car during your sleeping hours, your car will be ready to go without worrying about fueling up. Most electric vehicle manufacturers offer 8 – 10 year warranties on their batteries. On average, current electricity rates to charge your car equal about the same as paying \$1.00 per gallon for gas.

Electric Vehicles are Enjoyable to Drive

There are different styles of electric vehicles, including SUVs and sporty models. Electric vehicles are quieter than gasoline-powered cars, are smooth to drive and are excellent at achieving speed quickly.

Electric Vehicles are Good for the Environment

Many of us live in areas where there is air pollution and it is unhealthy to breathe. This is especially true in low-income and immigrant communities. And air pollution is bad for everyone, but it can be particularly dangerous for children, the elderly and people with health conditions. Electric cars do not emit pollution into the air. Currently, electric vehicles are estimated to generate 54% less air pollution than gasoline-powered cars. As our electricity sources get cleaner, driving electric cars will contribute even more to a cleaner environment.



***Contact your local EVE organization
for assistance:***

ZERO EMISSION VEHICLES AND THE ENVIRONMENT



Zero Emission Vehicles (ZEVs), also called electric cars, can be affordable, modern and convenient for you and your family. Purchasing and owning an electric vehicle helps the planet, reduces pollution, and will reduce the impact of climate change for future generations. There are many benefits to driving electric cars, including saving money by avoiding gasoline and repair costs. One of the biggest benefits can be your contribution to a cleaner environment.

Air Pollution

Many people live where the air is unhealthy to breathe:

- Children and elderly people have more difficulty breathing dirty air.
- People with illnesses such as asthma, COPD, lung cancer, heart disease and diabetes are at more risk from air pollution.
- Low income people often live in communities with higher pollution.

One of the biggest causes of air pollution is the emissions that come from gasoline-powered cars.

Global Warming

Global warming is bad for our health and our planet. Some of the effects of global warming

are already happening. We are seeing record high temperatures, wildfires, rising sea levels, droughts and flooding. The cars we drive are a major cause of global warming. In the United States, cars and trucks produce about 24 pounds of carbon dioxide and other global warming gases for every gallon of gasoline. About 5 pounds of those emissions come from producing and delivering the gas, and 19 pounds come right out of the car as exhaust.

WHAT ARE EMISSIONS?

Emissions are the exhaust fumes and vapors that come from the tailpipe of a car and from the pump when you put gasoline in it. Electric vehicles do not produce the emissions that contribute to smog because they do not have a tailpipe and electricity is a cleaner fuel than gasoline. If you are able to install solar panels at your house, your electric vehicle will be even cleaner and better for the environment.

There are two types of vehicle emissions – Direct and Life Cycle

► DIRECT EMISSIONS

Direct emissions come from the fumes and exhaust of operating your vehicle. Electric cars are much cleaner than gasoline powered cars and have much lower direct emissions.

ZERO EMISSION VEHICLES AND THE ENVIRONMENT

► LIFE CYCLE EMISSIONS

Life cycle emissions are generated over the life of the vehicle and include the emissions generated when the car is manufactured as well as when the car is disposed of after use. Life cycle emissions can be higher for electric cars, but the savings in Direct Emissions still make electric cars cleaner. Most electric cars will make up for the extra Life Cycle Emissions after driving them for 6 – 18 months.

By the end of their usage, gasoline-powered cars emit almost twice as much global warming pollution as the equivalent electric car.

In most parts of California, the cost of charging an electric vehicle is the same as getting 85 miles per gallon in a gasoline-powered car.

YOU CAN MAKE A DIFFERENCE

We are all responsible for doing our part to make the world safer and healthier. One of the best ways to do that is to reduce the amount of pollution we put into the environment.

Electric cars are cheaper, quiet and enjoyable to drive, and do not produce emissions that pollute the air. Your EVE organization can help you find the best vehicle for you.



***Contact your local EVE organization
for assistance:***