

BUYING AND DRIVING AN ELECTRIC VEHICLE

How to Switch to Driving Electric

This guide is provided by our nonprofit organization to help you enjoy the experience of driving electric today and join the clean transportation future.

July 2020



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BUYING AN ELECTRIC VEHICLE

Why EV?

If you're considering buying an EV to save time in the carpool lane, save money on fuel, and reduce your carbon footprint, this guide is for you. Perhaps you're thinking about driving electric because you're committed to moving away from fossil fuels that are polluting our air. Maybe you think it's cool to power your car from the sun. Or, perhaps you're looking for the thrill of driving the technology that is revolutionizing transportation. Whatever your interest, this guide is for you. Welcome!

Enjoy Your Driving Experience

At Drive Clean Bay Area (DCBA), we know electric vehicles offer a superior driving experience. We read reviews and smile when we see that EVs outperform gas cars in acceleration and handling. We nod our heads when we see EVs earn the highest safety ratings. We agree with the overwhelming opinion that EVs offer a smoother, quieter ride. When you make the switch to an EV, we think you'll agree too. You'll happily join the millions of EV drivers who will never go back to driving a gas car.

Early on, some drivers experienced range anxiety, but today's EVs have a range of over 200 miles and can charge over 150 miles in just 30 minutes.



“

Driving an EV means zero emissions, no more support for fossil fuel companies, and a better, cleaner future for our children and all future generations. Access to the HOV lane shortens my commute, which means more time with my family. And we love the nearly 300-mile range of our Chevy Bolt, the way it handles, and the instant torque.

— Ruben, Chevy Bolt



SAVE TIME, MONEY AND THE PLANET

Save Time

Driving electric can help you save time by accessing the HOV lane during peak commute hours. With a 100% battery electric vehicle, there are no more stops at the gas station. Conveniently plug in your vehicle at home, at work, or at public charging stations to refuel your battery.

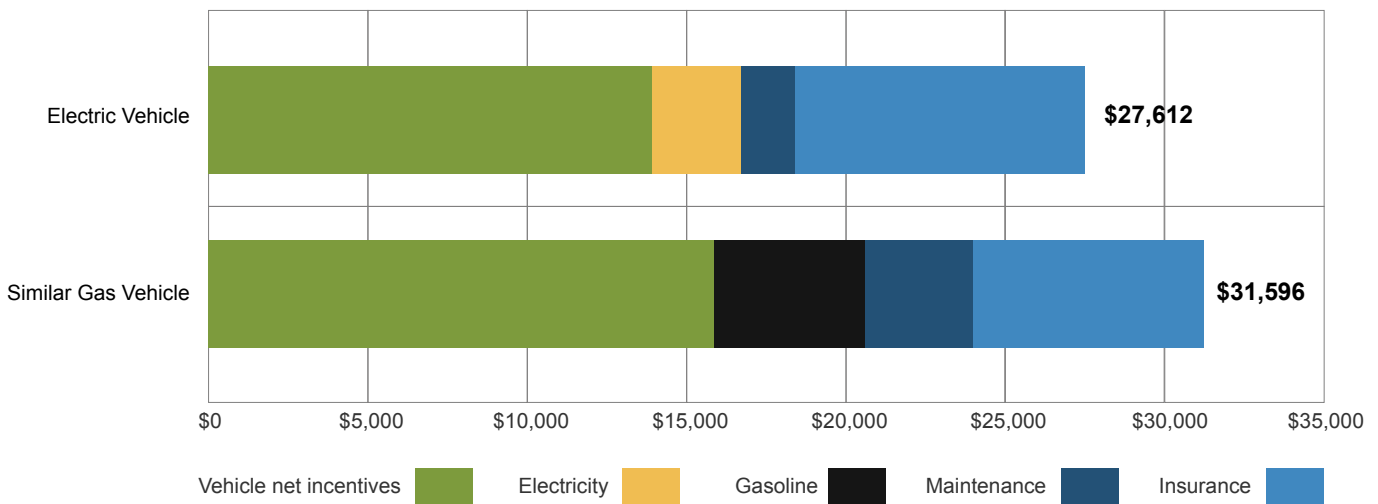
Purchasing an EV can result in less scheduled maintenance, as there are fewer moving parts than in a gas vehicle, which means no more oil changes, transmission maintenance, fluid changes, or emissions tests. In addition, most EVs have regenerative braking, which slows the car down when you're not accelerating and extends the life of the brakes.

Save Money

While the initial price of an EV can be higher than a gas car, with incentives and reduced fuel and maintenance costs, the total ownership of an EV can be lower over the lifetime of the vehicle. When you switch to driving electric, your fuel costs will typically decrease to around one-third of what you would spend on gasoline. Even the gas bill for a Toyota Prius hybrid is about twice that of driving electric.

Over a five year period, many EV owners experience a lower cost of total ownership. This [EV Cost Comparison Calculator](#) can help you determine your personal savings and cost of ownership.

Electric Vehicle ownership is **\$3,984** less to own over 5 years



*This example assumes 12,000 annual miles and the price of gasoline at \$3.50/gallon.

*The MPG Cost Equivalency shows the value of driving electric.
EVs: \$.05 per mile vs. Gas Cars: \$.15 per mile*





Save the Planet

As a result of lower emissions from reduced oil consumption during the COVID-19 shelter-in-place, the world enjoyed clean air and blue skies. Make the switch to zero emission EVs and help keep our skies blue.

In California, at least 30% of our individual carbon footprint comes from driving a gas car, so switching to an EV has a big impact on our climate.¹ Driving electric not only reduces greenhouse gas emissions that cause climate change, but with EVs there are no tailpipe emissions that cause air pollution, so you and the people around you can breathe easy.²

Good news! EV batteries have a second life, storing renewable energy, and after a significantly long life, 95% of its materials can be recycled.³

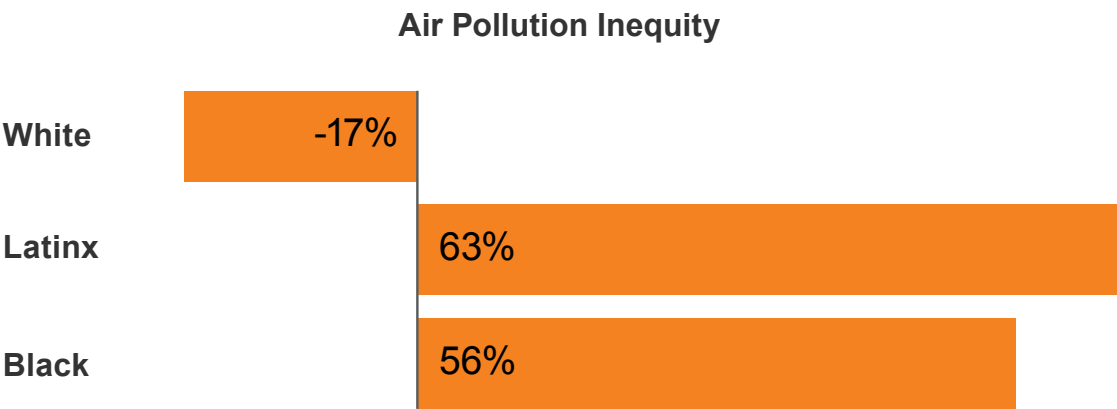




Advance Environmental Justice

Everyone needs clean air, yet unfortunately, not every community has it. People who live in communities of concern, close to freeways and polluting industries, suffer disproportionately higher rates of asthma and heart disease, as well as shortened life expectancy, due to air pollution in their communities. In addition, these vulnerable populations tend to experience the impacts of climate change, such as sea level rise and extreme heat, sooner and to a greater extent. Reducing our consumption of fossil fuels can improve the quality of life for everyone.⁴

In a recent study, it was noted that white people are exposed to less air pollution than they cause. Conversely, Black and Latinx people are exposed to more air pollution than they cause.⁵



Causation vs. exposure to air pollution

WHICH EV IS RIGHT FOR YOU?

What is a Plug-in Electric Vehicle?

What makes a vehicle “electric?” Simple: all electric vehicles plug-in. There are two different types to consider, BEVs and PHEVs. Incentives and rebates are available for both vehicle types.

BEV Battery Electric Vehicle. All-electric is the gold standard. BEVs run 100% on electricity and do not emit any tailpipe emissions. There are no oil changes since there is no internal combustion engine, making BEVs the cleanest and lowest cost to drive and maintain. BEVs cut 100% of your driving emissions.

PHEV Plug-in Hybrid Electric Vehicle. PHEVs run on electricity for a limited number of miles and have a traditional gas tank as a backup. If a pure electric vehicle doesn't meet your needs, look for a PHEV that has electric miles to match your daily commute. By doing so, a PHEV can significantly cut your driving emissions, if plugged in daily.

Should You Buy New or Used?

Choosing a New EV When you buy or lease a new EV you'll enjoy the latest technology, including longer battery range and faster charging on the road. As the original owner of the car, you will also be able to take advantage of government incentives.

Choosing a Used EV There is a growing number of affordable used EVs on the market with a variety of features and driving ranges. Lower-range EVs are a great value and are a good fit for Bay Area commuters, around town drivers, and students.

Income-qualifying customers may be able to qualify for incentives from Clean Cars for All and other grants when replacing a gas car for a new or used EV.



“

My only regret is that I didn't get one sooner! The best part? As a Clean Cars for All recipient, I basically got it for free. When I became aware of all the programs and incentives available to me, getting an EV was a real no-brainer!

– Rusty, Used Fiat 500e





Does Leasing or Buying Make More Sense?

BEVs and PHEVs are available for purchase or lease. If the vehicle you are considering meets your anticipated needs for the next several years, buying the vehicle is a great option. However, many EV drivers lease their vehicle as range and charging times are continuing to advance. With the exception of the federal tax credit, financial incentives apply to both purchased and leased EVs. Leasing makes great sense for commuting with the HOV sticker, since the fast lane benefits last for three years. When your lease is up, you can lease a new EV and apply for a new sticker.

Which Model is Right for You?

With more than 40 plug-in models available, including sedans, crossovers, minivans, and SUVs, there's an EV for every lifestyle. The individual driving footprint in the Bay Area is around 23 miles per day and most new BEVs offer over 200 electric miles, providing ample range for your driving needs. With a PHEV, if your commute is within the electric range of your car and you plug in daily, you'll be able to enjoy an emissions-free commute.

If you are unsure of your mileage needs, try an app like [MyGreenCar](#) to track your weekly driving footprint and help you find the right EV.

[Compare](#) EV models.

With an EV, rather than polluting the air while idling in traffic, your vehicle will emit no emissions and use almost no battery range.



REBATES, INCENTIVES AND GRANTS

Maximize EV Affordability with Rebates, Incentives and Grants

When you purchase or lease an EV, you may qualify for up to \$11,300 in rebates and tax credits and if your income qualifies, additional grants are available. *You'll need to apply for some of these grants before purchasing your car.* Learn about [rebates and incentives](#) and use this [savings calculator](#) to explore your potential savings.

Rebates and Incentives

reflects potential savings as of 7/1/2020

General Programs	New EVs	Used EVs	EV Charging
CA State Rebate (CVRP)	\$1500 - \$7000	N/A	N/A
PG&E Clean Fuel Rebate	\$800	If it has not yet been redeemed	N/A
Federal Tax Credit	Up to \$7500	N/A	Up to \$1000
HOV Lane Access	Valid for 3 Years	Transferable*	N/A
Income Qualified Rebates			
Clean Cars for All (CCFA)**	Up to \$9500		Up to \$2000
Clean Vehicle Assistance Program (CVAP)***	\$2500 - \$5000	\$2500 - \$5000	Up to \$2000
DCAP***	\$2500 - \$5000	\$2500 - \$5000	Up to \$2000
MCEv (MCE Customers)	\$3500	N/A	N/A
Drive Forward Electric (Peninsula Clean Energy Customers)	N/A	Up to \$4000	N/A

* Income-qualifying EV buyers can apply for an HOV sticker on a used EV for an unlimited time-frame.

** The CCFA program alternatively offers a \$7,500 grant for public transit and/or e-bikes when you retire your 2005 or older car.

*** Not stackable with CCFA.

Access to the carpool lane is a real time saver. When you buy a used EV, you'll be able to transfer the HOV sticker to your registration and enjoy the carpool lane for the remainder of its eligibility. Income-qualifying used EV buyers can apply for an HOV sticker that doesn't expire.





EV Buying Tips

Make Your Next Car an EV

When you purchase a new car, it's going to stay on the road for 12-15 years, whether you or a secondary owner is driving it. Please consider the long term benefits for you and future generations and commit to making your next car electric.

Live in an Apartment or Condo?

Lots of people who live in apartments or condos drive electric. Check with your HOA Board of Directors to determine if they have planned for charging station installation. If not, please contact us at info@drivecleanbayarea.org for sample rules and a sample carport architectural application. Alternatively, you may be able to access workplace or public fast charging stations.

Contact Us for Information

Drive Clean Bay Area is here to assist you in electrifying your ride. Review our [website](#) and get in touch if you have additional questions.



DRIVING YOUR ELECTRIC VEHICLE

Congratulations, You're Driving an EV!

The enjoyable driving experience, reduced costs, and planet-friendly zero-emission lifestyle is just the beginning.

Take Charge

Charging your EV is easy. Plug your car into any standard outlet. You're charging! If you're already on the road, plug in at an EV charging station. There are more than 7,000 stations with more than 20,000 plugs in California alone.

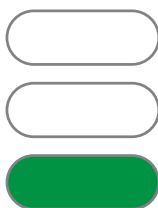
Keep range anxiety at bay. Once you purchase an EV and practice public charging locally, you'll be at ease driving anywhere.

Three Levels of Charging

There are three levels of charging and each is useful in different situations. For Level 3 charging, not all cars use the same fast charge connector. Identify the fast charger that your EV uses, so you can locate the right type of charging station when you're on the road.



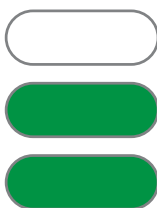
Level 1
120V



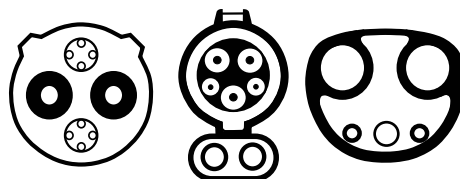
4-6 Miles per
Hour Charged



Level 2
240V



22-26 Miles per
Hour Charged



Level 3
Fast Charge



Up to 300 Miles per
Hour Charged





Prepare for Charging at Home

Where are Your Outlets? Assess the proximity of your outlets to where you park your car. Will you be parking within 15-25 feet of an outlet? If so you're set. If not, a suitable extension cord will work.

Are Nearby Outlets Grounded? Be sure to plug in your EV to a grounded 3-prong standard outlet.



“

Our family of four fits comfortably and our conversations are more pleasant because the cars are so quiet. Our BMW i3 feels like a race car and fits into tiny spaces, and we love the low maintenance for both our i3 and our 2012 Nissan LEAF.

– Wei-Tai and Violet, BMW i3 and Nissan LEAF



DETERMINE YOUR HOME CHARGING NEEDS

Many EV drivers do most of their charging at home. Home charging can be done at two speeds:

Level 1 = 4-6 miles per hour

Level 2 = 20-25 miles per hour

Give Level 1 a Try

Unless you have a long commute, simply plugging into your 120v home outlet may be the best solution. Here's why.

Save Money Level 1 requires no installation.

Recharge 30-40 Miles Overnight Level 1 provides a sufficient charge for most drivers. If you find you drive more or don't want to plug in nightly, you can upgrade to Level 2 at any point.

PHEV-friendly Since plug-in hybrids (PHEV) have a limited number of electric miles, Level 1 charging overnight will always do the trick, allowing you to do your daily driving on electricity.

Prepare for Level 1 charging at home by determining where you will park to access a 120v charging outlet.

Upgrade to Level 2

If you regularly drive more than 40-50 miles/day or just like having a faster charging option at home, have a Level 2 home charging station installed. It provides up to 25 miles of range per hour of charge.

Assess the Cost Installation costs vary, depending on your home electrical system, installation quality, distance that wires and conduits need to run from the breaker box to the charging station, and labor rates of the electrician.

Hire a Licensed Electrician Level 2 charging requires a 240v outlet, like a clothes dryer, and the installation process is very similar. To find highly-rated electricians in your area, ask a friend or neighbor, or review [Nextdoor](#), review [Yelp](#), and [Angie's list](#).





Purchase a Level 2 Charger

Research the Market There are numerous options available for home chargers. The landscape is constantly changing due to innovations in the field, so do your research. This [article](#) walks you through the process.

Get the Amps Right Ask your electrician for the maximum amps and buy a charging station that matches this rate.

Consider These Installation Tips

Choose the Ideal Location Before buying a charging station, determine the best location. Make sure the cable can easily reach your car's charge port and is long enough to reach a second EV in the future.

Bring it With You Ask your electrician to install the station so it is portable, not permanently fixed to the wall. If you need to relocate your charging station you'll have a flexible solution.



A photograph of several white wind turbines standing on a rolling brown hill under a clear blue sky. The image is partially covered by a blue wavy banner at the bottom.

PLUG IN TO AFFORDABLE CLEAN ELECTRICITY AT HOME

Driving an EV can save you money since electricity is less expensive than gasoline and EVs are more efficient than gas cars. In addition, charging from a clean energy source will reduce air pollution and benefit all.

Switch to Time of Use or EV Rate

Maximize your savings by switching to an energy rate that meets your needs. Check in with your utility or community energy provider ([CCA](#)) to learn about special EV and Time of Use (TOU) rates, where energy charges vary based on the time of day compared to the traditional flat rate.

Choose a Cleaner Energy Plan

Your vehicle is as clean as its power source. Many utilities now offer energy plans with 100% renewable energy. Review your options with your utility or local CCA to learn how you can plug into renewable wind and solar.

Fuel Up From the Sun

Consider rooftop solar for your home for clean and cost-effective energy.

EVs boast a 90% lower lifetime emissions rate than gas cars when we plug in to clean energy.²



DEVELOP A PLUG-IN ROUTINE

With your electric car, you'll enjoy the convenience of doing most of your charging at home and you'll never have to visit a gas station again.

Set Your Charging Schedule

Once you switch to clean energy and a Time of Use rate, use your car's programmable charging timer, available on most models, and charge during the times with the lowest electricity rates.

Plug In Daily or as Needed

How often you plug in at home is a personal preference. With high-range vehicles you may only plug in once a week. During fire season, we recommend plugging in frequently to keep your battery full in case of a power shutdown.

Adjust Your Charge as Needed

Unless you need the extra miles, EV manufacturers recommend that you minimize your daily charging to 80% of your electric range to maximize your battery life. Charge to 100% before a road trip and before a power shutdown.

Always Plug In a PHEV

Take advantage of the energy savings and try to cover your daily driving footprint with electricity. Save your gas for road trips.

*Optimize your climate before unplugging –
you'll love getting in your car any time of year.*



“

No more trips to the gas station, ever again! I love the convenience of charging at home and at work, and I love the savings. The lease on my VW e-Golf is \$20 less per month than what it cost me to fill up my minivan! The zippy drive, easy handling, and HOV sticker make commuting a breeze.

– Chloe, Volkswagen e-Golf





CHARGE AT WORK

With an abundance of clean solar energy available on our electric grid during the day, Level 1 and Level 2 charging at the workplace are ideal.

Increase Your Range at Work

It's convenient and practical to charge at your workplace while your car is in the parking lot for most of the day.

Take Advantage of Company Incentives

Many companies offer a pre-tax commuter benefit to their employees, which may be applied to driving electric. In addition, some companies offer special EV incentives, like cash and free or reduced charging costs. Check to see if your benefits package offers any perks for driving electric.

Advocate for Workplace Charging

If workplace charging is not currently available, talk to your employer. Installation of workplace chargers typically comes from employees requesting them.





CHARGE ON THE ROAD

If you're planning a trip or need a fast charge around town, you can visit one of thousands of charging stations throughout California and the United States. The free [PlugShare](#) app can help you plan your road trip and locate nearby stations when you're away from home. Level 3 charging capacity depends upon both the car and the level of the charging port, which ranges from Fast (50 kWh) to Ultrafast (250 kWh or higher). Not all EVs are compatible with Level 3 charging.

Levels of Charging

There are two levels of on-the-road charging:

Level 2 – up to 25 miles an hour, for around town

Level 3/Fast Charge – up to 80% charge in 30 minutes, for a road trip

Some roadside assistance companies offer battery charging for emergencies.



CHARGING

Sign Up for Charging Networks

Before using a public charger, we recommend downloading the apps (or ordering the free cards) for the most common charging networks. Many charging networks take credit cards, but setting up an account in advance makes the experience easier and you'll benefit from special pricing when you sign up.

These are the most common charging networks:

[ChargePoint](#)

[EVgo](#)

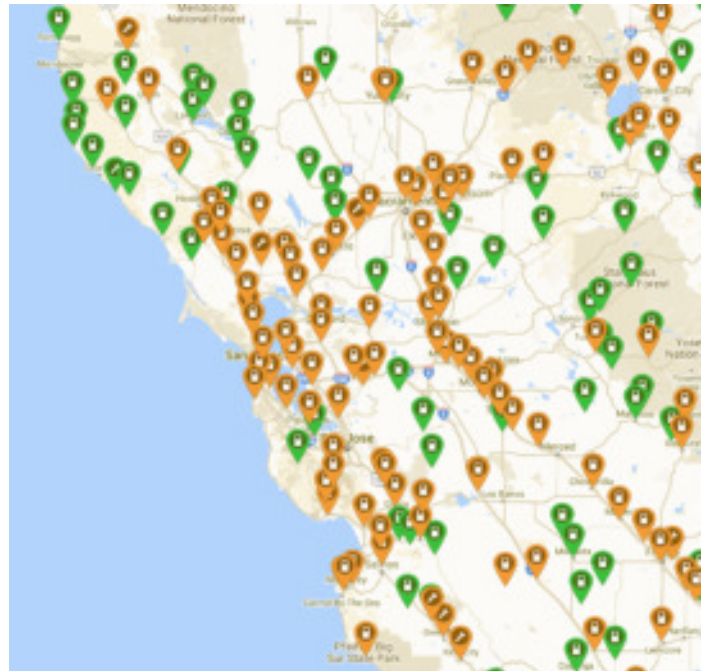
[Electrify America](#) – *Electrify America is one of the largest charging networks, and we strongly recommend signing up for the app and registering your payment method to simplify your experience.*

Sign Up for PlugShare

While some EVs come with charging navigation, [PlugShare](#) is helpful for planning before a trip and while you're on the road. You'll be able to locate all the nearby charging stations, as well as stations across the U.S. Enter your EV model and fast charging connector to help locate Level 2 and Level 3 charging stations for your car.

Road Trip Tips

With the growing number of fast chargers throughout CA and the US, it's easier than ever to take road trips in an EV. Follow these tips for a smooth experience. You'll find that it's nice to break up your driving time with well-timed charging breaks.



- Familiarize yourself with charging locally before you hit the road.
- Many EVs lock the charger in place so no one else can unplug your vehicle. To release the charger, simply unlock your vehicle or charge port.
- Rather than charging to full capacity, charge to 80 or 90% since the rate of charge slows as your battery gets full.
- Drive the speed limit to maximize your charge.





CARPOOLS ONLY
2 OR MORE PERSONS
PER VEHICLE

Claim Your Rebates, HOV Sticker and Tax Credit

After you purchase your EV, don't forget to claim your rebates and order your carpool lane stickers. Wait until you receive your license plate and vehicle registration before applying for rebates. You'll claim your federal tax credit when you do your taxes if you have a tax liability. Visit [The California Clean Vehicle Rebate Project](#) for an overview of rebates and incentives.

Rebates and Incentives

reflects potential savings as of 7/1/2020

General Programs	New EVs	Used EVs	EV Charging
CA State Rebate (CVRP)	\$1500 - \$7000	N/A	N/A
PG&E Clean Fuel Rebate	\$800	If it has not yet been redeemed	N/A
Federal Tax Credit	Up to \$7500	N/A	Up to \$1000
HOV Lane Access	Valid for 3 Years	Transferable*	N/A
Income Qualified Rebates			
Clean Vehicle Assistance Program (CVAP)**	\$2500 - \$5000	\$2500 - \$5000	Up to \$2000
DCAP**	\$2500 - \$5000	\$2500 - \$5000	Up to \$2000
MCEv (MCE Customers)	\$3500	N/A	N/A
Drive Forward Electric (Peninsula Clean Energy Customers)	N/A	Up to \$4000	N/A

* Income-qualifying EV buyers can apply for an HOV sticker on a used EV for an unlimited time-frame.

** Not stackable with CCFA.

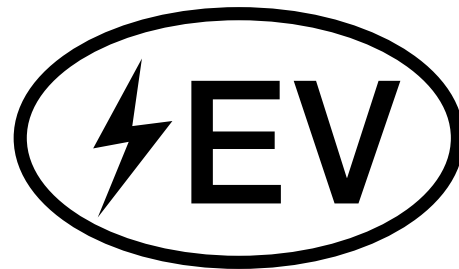




Join Our EV Community

Now that you're a proud EV driver, become a part of the Drive Clean Bay Area Community.

- [Contact us](#) to get your free EV car sticker to let others know you're driving clean.
- Join our [Facebook Group](#). Ask questions and share stories with other EV drivers.
- We're here to help. Email us with questions at info@drivecleanbayarea.org.



About Drive Clean Bay Area

Drive Clean Bay Area is a collaborative campaign to advance the adoption of electric vehicles in the Bay Area. Cool the Earth, a 501(c)3 nonprofit is operating as the backbone organization for the campaign.

Major Funders



Drive Clean Bay Area

NOTES

1. GHG Emission Inventory Graph, 2017 <https://ww2.arb.ca.gov/ghg-inventory-graphs>
2. New Data Show Electric Vehicles Continue to Get Cleaner, 2018 <https://blog.ucsusa.org/dave-reichmuth/new-data-show-electric-vehicles-continue-to-get-cleaner>
3. 10 Myths & Criticisms Of Electric Cars Explored & Exploded, 2017 <https://cleantechnica.com/2017/10/22/10-myths-electric-cars-explored-exploded/>
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5. Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure, 2019 <https://www.pnas.org/content/116/13/6001>

