

# Why Should I Buy an Electric Car?

## Clean, Quiet, and Smooth:

While a gasoline engine requires complex emission sensors and controls, as well as catalyts and a muffler to make its exhaust a bit cleaner and less noisy, an EV generates no emissions and is wonderfully quiet and smooth in comparison.

## Save the Environment:



No emissions so no air pollution, prevents global warming, conserves resources, and reduces illness and diseases.

## No Oil Changes and Limited Maintenance:

With an EV you will never have to wait in line for oil changes, experience the inconvenience of worn-out exhaust system components, radiator hoses or a serpentine drive belt, change dirty air filters, transmission filters, fuel filters or fluids, replace spark plugs, O2 sensors or radiator coolant.

## Save With Tax Credits:

You get as much as \$9,500 in federal tax credits and California rebates, plus air management and utility rebates, electric fuel use subsidies, and some local tax rebates.

## Fast and Fun:

EVs can have surprisingly brisk acceleration and speed, with many EVs reaching 60 mph in 1.9 - 5 seconds.

## Much of US Oil is Imported:

Gasoline-powered passenger vehicles account for 40% of U.S. oil consumption, with much of that oil imported. Prices are expected to skyrocket as supplies decline. In contrast, most of our electricity comes from domestic fuel sources: coal, nuclear power, natural gas, hydropower, solar, and wind. This means that the more people who choose to drive electric vehicles, the more we can reduce our addiction to imported oil.

## Energy-Efficient:

The maximum theoretical efficiency of the typical gasoline engine is about 30%, diesels are about 35% efficient, but in real-world driving conditions, both numbers drop significantly. Only a tiny fraction of the energy in a gallon of gasoline actually ends up doing useful work. The rest is wasted as heat. In contrast, electric vehicles are far more

efficient than conventional cars, where the motors exceed 90% efficiency, and their batteries are better than 85% efficient.

## Avoid Traffic Jams—HOV Access:

An EV qualifies the owner to drive solo in the HOV car pool lanes during commute hours in many areas. Stickers are now good for 3 years in California!

## Cleaner even with Coal Power Plants:

Even if all electricity for EVs came from a coal-fired grid, the power



plant's emissions still would be significantly less per mile driven than those from the average gasoline-powered vehicle. EVs recharged by electricity from California's comparatively clean power grid, produce 97% less total pollution during operation than the average CA gasoline vehicle. EVs only get cleaner with age, as generating plants are regularly updated and improved, while petroleum-fueled vehicle emissions get worse from the day they are driven off the new car lot.

### **Electricity is Publicly Regulated:**

Public and citizen involvement in pricing and rule-making is not possible with petroleum or bio-fuels.

### **Elegantly Simple Motors:**

There's just one moving part, the rotor shaft. EVs don't have engines with pistons, valves and all the seals that go bad over time. They also use a simpler electric one-speed transmission, since full torque is available instantly with an electric motor.

### **Regenerative Braking:**

Regenerative braking can recapture as much as 20% of the vehicle's range by recharging the battery during braking and downhill.

### **New Lithium Batteries:**

Recent developments of more powerful, lighter-weight, faster-charging, less expensive lithium batteries are a major breakthrough in creating EVs comparable to gasoline-powered vehicles.

### **Fast Charging Here Now:**

Most EVs have DC Fast Charge capabilities, adding 80% charge in 20 to 40 minutes. Often drivers need only 5 or 10 minutes to give them the range to get home.

### **Charging is Cheap:**

The cost of filling an EV is little more than that used to heat a pot of coffee. To charge an EV with a 100

mile range will cost between \$2 and \$3, depending on your local electric utility rates. Once the expense for rooftop solar or wind power is fully paid, EV recharging costs drop to zero, plus include additional benefits.

### **Cheaper to Maintain:**

Without having to change oil, EV owners are looking at a reduction of at least \$450 and 7.5 hours over the 10-year, 150,000-mile life of their vehicles. Many fewer moving parts and longer lasting brakes further reduce costs.

### **Make a Statement:**

Buying an electric car is a statement about your beliefs, and as such it is a much more socially important situation that simply purchasing a product. Doing something good for the Earth and our future generations gives great satisfaction and happiness.

### **No Gasoline:**

No need to stop at a gas station ever again. 90% of charging EVs is done at home.

### **EVs Can Match Lifestyles:**

Current EVs have range and performance that are suitable for most driving: city driving, commuting, delivery routes, trips of 100-350 miles per day, and locations where only zero or low emission vehicles are allowed access.

### **EVs Meet Needs of 95%:**

80% of drivers average 50 miles driving/day, with 50% driving 25 miles/day. All freeway capable EVs for sale today easily meet the daily driving requirements of 95% of drivers.

### **Batteries are Valuable to Reuse:**

Even with low value as scrap, the recycling rate for lead-acid batteries is about 98%. Li-Ion batteries are more valuable than lead. It is illegal to dispose of these batteries in a landfill and their value ensures that they are recycled or repurposed. EV batteries can also serve for 10-20 years as backup electricity storage.

### **Plug-in hybrids: First Step to EVs**

Plug-in hybrids use a gasoline engine to take over when battery packs are depleted. While recharging with gasoline is more expensive and not as clean, PHEVs offer owners the chance to drive clean daily, but use gas for long roadtrips.

