Automobiles, above all else, represent America’s addiction to dirty oil. Plug-in electric vehicles (EVs) present a critical opportunity to slash pollution, create American jobs, and reduce oil dependence.

Each year, American passenger cars and trucks spew upwards of three trillion tons of carbon pollution into the air by burning about 121 billion gallons of gasoline. These emissions are from the vehicle tailpipes and the “upstream” emissions from extracting, refining, and transporting oil on the way to our vehicles. Our dangerous dependence on oil has resulted in catastrophes like the BP spill in the Gulf of Mexico. Every day, we send upwards of $1 billion abroad to pay for oil, increasing our national debt and dependence on several nations hostile to US policies.

In recent years, the federal government has spent billions of dollars in EV programs, such as tax credits for purchases of EVs, grants to EV battery manufacturers, and charging infrastructure. Federal investment has spurred significant state and private industry investment as well. Thanks to these incentives, decreasing prices as EV technology becomes more available, and the much cheaper price of electricity vs. gasoline, the cost of operating an electric vehicle is now notably lower than that of the average gasoline-powered vehicle.

**WHAT IS A PLUG-IN ELECTRIC VEHICLE AND WHERE DO I BUY ONE?**

A fully electric vehicle uses electricity to power a battery, typically one made of lithium ion. No gasoline, no dirty oil changes, no internal combustion engine. Most new fully electric vehicles can drive 70-110 miles on one charge. An extended range electric vehicle or a plug-in hybrid electric vehicle runs on electricity for a certain number of miles, and as its battery runs out of charge a gasoline powered engine or generator kicks in.

EVs are available throughout the US, and models vary by dealership. There are currently more than 15 fully electric and plug-in hybrid vehicles available in the US, with the release of several additional models anticipated in the coming years.

**EMISSIONS COMPARISON**

According to a range of studies, the charging of an electric car leads to significantly less carbon dioxide pollution than the CO2 pollution from nearly all of today’s conventional cars in every region of the country (when doing a “well to wheels comparison”). In some areas, like many on the west and east coasts that rely on cleaner sources of power, the emissions are more than 70% lower for EVs. And that’s today. As we retire more coal plants and bring cleaner sources of power online, the emissions from electric vehicle charging drop even further.

Additionally, in some areas, night-time charging will increase opportunities for cleaner and more efficient charging. Reliance on solar power for EV charging is usually the cleanest choice.

When coal supplies the vast majority of the power in a given area (which is true in only a small number of US states), electric vehicles may emit more CO2 pollution than the most efficient hybrid electric vehicles. Learn where your electricity comes from, what plans your state or community has for shifting to renewables, and whether you have options for switching to greener power.

Visit [www.sierraclub.org/EVGuide](http://www.sierraclub.org/EVGuide) to find out information and resources in your own region.
**HOW DO I CHARGE AN ELECTRIC VEHICLE?**

Most people charge their EV at home overnight. The best method depends on how many electric miles you drive per day. A 120-volt outlet can recharge about 40 miles of electric driving overnight; a 240-volt charging unit, installed by an electrician, can recharge 200 or more miles of electric driving overnight. Drivers with short commutes and drivers of plug-in hybrids and extended range electrics, will generally be well-served by simple 120V charging. Others should consider a 240V charging station at home. Many businesses and public entities have installed 240V public chargers (thousands can be found on online maps). Along highways and at stores and offices, some businesses and agencies are installing fast-charging stations that re-charge compatible cars to 80% of battery capacity in less than 30 minutes.

**WHAT SHOULD I DO TO ADVOCATE FOR BETTER EV POLICIES?**

- Work with your Sierra Club chapter or the national campaign.
- Find other groups in your community that would consider taking action on this issue.
- Write letters to the editor, hold meetings with policymakers, and organize public events to raise public awareness and advocate for better EV programs and incentivizes (see sidebar for suggested policies).

**How do I get more information?**

Visit the Sierra Club’s interactive, online EV Guide at [sierraclub.org/EVGuide](http://sierraclub.org/EVGuide) for information about EVs on the market, EV incentives in your state, and the fueling costs and emissions you’ll avoid in your part of the country.

Sign up for EV campaign blog posts and news updates by sending an email to [electric.vehicles@sierraclub.org](mailto:electric.vehicles@sierraclub.org).

**ENDNOTES**

