Automobiles, above all else, represent America’s addiction to dirty oil. Plug-in electric vehicles (EVs), which require no gasoline and emit no pollution from their tailpipes, 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 both 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 disaster in the Gulf of Mexico, and every day, we send more than half a billion dollars abroad to pay for oil, increasing our national debt and dependence on many nations often 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 and charging units, grants to EV battery manufacturers, and charging infrastructure in pilot cities. Federal investment has spurred significant state and private industry investment as well.

**WHAT IS A PLUG-IN ELECTRIC VEHICLE?**

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 70-130 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.

**EMISSIONS COMPARISON**

According to a range of studies (see footnotes on page 2), the charging of an electric car leads to significantly less carbon dioxide pollution than the CO2 pollution from the oil of most all of today's conventional cars with an internal combustion engine 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 cleaner sources of power, the emissions are significantly 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.

A caveat to consider is that 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 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.
WHERE AND WHEN DO I BUY AN EV?
EVs are quickly becoming available throughout the US, though the models and time for delivery vary by dealership. By early 2013, the Nissan Leaf, Chevy Volt, Ford Focus EV, Ford C-Max Energi, Tesla Model S, BMW ActiveE, Toyota plug-in hybrid Prius, and the Mitsubishi i were on sale in many locations. The greater the consumer demand, the greater the eventual availability of EVs.

HOW DO I CHARGE AN EV?
Most people will charge their EV at home overnight, but thousands of public chargers have been installed in certain cities. Using a 220-volt outlet and charging unit, installed by an electrician, a plug-in hybrid recharges in about 100 minutes, an extended range plug-in hybrid electric in about four hours, and a pure electric vehicle in three to eight hours (depending on the model). A regular 120-volt wall outlet will significantly increase charging times, but for plug-in hybrids and extended range electrics, this basic outlet will likely be sufficient. Some businesses and public entities are installing 220-volt public chargers. Along highways and at stores and offices, some businesses and agencies are installing fast-charging stations that can re-charge a car to 80% of battery capacity in less than 30 minutes.

WHAT SHOULD I DO TO ADVOCATE FOR BETTER EV POLICIES?
If you sign up for our EV network, the Sierra Club will inform you when there are opportunities to advocate for policies that will incentivize EVs at the federal level (check out our web site at www.sierraclub.org/EVGuide and sign up for email updates). Most of the important advocacy and public education will take place at the local and state levels, but only with your help. The more cost-effective and convenient are the purchase and charging of EVs, the more popular they will become. Working with your Sierra Club chapter or the national campaign, find the other groups in your community that are or would consider taking action on this issue. Through letters to the editor, meetings with policymakers, electric tailgate parties, and other public events, raise public awareness and advocate to your local or state government and your area utilities for policies that will incentivize EVs (see sidebar for suggested policies).

Contact electric.vehicles@sierraclub.org for more information and resources and to keep the Sierra Club informed of your efforts, ideas, and questions.

Learn of other EV Campaign opportunities and ways to take action at www.sierraclub.org/EVGuide.

POLICIES TO ADVOCATE FOR TO INCENTIVIZE EVS
• State tax credit/rebate for purchasing an EV.
• State or utility tax credit or rebate for installing an EV charging unit.
• State tax rebate or credit for converting vehicles to plug-in.
• Local or state building code change that mandates that new construction includes EV-ready wiring.
• HOV (carpool) lane access for EVs.
• Waiver of emissions inspections or sales tax for EVs.
• Streamlined permitting process for getting EV charger units installed.
• Creation of state EV planning council.
• Smart grid planning as well as time-of-use metering programs from utilities with lower rates for off-peak EV charging and/or EV-only charging.

Visit www.sierraclub.org/EVGuide to find out existing incentives in your own region.