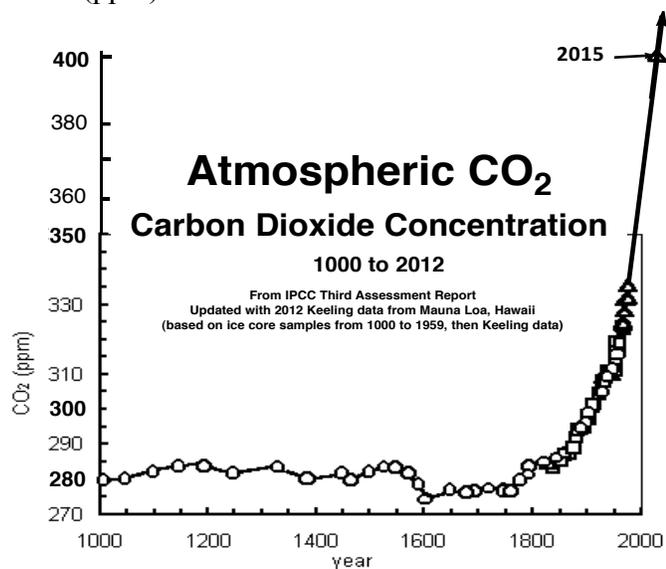


What You Can Do to Help Our Climate!

Jim Stewart, PhD., Sierra Club California Energy-Climate Committee, 213-820-4345, DrJimStewart@gmail.com

For the past million years, including the entire span of human existence, the Earth naturally maintained levels of carbon dioxide, a key protection from the chill of outer space, ranging between 200 and 300 parts per million (ppm).



But in the 1700s humanity discovered “fossil fuels,” millions of years of plant accumulations, preserved in the form of coal, oil and natural gas. We saw this as a bonanza of almost “free energy,” and have burned nearly half of those millions of years of accumulation in the last 200 years. The outcome is that these human-driven emissions of carbon dioxide (CO₂) have been far more than current plant life can absorb, increasing the worldwide atmospheric levels of CO₂ from the average of 280 ppm to over 400 ppm today, with levels increasing exponentially as shown in the chart.

The CO₂ (and other human-produced emissions of “greenhouse gases”) have drastically increased the reflective blanket around the earth, raising its temperatures and altering its climate (just as the glass roof of a greenhouse increases the inside temperature). The only way to restore earth’s previous balance is to reduce humanity’s emissions of CO₂ (and other greenhouse gases) to a level that earth’s plants can absorb, which scientists calculate at only 20% of current emission levels. This means that all emissions must drop 80%, which is an even bigger job because of population increases. Some scientists say that if this goal is achieved by 2050, we might avoid the most catastrophic effects of global warming, others say it must be reached by 2030. Others say the main effort must be to remove CO₂ through massive land reforestation plus ocean seaweed forests (www.OceanForesters.org).

The most important thing is to start now! This means every individual, family, organization, business, and government must look at their carbon footprint and make drastic reductions as fast as possible. There are many emissions calculators and carbon-offset providers, but www.carbonfootprint.com allows you to include radiative forcing on flights plus product purchases and services you consume. I also like their projects, such as “Improved Cookstoves in Uganda,” which not only reduce carbon, but also save lives.

On the back of this flyer are some ways you can reduce your carbon footprint. Going vegan is very helpful, but if you can’t go that far, at least you can stop eating beef. (Because cows burp methane as they digest grass, each pound of beef you eat has caused the equivalent of 36 pounds of CO₂ emissions, *ten times more than the emissions for a pound of chicken or fish.*)

Look at everything you do from a carbon footprint perspective. Reduce your consumption of fossil fuels in every possible way, from less driving to shorter showers to fewer airplane flights (vacation locally!). Install solar thermal panels on your roof to heat your hot water plus solar electric PV panels to power your house, charge your electric car, and send surplus electricity back into the grid. In this way you can become **carbon neutral** (in effect offsetting your net carbon dioxide emissions by 100%), or better yet, become **carbon negative**, by removing more CO₂ than your lifestyle produces. Help every business, church and organization to reduce their emissions. They could also go **carbon negative** via the many technologies available. Go to www.carbonfootprint.com (or find other offset providers at www.carboncatalog.org).

But only **massive governmental intervention** can do the job. You need to push every level of government to enforce emission reductions from industry, business, and homes. California's Global Warming Solutions Act of 2006 (AB 32) is creating a model for the nation on how to stop climate change. Your comments, emails and phone calls to the Governor, legislators, California Air Resources Board, California Public Utilities Commission, and other state agencies can make a big difference on how effectively it is implemented. Go to <http://sierraclubcalifornia.org>, click on **Take Action** to sign up for Alerts to keep informed and make your voice heard. Similarly, urge the President and U.S. Congress to take action to eliminate subsidies for oil and coal companies, and use the money for tax credits and other support for renewable energy, such as wind, solar and geothermal, as well as energy efficiency. Also push the President for enforceable international treaties plus CO₂ removal. Cities and counties should join Local Governments for Sustainability at www.iclei-usa.org.

In conclusion, first set an example by decreasing and offsetting your personal emissions, then convince your company, church, local, state, and national governments, etc. to also become carbon neutral. All of society must move to use only 100% renewable energy as rapidly as possible. **BE CARBON CONSCIOUS!**

What you can do!

- 1. Push officials at city, state and federal levels.** Go to sierraclubcalifornia.org, sign up for Action Alerts.
- 2. Reduce your transportation carbon footprint:** Drive less, carpool, take transit, bike or walk!
Only fly in emergencies. Buy an all electric car or plug-in hybrid.
- 3. Get a complete home energy upgrade,** supported by federal and state tax credits and rebates:
www.energyupgradeca.org/county/los_angeles (please register the Sierra Club code: SIE066)
- 4. Sign up for 100% Green Power from LADWP (www.GreenLA.com)** and other municipal utilities (Burbank and Pasadena, but not available from Edison).
- 5. All single family homeowners paying >\$100/month for electricity should get rooftop solar** (sierraclub.org/solarhomes).
- 6. Replace all incandescent light bulbs with compact fluorescent bulbs or LEDs.**
- 7. Save energy at home.** Lower thermostat in the winter, raise it in summer. Set hot water heater at 120°F.
- 8. Use less water.** Use low-flow showerheads and faucets. Grow only native plants (except food crops).
Capture all rainwater on site. Use a rain barrel.
- 9. Buy energy-efficient Energy Star electronics and appliances.** See www.energystar.gov.
- 10. Planting shade trees** around your house absorbs CO₂, and reduces air-conditioning bills.
- 11. 4 R's: Reduce** (buy less), **Reuse, Recycle, Re-buy** (buy recycled products in your own canvas bag).
- 12. Grow your own food,** and buy local organic produce. **Compost** your produce and garden waste.
- 13. Reduce beef consumption.** Beef & lamb make 10 times more emissions per pound than chicken & fish.
- 14. Use power strips.** Plug home electronics into power strips and turn power strips OFF when not in use.
- 15. Air-dry dishes** instead of using your dishwasher's drying heat cycle.
- 16. Dry clothes on a clothesline,** not in a dryer, whenever possible (then fluff in the dryer without heat).
- 17. Add insulation** in the floor of your attic, and house walls if possible. R-38 or 12" is recommended.
- 18. Block the sun:** Close window shades, drapes, or blinds during the day (white is best).
- 19. Use portable or ceiling fans** instead of operating your air conditioner.
- 20. Use programmable thermostat** to turn down heat & AC at night & when no one home during the day.
- 21. Use evaporation:** Consider installing a whole house fan or evaporative cooler (a "swamp cooler").
- 22. Be carbon neutral!** After maximum reductions, neutralize residual carbon output:
carbonfootprint.com