

# Scientists track your carbon footprint, step by step

May 21 2012, By Sandy Bauers

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If you're driving your SUV to the farmers market to buy local asparagus and thinking you're making a difference for the planet, - not so fast. You're focused on a detail and ignoring the gas-hogging elephant in the room.

Likewise, if you're badgering your kids to turn out the lights and the bulbs are still incandescent, you could make more progress - and probably add harmony to your household - if you replaced those old energy-sucking bulbs with efficient ones.

As the authors of a new book point out, you'd have to leave the old bulbs off three out of four days to get [energy savings](#) comparable to that of CFL or [LED bulbs](#).

The book is "Cooler Smarter: Practical Steps for Low-Carbon Living," by the Union of Concerned Scientists.

Experts at the science-based nonprofit spent two years calculating the direct and indirect [carbon emissions](#) from 500 categories of consumer activity.

"We tracked everything from clothes and cars to health care and day care," said Brenda Ekwurzel, a [climate scientist](#) and co-author of the book.

The experts found that many of the steps they recommend don't just

reduce a person's carbon footprint. "They can also improve the quality of your life, save you money and time, and even improve your health," the authors say.

Along the way, they sorted out a barrage of green advice and selected actions that deliver the biggest savings. So it's a guide to making a difference, instead of worrying about whether to use a paper towel or the electric hand dryer in a public bathroom.

Americans on average are responsible for 21 tons of [carbon dioxide](#) entering the atmosphere every year, about four times the global average. The Union of Concerned Scientists advocates a 20 percent reduction as a down payment on what many scientists say we need - an 80 percent reduction in emissions by the middle of the century.

"Whatever your view may be about climate-change projections, there are no good arguments that favor wasting energy and launching the world's climate into an uncertain future," said Neal Lane, a White House science adviser under President Bill Clinton.

Recognizing that situations are different for everyone, the book offers more of a menu than a blueprint.

But some things clearly stand out. For most Americans, what matters most is how you drive, the energy you use at home, and what you eat, in that order.

At 28 percent, personal transportation is the largest part of the average [carbon footprint](#). So unless you use public transportation, that means your car.

If you have one that gets 20 mpg - average for today's vehicles - and you replaced it with one that gets 40 mpg, you would cut your annual carbon

emissions by four tons, nearly enough to meet the 20 percent goal in just one action.

You would also save about \$18,000 on gas over the life of the car, the authors figure.

Home heating and cooling account for 17 percent of the average footprint, and the the scientists say you can make significant reductions by installing a programmable thermostat. Using one to automatically adjust the heating and cooling when you're asleep or not home can reduce energy use 15 percent a year.

Likewise, sealing leaks in floors, doors, and around windows has a big effect.

Other home energy use amounts to 15 percent of the footprint, and here - after you've replaced the light bulbs - the biggest culprit for most people is their refrigerator.

Manufacturers have achieved such remarkable efficiency gains that any refrigerator made before 2003 is probably worth replacing, said Jeff Deyette, assistant director of energy research for the Union of Concerned Scientists. With the lower electricity consumption, you can recover the cost in as little as three years.

The vampire power your cellphone charger uses when it's still plugged in? Knock yourself out by unplugging it. Any reduction is good. But if you haven't taken the big steps ... .

Now let's get to the meat of what you eat. If it's beef, back off, the experts advise.

"Our analysis showed that, by any measure, producing red meat causes

more global-warming emissions than almost any other type of food," said John Rogers, an energy analyst. A pound of beef is responsible for 18 times the global-warming emissions of a pound of pasta.

There are many reasons to support local agriculture. But if you're eating a big steak every night, that's where you should reduce.

Each American eats 270 pounds of meat a year on average. Cut that in half, and your emissions shrink three tons or more a year, Rogers said.

The book has many more tips, of course, and it can help you figure out which ones are right for you.

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