Carbon Footprint Calculator

On this and the following page you can calculate your own, personal carbon footprint. The different parts of your footprint are arranged in the same order as in the chapters of this book. The calculations will be done in pounds per year (lbs./yr.) of CO_2 emitted because the numbers will be easier to work with. When everything is added up at the end, you can then convert lbs./yr. to tons/yr. If you don't understand how to do the math, be sure to ask for help.

Footprint at Home:

Find the energy bills for your household. You probably know which of the kinds of energy listed below are used in your home. Each kind of energy is measured differently: electricity in kilowatt-hours (kWh), gas in therms, hundreds of cubic feet, or gallons, heating oil in gallons, and coal in tons. Find the part of the bill that lists the amount of energy used in terms of these units. If the bills do not give average monthly usage, take the average of several months scattered throughout the year. The numbers at the end of each equation are called conversion factors. Multiplying by them changes energy units to pounds of CO_2 and months to years.

Electricity

$$\frac{(_____ \text{kWh/mo})}{(\_\_\_\_\_ \text{people in home})} \times (21) = _____ \frac{\text{lbs.}}{\text{yr.}}$$

Gas

$$\frac{(_____ \text{therms, gal. or } 100 \text{ ft}^3 \text{/mo})}{(_____ \text{people in home})} \times (132) = _____ \frac{\text{lbs.}}{\text{yr.}}$$

Oil

$$\frac{(_____ \text{gal. /mo})}{(_____ \text{people in home})} \times (290) = _____ \frac{\text{lbs.}}{\text{yr.}}$$

Coal

$$\frac{(_____ \text{tons})}{(\_\_\_\_\_ \text{people in home})} \times (21) = _____ \frac{\text{lbs.}}{\text{yr.}}$$

Total emissions due to household energy _____ pounds/year

Food Footprint:

If you eat meat every meal, write 9000 in the space to the right. Write 8300 if you eat meat two meals a day, 7500 if you eat meat one meal a day, 6800 if you never eat meat, and 4600 if you don't eat eggs, or dairy products.   _____ $\frac{\text{lbs.}}{\text{yr.}}$

If you buy only organic produce, subtract 600 pounds.   –_____ $\frac{\text{lbs.}}{\text{yr.}}$

If you only buy locally grown food, subtract another 400 pounds.   –_____ $\frac{\text{lbs.}}{\text{yr.}}$

Total emissions due to food purchases _____ pounds/year

Carbon Footprint Calculator
(continued)

Transportation:
Car Travel

Estimate how many miles you travel in a car each year and estimate the average number of people in the car when you are a passenger. Find out the miles per gallon (mpg) rating of the car that you ride in. The mpg for any car can be found at http://www.fueleconomy.gov/Feg/findacar.htm Multiply times the conversion factor.

$$\frac{\text{(miles ridden per year)} \times (22)}{\text{(miles per gallon)} \times \text{(average number of people in car)}} = \underline{\hspace{2cm}} \frac{\text{lbs.}}{\text{yr.}}$$

Air Travel

Multiply the number of hours you spent flying over the last year by the conversion factor.

$$\text{(hours spent flying)} \times (380) = \underline{\hspace{3cm}} \frac{\text{lbs.}}{\text{yr.}}$$

Public Transport

Multiply the approximate number of miles you rode on a bus or train by the conversion factor.

$$\text{(miles on bus or train)} \times (0.24) = \underline{\hspace{3cm}} \frac{\text{lbs.}}{\text{yr.}}$$

Total emissions due to transportation _____ **pounds/year**

Everything Else:
Waste

Start with 1220 pounds and subtract 240 lbs. if you compost kitchen scraps and lawn trimmings. For recycling, subtract 140 for cans, 40 for glass, 220 for paper, and 40 for plastic.

Write the total here: _____ pounds/year

Goods and Services

Find out how much your household spends each month on everything else. Include clothing, furniture, appliances, entertainment, telephone, and healthcare. Don't include taxes or anything already accounted for. Use the formula below to find your share of this part of the footprint

$$\frac{\text{(monthly household spending)} \times (6.0)}{\text{(number of people in household)}} = \underline{\hspace{2cm}} \frac{\text{lbs.}}{\text{yr.}}$$

Emissions on Your Behalf: 3520 pounds

Total emissions due to everything else: _____ **pounds/year**

Trees

Divide the number of trees on the property where you live by the number of people in your household, multiply the result by 20 and subtract it from all the other emissions.

$$-\underline{\hspace{2cm}} \frac{\text{lbs.}}{\text{yr.}}$$

GRAND TOTAL _____ **pounds/year**

Divide the grand total by 2000 and write the answer here: _____ **tons/year**