



Carbon dioxide (CO₂) is a greenhouse gas that helps trap the sun's heat on earth, and keep our planet a comfortable temperature. Our use of fossil fuels for energy releases extra CO₂ and is causing global warming, also called climate change.

Everyone uses energy to heat their homes, for electricity and transportation. If we find out how much energy we use, we can calculate our Carbon Footprint. Your Carbon Footprint is the amount of CO₂ that is released from the energy you and your family use. On the back page, you can learn how to reduce your Carbon Footprint.

1. Heating Fuel: What type of fuel is used to heat your home?

emission factors

Heating Oil: 22.4 lb CO₂/gal, Propane: 12.8 lb CO₂/gal, Natural Gas: 12.6 lb CO₂/therm¹, Wood: 0 lb CO₂/cord*.

burning wood doesn't release net CO₂ because trees take in CO₂ when they grow

	_____	×	_____	×	12	=	_____
fuel name	gallons or therms used monthly		emission factor (look by fuel name)		months		pounds CO ₂ /year

2. Electricity Use: Check your home's electric bill for Kilowatt hours (kWh)

_____	×	<u>0.9 lb CO₂/kWh</u>	×	12	=	_____
kWh used / month (check electric bill)		Average New England emission factor		months/year		pounds CO ₂ /year

3. Transportation:

gasoline	_____ ÷ _____ × _____ × 12 = _____
	Miles driven in a month Miles / gal (mpg) <u>19.5 lb CO₂/gal</u> Gasoline emission factor pounds CO ₂ /year

diesel	_____ ÷ _____ × _____ × 12 = _____
	Miles driven in a month Miles / gal (mpg) <u>22.4 lb CO₂/gal</u> Diesel emission factor pounds CO ₂ /year

To determine mpg use the equation below or check online: <http://www.fueleconomy.gov/feg/sbs.htm>

TOTAL CARBON FOOTPRINT: _____
 (add up your total carbon footprint) pounds CO₂/year



REDUCING YOUR FOOTPRINT

You can reduce your Carbon Footprint by making small changes in the way you live your life. Small changes add up, and make a difference! If everyone reduces their footprint by 2% every year, by 2050 our emissions will be down 80%! Here's how...

Household Carbon Footprint (from front page) _____ pounds CO ₂ /year	To find 2%, multiply by 0.02 $\times 0.02 =$ _____ (this is your goal!)
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- ♦ Choose from Small Changes below, which ones might work for you?
- ♦ Place a check mark next to the actions your family could commit to.

√	Small Changes	Carbon Savings
	Cut your shower time 3 minutes every day	715 pounds of CO ₂ /year ³
	Hang your clothes to dry in warm weather	700 pounds of CO ₂ /year ²
	Put thermostat down 2° in winter, up 2° in summer.	2,000 pounds CO ₂ /year ²
	Cut 10 minutes of idling time each day	1,612 pounds CO ₂ /year ³
	Replace 2-60 watt light bulbs with CFLs	165 pounds of CO ₂ /year ³
	Turn Off/Unplug Electric Appliances:	
	Television (2.5 hours less each day)	100 pounds CO ₂ /year
	2 - 60 watt lights (2 hours less each day)	80 pounds CO ₂ /year
	Fan (8 hours less each day)	132 pounds CO ₂ /year
	Computer/Monitor (1 hour less each day)	37.7 pounds CO ₂ /year

Add up the carbon savings from the small changes you've chosen:

TOTAL REDUCTION: _____ pounds CO₂ reduced/year

Write about any problems you might have making the changes.

Can you think of ways to overcome these problems?

EXTRA

- ♦ To calculate the carbon released from home appliances - read the *watt rating* on the UL nameplate and calculate the potential carbon emissions with the equation below.

$$(\text{Wattage}) \div (1000 \text{ kW/W}) \times (\text{hours used/year}) \times (.9 \text{ lb CO}_2/\text{kWh}) = \text{pounds of CO}_2/\text{year}$$

- 1) <http://www.eia.doe.gov/oiaf/1605/coefficients.html>
- 2) <http://www.climatecrisis.net/takeaction/whatyoucando/>
- 3) Maine DEP Air Quality Bureau