

Counting Carbons

While reading the article on counting carbon, locate and record below the amount of carbon released by each of the following energy resources – Natural gas (hundred cubic feet-CCF), Electricity (kilowatt hour-KWh), gasoline/home heating oil (gallon-gal).

_____ lbs of carbon/CCF natural gas

_____ average amount of CO₂ produced by an American family

_____ lbs of carbon/KWh electricity

_____ lbs of carbon/gallon gasoline or fuel oil

Calculate Ms. Burt's carbon footprint based on the data below:

Month	Monthly Natural Gas Usage (CCF)	Average Daily Usage (CCF/days in month)	Monthly Electric Usage (kWh)	Change in Electric Usage (kWh) b/c of Solar Panels (2011-2012)	Average Daily Usage (kWh/days in month)	Monthly Gasoline Usage (gallons)
Mar-05	292		333	0		56
Apr-05	237		369	0		68
May-05	177		289	0		75
Jun-05	76		463	6		72
Jul-05	39		568	21		95
Aug-05	33		653	60		71
Sep-05	24		550	35		56
Oct-05	28		372	0		48
Nov-05	20		366	0		45
Dec-05	54		340	17		62
Jan-06	185		384	28		54
Feb-06	223		179	0		52
12 Month						

Carbon from Natural Gas	Carbon from Electricity in 2005	From Elec. In 2011	Carbon from Gasoline
_____ yearly total CCF	_____ yearly total kWh	_____	_____ yearly total gal
x _____ lbs carbon/CCF	x _____ lbs carbon/kWh	x _____	x _____ lbs carbon/gal
_____ lbs of carbon	_____ lbs of carbon		_____ lbs of carbon

2005 Annual total = _____ lbs. carbon = _____ tons
 2000 lbs. / ton

2011 Annual total = _____ lbs. carbon = _____ tons
 2000 lbs. / ton

1. Is Ms. Burt's 2005 energy usage greater or less than the average reported in the article "Counting Carbon"? What could be some possible reasons for this difference?

2. How did installing solar photovoltaic cells make a difference to her carbon footprint? Use math!

3. What are several steps that she can take to further reduce her carbon footprint?

4. What does the term "carbon neutral" mean?

5. How many walnut trees would Ms. Burt need to plant to be somewhat carbon neutral?

6. What is the difference when you count carbons between burning a renewable resource such as wood and a non-renewable resource such as gasoline?

7. In the article there were two different numbers given for the amount of CO₂ produced by burning a gallon of gasoline. Explain what is the difference between the two numbers.