Personal Energy Use Record

For this worksheet you are going to keep track of all of the energy you use in a 24-hr period. To make this simpler, you can keep track of the energy you use in your entire household. Record the number of people who live in the household and divide by that number to obtain your individual energy use.

Gasoline
At the start of the 24 hours you are recording, write down the odometer reading of your car(s). Record the odometer reading(s) at the end of the 24-hour period. Using the estimated number of miles per gallon calculate the total gasoline use for this time period. (Number of miles driven / mpg your car gets = number of gallons used, i.e., my car gets 21 miles per gallon, I drove 75 miles yesterday, so 75/21 = 3.57 gallons) \[ \text{To be more accurate, calculate your average by measuring the odometer reading at the beginning of week and dividing by the total number of days elapsed.} \]

Gallons of gasoline used in 24 hours: _______ gallons/day

Electricity
If you live in a home or apartment that has its own meter, simply start with the number of kilowatts at the beginning of the day and at the end of the day to get the total kilowatt hours used. If you live somewhere without a meter (apartment with utilities included) you may have to ask your property manager/landlord for an estimate of the buildings energy usage and estimate a number for your apartment. [To be more accurate, look at your monthly electricity bill, which lists how many kilowatt-hours you used for the month. Divide total use by the number of days to get a daily average.]

Electricity used in 24 hours: _______ kilowatt-hours/day

Heating Fuel
Depending on the fuel you use to heat your home and water, you will need to do one or more of the following: \[ \text{since you don’t use much heat in the summer, it would be more accurate to look at old energy bills and figure out your average daily use} \]

Natural Gas – Record the meter reading before and after your 24-hr period to get the total use in ccf (cubic feet of gas) or look at your monthly gas bill which lists your average use in ccf per day. (Therms are a correction factor that are equal to your total ccf times a “quality factor” (listed on your bill).)

Natural Gas used in 24 hours: _______ ccf/day (=Therms/”quality factor”)

Electricity – If you have electric heat/water, the energy you use for heat will be recorded above with the electricity you used.

Heating Oil – If you use heating oil to heat your house, you will need to make an estimate of the amount used in one day, based on your annual consumption of fuel. Try to locate an old bill and use that for your estimate your daily use.

Heating Oil used in 24 hours: _______ gallons/day
Other Energy use
If you use another form of energy during the day, try to make a record of what and how much. For example, two AA batteries in a walkman for 2 hours.

List any other forms of energy you used during the 24-hour period:

Total
To determine your total energy use for gasoline, electricity and heating oil we need to convert everything into the same units. We’ll convert everything to kilowatt-hours to get a total energy use. (**Some of these are approximate conversions.**)

Gasoline:

\[
\text{gallons} \times 37 \text{ kilowatt-hours/gallon} = \text{ } \text{ kilowatt-hours}
\]

Electricity:

\[
= \text{ } \text{ kilowatt-hours}
\]

Natural Gas:

\[
\text{ccf} \times 29 \text{ kilowatt-hours/ccf} = \text{ } \text{ kilowatt-hours}
\]

Heating Oil:

\[
\text{gallons} \times 41 \text{ kilowatt-hours/gallon} = \text{ } \text{ kilowatt-hours}
\]

Total Energy Use:

\[
= \text{ } \text{ kilowatt-hours/day}
\]

\[
\times 365
\]

\[
= \text{ } \text{ kilowatt-hours/year}
\]

“Energy Slaves”
It has been estimated that the average human can produce enough energy each day to light a 100-Watt light bulb for 8 hours, or 800 watt-hours. (Let’s round it up and say a one person can generate 1 kilowatt-hour per day.) To get an idea of how much energy you use, calculate how many “energy slaves” you would need to provide you daily energy needs, assuming all you energy came from human “slaves”.

“Energy slaves”: ________ per day