

## How Efficient is Your Home to Heat?

Heating Efficiency is a measure of the heat energy (BTUs) you put into your home each year for each square foot of heated space. This number can be compared among different homes to get an understanding of how significant your weatherization issues may be. It is a simple objective measure of efficiency

Calculations:

Determine total annual BTUs/year used to heat your home by multiplying the BTU value of the fuel(s) used by the amount of fuel used each year.

Wood	22,000,000 BTUs/cord	x	_____ cords/yr	_____
Oil	138,000 BTUs/gallon	x	_____ gallons/yr	_____
Propane	91,000 BTUs/gallon	x	_____ gallons/yr	_____
Pellets	16,000,000 BTUs/ton	x	_____ tons/yr	_____
Total	BTUs/yr			_____ (1)

Determine the square feet (sf) of heated space: \_\_\_\_\_ (2)  
 (multiply length x width for all heated spaces?)

Calculate total heat energy used (BTUs/square foot/year) (1)/(2) \_\_\_\_\_

Comparisons:

- 1) A fairly tight and reasonably well insulated house uses 40,000 BTU/sf/yr or less
- 2) The higher your number is above 40,000 the more likely you will find some low hanging fruit and the more savings you will experience. We have visited homes using from 30,000 to 140,000.

Sample Calculations:

Background Info: 2000 sf heated space, 2 cords of wood, 500gallons of oil  
 Total BTUs/year:  $2 \times 22 \text{ M} + 500 \times 0.138 \text{ M} = 44 + 69 = 113 \text{ M}$   
 BYUs/sf/year:  $113\text{M}/2000 = 56,500$

Background Info: 1850 sf heated space, 600 gallons propane, 4 tons pellets  
 Total BTUs/year:  $600 \times 0.091\text{M} + 4 \times 16\text{M} = 54.6\text{M} + 64\text{M} = 118.6\text{M}$   
 BTUs/sf/year:  $118.6\text{M}/1850 = 64,100$