



Lighting accounts for up to 10% of total home energy use.

- LED retrofits can cut that by 75%
- Translates to an overall energy reduction of 7.5% for the home

To calculate the energy saved through lighting retrofits we need:

- Number of bulbs being replaced
- Wattage of existing bulbs
- Wattage of replacement bulbs
- Usage (hrs/day)

Use this formula to calculate electrical consumption:

kwh/yr = kw x hours x 365

Kwh/yr = yearly annual consumption in kilowatt hours (kwh)

Kw = wattage of the old/new bulbs or the difference between them divided by 1000

Hours = hours per day the bulbs are energized

365 = number of days in a year

A kitchen has 6 – 75-watt incandescent floods. They are replaced with 6 – 12-watt LED bulbs. The lights are operated for about 5 hours per day. The new bulbs cost \$19.95 each. The electric rate is \$0.11/kWh.

What was the consumption and cost of operation per year for the old bulbs?

kWh/yr: _____ Cost of operation: \$_____

What will be the consumption and cost of operation for the new bulbs?

kWh/yr: _____ Cost of operation: \$_____

Calculating simple payback:

Savings/yr: \$_____ Simple payback: _____

An easier way to calculate just savings: (use watts saved in the formula instead of old/new bulb wattages)

Kwh/yr saved: _____ Savings/yr: \$_____