Energy Efficient Lighting

FACT SHEET September 2021

Lighting accounts for approximately 5-20 percent of a typical electric bill, so using energy efficient bulbs can result in big savings!

Switch to LEDs

Energy efficient bulbs can provide choices in color and light levels, save you money, use less energy, and last longer. The most popular choice is LED bulbs (Light-emitting diode). LED bulbs use 10% of the energy that an incandescent bulb uses and lasts 8 to 25 times longer. The savings from using LED bulbs can cover the cost of the bulb in as little as three months.

Be sure to look for LEDs that are Energy Star-certified to ensure that the bulbs meet quality and efficiency standards. The Energy Star label requires that LEDs last at least 25,000 hours (or 22 years) before they begin to dim and have lighting quality equal to or greater than other types of bulbs. LED bulbs also help protect the environment.

Choosing the right color

LEDs come in different light temperatures, measured by the Kelvin scale, from a warm, yellowish appearance to a cooler, almost blue light (the graphic below gives you a general idea of the colors). Warm or soft white bulbs (yellowish appearance, about 2,500-3,000 K) can be used for most indoor applications. A neutral or cool white is good for the kitchen and workspaces, and daylight bulbs (with a brightness described by Energy Star as "blue sky at noon," roughly 6,000K and up) are recommended for reading.

Check out the bulb's lumens, which is a measure of its brightness—800 lumens is the LED equivalent of a standard 60-watt bulb. More guidance on how to match the lumens to the brightness of your old bulbs: 40 watts = 450 lumens; 75 watts = 1,100 lumens; 100 watts = 1,600 lumens; 150 watts = 2,600 lumens.

Another Option: CFLs

Another option you have is CFLs (often called fluorescent bulbs). Look for CFLs labeled "warm white" or "soft white" for traditional home lighting. Similar to LEDs, CFLs use 75 percent less energy than traditional bulbs and lasts 10 times as long.

Unfortunately, compared to LEDs which contain no mercury gas, fluorescent tubes and CFL bulbs contain mercury gas which is toxic to our nervous system, lungs and kidneys. These bulbs need to be handled with care to assure they do not break. These bulbs cannot be disposed of regularly. Fluorescent tubes and CFL bulbs must be recycled properly. For the environment-friendly and health-conscious folks, LEDs may be a better choice in regards to their impact on the environment.

To compare the longterm costs of CFLs, LEDs and incandescent bulbs, consult the chart below.

Comparing the Costs: LED, CFL, and Incandescent Bulbs

	LED	CFL	Incandescent
Approximate cost per bulb	$8 or less	$2	$1
Average lifespan	25,000 hours	8,000 hours	1,200 hours
Number of bulbs needed for 25,000 hours of use	1	3	21
Total purchase price of bulbs over 23 years	$8	$6	$21
Total cost of electricity used (25,000 hours at $0.12 per kWh)	$30	$42	$180
Total operational cost over 23 years	**$38**	**$48**	**$201**