Compact Fluorescent Lights vs. Incandescent Bulbs

Compact fluorescent lights (CFLs) fill our rooms with **equal light** while using about **seventy-five percent LESS electricity**.

While CFLs cost slightly more to buy, they last longer and cost less to use, **saving over $30 over the life of the bulb**!

Why these huge differences?

Because about 90% of incandescent bulbs' energy goes into producing *heat* and only 10 % for light. The extra heat (wasted energy) of an incandescent can be felt by placing a hand above both types of bulbs and comparing.

REDUCTION in air pollutants from replacing One 60 watt incandescent bulb with a 15 watt CFL:

Sulfur Dioxide (haze; acid rain)	**3.1 pounds**
Nitrogen Oxides (ozone; acid rain)	**1.7 pounds**
Carbon Dioxide (leading greenhouse gas)	**463 pounds**

What about the quality of light from CFLs?

Due to filtering and diffusion through lamp shades, ceiling fixture globes, etc., and due to much smaller size, CFLs do not produce the harsh glare that you see from the multiple long fluorescent tubes that are typical in offices, stores, etc. The CRI (color rendering index) is a measure of the similarity to incandescent lighting; a CRI greater than 80 is sufficient for most uses. Full spectrum CFLs (CRI>90) are available for an extra cost. Color temperature is a second measure of light quality; 2700K is a warmer color light closest to incandescent and 4000-5100K is more typical of office lighting.

Where are CFLs appropriately used?

In any standard fixture, CFLs work fine, though frequent switching (operating for less than 15 minutes at a time repeatedly) should be avoided for best lamp life. CFLs tend to be larger than incandescent, but mini-spirals are available for small fixtures. Dimmable CFLs are available, as are three-way CFLs. Do not put CFLs on a dimming circuit unless they are labeled as dimmable, or their life may be drastically reduced. (Note: the dimmable CFLs may not have the range of brightness desired, so test one bulb before purchasing many.) A non-three-way CFL in a three-way fixture will require two "clicks" to turn on or off, but will not affect life. CFLs should not be operated by motion sensors due to ballast interference, and many say not to use them with automated electronic controls.

Are there any issues about disposal of CFLs?

There is a small amount of mercury vapor in all fluorescent lights. Mercury is a toxic substance but the amount in a CFL is smaller than the added mercury emissions from coal-fired power plants to supply the electricity to power an equivalent incandescent bulb. After the useful life of a CFL is over, we recommend safe recycling through hazardous waste collection facilities. Note: Cambridge accepts all types of fluorescent lights and other mercury devices for safe recycling at the Public Works drop off center 147 Hampshire St. Tues. and Thurs. 4-7:30 p.m. Sat. 9-4 p.m.

How widely available are CFLs? Where can you buy them?

CFLs are widely available and the prices have dropped. Note: Pill Hardware in Central Square, Home Depot and Whole Foods Market have been the most reliable local sources, and www.estarlights.com sells an array of standard and specialty bulbs on-line, often with utility company discounts.

(This fact sheet was adapted from energyideas.org and the Ecological Concerns Network of the Southern Appalachian Yearly Meeting and Association and edited by Green Decade Cambridge, www.greencambridge.org. September 2007)