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MAIN OFFICE:  
PO Box 100, 1000 W. Highway 92  
Kearney, MO 64060

DISTRICT OFFICE:  
425 Main Street  
Platte City, MO 64079

FOR SERVICE, PRODUCTS AND REPAIR:  
816.628.3121

ONLINE:  
[www.pcec.coop](http://www.pcec.coop)

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The quantity and quality of light in our homes determines how well we see, work, and play. Energy-efficient lighting saves you money without sacrificing quality.



## The dark side of light

### Facts you should know

Common complaints about old fluorescent lighting include humming, flickering and color appearance.<sup>1</sup> Thanks to new technology, a new generation of **compact fluorescent lightbulbs** (CFL) now meets the stringent ENERGY STAR™ standards.

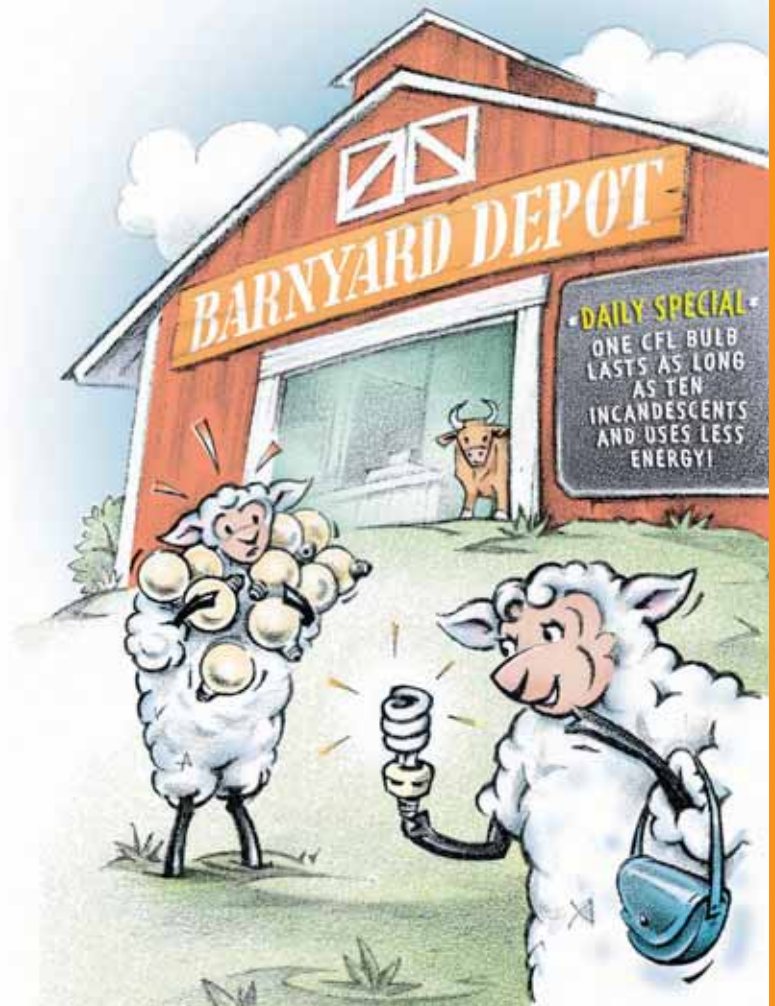
Mercury is emitted from power plants that make electricity. Since a CFL uses 75% less energy than an incandescent bulb, it **requires less electricity** to be produced and therefore, less mercury to be emitted into the atmosphere.<sup>1</sup>

If every household in the United States made the switch to **energy-efficient lighting** in just one room of their homes:

- We would save 800 billion kWh of energy annually, and keep one trillion pounds of greenhouse gases out of the air.

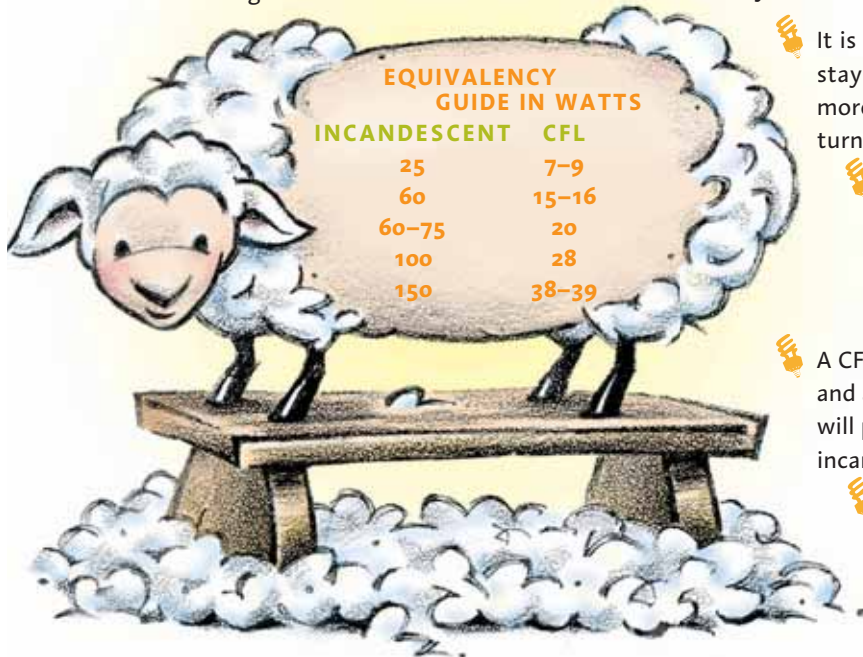
- Our annual **energy savings** could power more than 4 million U.S. homes for one year.<sup>1</sup>
- According to the Department of Energy, on average, we spend 5–10% of our electric bill on lighting for our homes. As a nation, we average \$37 billion annually!

The **purchase price** and the cost of using a lightbulb deserve equal consideration. True, you pay more when you purchase a CFL, but you save on your electricity bill over the longer life of the bulb.



# I'm ready to change... now watt?

It's actually quite easy to switch over to CFL designs. You can either **upgrade** your existing/older fixtures or you can simply **replace** some of your incandescent bulbs with CFLs. Of course, if you're building a new house you can install energy-efficient fixtures right from the start.\*



Looking to **upgrade**? If you are in the market for new lamps or new ceiling or wall-mounted fixtures, consider this:

**ENERGY STAR**-labeled fixtures use pin-based CFL technology versus standard screw-in (self-ballasted) bulbs.

- Pin-based technology advantages:
  - Longer life than CFL
  - Less ballast failures
  - Replace only lamps, not the whole ballast (which is the most expensive component)

- They come in hundreds of popular styles, including both table and floor lamps and hard-wired lights for the ceilings, walls, cabinets, and outdoor lighting.

CFL torchieres use 60 to 80% **less energy** than halogen torchieres and are safer because they **burn cooler**.

Time to **replace** some incandescent bulbs around your house? Consider using CFLs instead.

It is more beneficial to use CFLs in fixtures that stay on continually for approximately three or more hours everyday. A CFL that is frequently turned on and off will have a shorter lifespan.

Be sure that the **lumen output** (the measurement of light produced by the lamp) fits your lighting needs and that the lamp wattage conforms to the fixture specifications found on its packaging.

A CFL with a **color temperature** of 2700K and a CRI (**color-rendering index**) of 80% will provide light that is most like that from an incandescent lightbulb.





Some self-ballasted CFLs are **dimable** with standard incandescent dimmers but in order to avoid hazards, read the lamp packaging for this feature if it is needed. Some ENERGY STAR fixtures are provided with integral dimming ballasts.

Use a **three-way CFL** in three-way fixtures, as they will allow you to draw on, and pay for, only the amount of light you need.

For **recessed fixtures**, use ellipsoidal reflector CFLs (type-ER) because they have an interior reflective surface that directs more illumination down and out. **DO NOT** use a CFL without a reflector in a recessed fixture. You will not be happy with the results, as the reflector is needed to "push" the illumination out of the fixture.

## Timing is everything!

You can increase efficiency even while you're sleeping! Let technology do the work for you! Check these out:

-  **Motion sensors** are for the exterior of the house. They turn on lights when they sense movement and then turn lights off after a period of time.
-  **Occupancy sensors** activate lights when a person is in the room and then turns them off after the person leaves the room. They are excellent for bedrooms and kitchens.
-  **Photocells** turn lights on and off in response to changing natural light levels indoors and outdoors.
-  **Timers** automatically turn lights on and off indoors and outdoors.

## Take care of the environment . . .

### When it's finally time to discard your CFL

CFLs actually contain very small amounts of mercury in order to work. Be sure to properly dispose of your used fluorescent bulbs by bringing it to your local hazardous waste collection site or by sealing the bulb in a plastic bag and disposing of it with other trash.



The illustration shows a barn at night with a dog running across a field in the foreground. A pair of floodlights is mounted on the barn, casting a bright beam of light. A window in the barn shows a dog sleeping with 'Z Z Z' above it. A fence runs across the middle ground.

### Floodlights

**and spotlights** require a reflector [R] or parabolic reflector [PAR] CFL. This type of CFL produces the same wide beam of light while **saving you money**. Check the minimum operating temperature of the ballast if winters are cold where you live.

<sup>1</sup> ENERGY STAR—U.S. Department of Energy/EPA

\* Although much of the upgrades and installation work proposed in this brochure can be done by the average homeowner who reads and follows installation instructions that come with the fixtures, you may decide to hire a certified electrician for professional workmanship.