

Welcome to the Tuesday Tree Huggin' Tip!

Tip 18: Recycle CFLs

The following tip was brought to my attention by Construction Manager **Rick Harris**. Thank you, Rick for the valuable information and resource!



The author of the following tip is **Ray McLaughlin**, president of McLaughlin Electric, who has 15 years of experience in the industry. He has implemented a free program for his clients that collects CFLs, HID lamps and fluorescent lamps in the Maryland and D.C. areas and delivers them to recycling centers. Contact McLaughlin at +1-410-242-3200 or ray@mclaughlinelectric.com for more information about his free recycling program.

~~~~~



### *Energy saving properties*

CFLs have great energy saving qualities. They are currently considered the best option for large facilities. According to ENERGY STAR®, if every American home replaced just one light bulb with a CFL bulb, enough energy would be saved to light more than 3 million homes for a year and more than US\$600 million would be saved in annual energy costs. Greenhouse gases—equivalent to the emissions of more than 800,000 cars—would be prevented. CFL bulbs also use about 75 percent less energy than standard incandescent bulbs and last up to 10 times longer.

Research shows that CFL bulbs are beneficial to the environment at this level, but their proper disposal is absolutely necessary to prevent mercury contamination. When CFL bulbs break, it contaminates the soil, pollutes the water and poisons people and animals. Merely throwing the CFLs in the trash is very dangerous since most light bulbs break before they get to the landfill—exposing workers to dangerous levels of mercury.

Research has shown that mercury can be a serious threat to the health of the people and wildlife even in places that are not obviously polluted. According to the U.S. Environmental Protection Agency (EPA), mercury in the air may settle into bodies of water and affect water quality. Airborne mercury can fall to the ground in the form of raindrops, dust or simply due to gravity. It can also end up in streams, lakes or estuaries where it can harm fish and other animals. As a responsible business person, it's critical to consider the ways in which you can prevent pollution of any kind—preventing mercury contamination is a good start.

## *Stopping mercury contamination*

While some U.S. counties, cities and states have outlawed throwing CFLs in the trash, the EPA has yet to regulate it. The most effective way to reduce mercury contamination is to recycle CFL bulbs. Unfortunately, there's not a national recycling program for spent CFLs. Curbside recycling isn't effective because CFLs are too fragile and would break during pickup and emit mercury. Some companies provide CFL pickup and deliver the used bulbs to one of the three recycling centers in the United States. Until a proper system is developed for recycling, one can place used CFLs in a sealed plastic bag and store them in a padded box away from possible contact.

Since CFLs are made of glass and can break if dropped or roughly handled, it's important to be extremely cautious when removing the bulb from its packaging, installing or replacing it. Make sure to always screw and unscrew the bulb by its base—not the glass—and to never forcefully twist the CFL into a light socket. If you have a broken CFL in your facility, have everyone leave the area, open a window, and if possible, turn off central air conditioning or heating. Read the clean-up instructions on ENERGY STAR's Web site and follow the guidelines for proper clean-up.

Although it seems insignificant, a world of good comes from recycling CFLs and disposing of them properly. One must continue to keep abreast of the dangers associated with the mercury found in CFL bulbs in order to intelligently combat the problem.

## *How to Clean Up Broken CFLs*

Before clean-up: air out the room

- Have people and pets leave the room, and don't let anyone walk through the breakage area on their way out.
- Open a window and leave the room for 15 minutes or more.
- Shut off the central forced-air heating/air conditioning system, if you have one.

Cleaning hard surfaces

- Carefully collect glass pieces and powder using stiff paper or cardboard and place them in a glass jar with a metal lid (such as a canning jar) or in a sealed plastic bag.
- Use tape (such as duct tape) to pick up any remaining small glass fragments and powder.
- Wipe the area clean with damp paper towels or disposable wet wipes. Place towels in the glass jar or plastic bag.
- Do not use a vacuum or broom to clean up the broken bulb on hard surfaces.

Cleaning carpeting or rugs

- Carefully pick up glass fragments and place them in a glass jar with metal lid (such as a canning jar) or in a sealed plastic bag.
- Use tape (such as duct tape) to pick up any remaining small glass fragments and powder.
- If vacuuming is needed after all visible materials are removed, vacuum the area where the bulb was broken.
- Remove the vacuum bag (or empty and wipe the canister) and put the bag or vacuum debris in a sealed plastic bag.

Cleaning clothing, bedding and other soft materials

- If clothing or bedding materials come in direct contact with broken glass or mercury-containing powder from inside the bulb that may stick to the fabric, the clothing or bedding should be thrown away. Do not wash such clothing or bedding—since mercury fragments in the clothing may contaminate the machine and/or pollute sewage.
- You can wash clothing or other materials that have been exposed to the mercury vapor from a broken CFL, such as the clothing you are wearing when you cleaned up the broken CFL, as long as that clothing has not come into direct contact with the materials from the broken bulb.
- If shoes come into direct contact with broken glass or mercury-containing powder from the bulb, wipe them off with damp paper towels or disposable wet wipes. Place the towels or wipes in a glass jar or plastic bag for disposal.

Disposal of clean-up materials

- Immediately place all clean-up materials outdoors in a trash container or protected area for the next normal trash pickup.
- Wash your hands after disposing of the jars or plastic bags containing clean-up materials.
- Check with your local or state government about disposal requirements in your specific area. Some states do not allow such trash disposal. Instead, they require that broken and unbroken mercury-containing bulbs be taken to a local recycling center.

Future cleaning of carpeting or rugs

- Air out the room during and after vacuuming.
- The next several times you vacuum, shut off the central forced-air heating/air conditioning system and open a window before vacuuming.
- Keep the central heating/air conditioning system shut off and the window open for at least 15 minutes after vacuuming is completed.

The EPA is currently working with CFL manufacturers and major U.S. retailers to expand recycling and disposal options. In the meantime, contact your local municipal solid waste agency or go to [www.epa.gov/bulbrecycling](http://www.epa.gov/bulbrecycling) to research recycling options in your area.

~~~~~

AS we continue Operation Green Light, this resource could prove very valuable, so please keep McLaughlin in mind as you develop a clean-up and recycling protocol for your site's CFL bulbs.

Yours in crunchiness,

Angelique

Angelique Wheelock
Greening Program Coordinator
The Donaldson Group
15245 Shady Grove Road, Suite 160
Rockville, MD 20850
awheelock@thedonaldsongroup.com
<http://www.thedonaldsongroup.com>
Phone 301-251-8980, ext. 117
Fax 301-251-8940