

# Environmental Standard

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**W**elcome to the latest issue of the City of Houston's environmental e-Newsletter. We thank you for your continued interest in the activities and initiatives of the City of Houston in regards to our environment. This issue

features the following: A look at The City's Wind Power Contract, LEED Quick Start Incentive, and the new park assessment, in the news section. The special feature in this issue is an article regarding Mercury and CFL bulbs. Also, be sure to check out the Environmental Spotlight, and the previous issue report.

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## Way to Go Houston

*The City of Houston's Environmental News*

### **Wind Power Contract**

**T**he City has negotiated a contract that would allow us to purchase large amounts of renewable wind generated power, making Houston the national leader among local governments across the country using renewable energy.

The renewable wind power contract gives the City of Houston the ability to bring in up to 80 megawatts, or 700,800,000 kilowatt-hours, of renewable power, which represents 50% of the City's total power. The design of the contract includes a negotiated structure that comprises third party wholesalers, Reliant Energy, the Government Land Office, and the City of Houston to purchase wind power under a long-term contract. The strategy will be to purchase wind power in 10-

megawatt increments for 5-year terms at competitive prices.

Houston residents interested in changing their personal power source to "green energy" can go to [www.houstonconsumerchoice.com](http://www.houstonconsumerchoice.com) to look into wind power options for their own personal homes.

For further information on the City's Wind power contract, visit <http://www.houstontx.gov/environment/reports/windpowercontract.pdf>

### **LEED Quick Start Incentive**

To encourage LEED Green Building Rating System certification, the Code Enforcement division of the City of Houston offers a Quick Start service to any project, which has registered for LEED certification regardless of construction cost and/or size.

We are consistently completing all commercial plan reviews within a record setting eleven days; however the elimination of another eleven-day cycle can save interim financing and other costs for the builder. Allowing broader access to the program and rebating the additional charge is a significant benefit to those who undertake the worthy goal of LEED construction and operation.

Such an accelerated permitting process for LEED certified building, puts the City of Houston at the forefront in the green building movement. As a leader in green building, the City of Houston will continually promote the building of environmentally friendly buildings, as part of our goal to make Houston the energy efficiency capital of the world, and an environmental leader.

For further information on the City's Quick Start Incentive, visit <http://www.houstontx.gov/environment/reports/leedinhouston.pdf>

### **Green Houston**

Mayor Bill White hailed The Trust for Public Land's new survey that indicates Houston rates first among the nation's top 10 cities in total acreage of parkland and second behind only San Diego in park acreage per capita.

The findings by the Trust for Public Land indicate that of the nation's 10 most populous cities, none had more total park space than Houston with 56,405 acres. Houston's 27.2 acres per 1,000 residents ranks second only to San Diego with 35.6 acres per 1,000 residents with nearly 45,000 total acres within its limits. Houston is well over the national average of 18.8 acres per 1,000 residents. The survey includes parks operated within the city by Harris County, the Houston Parks Board, Fort Bend County, the Texas Parks and Wildlife Department and the City Parks and Recreation Department.

For more information about the City's parks, visit <http://www.houstontx.gov/parks/index.html>

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## Mercury and Compact Fluorescent Lights (CFL)

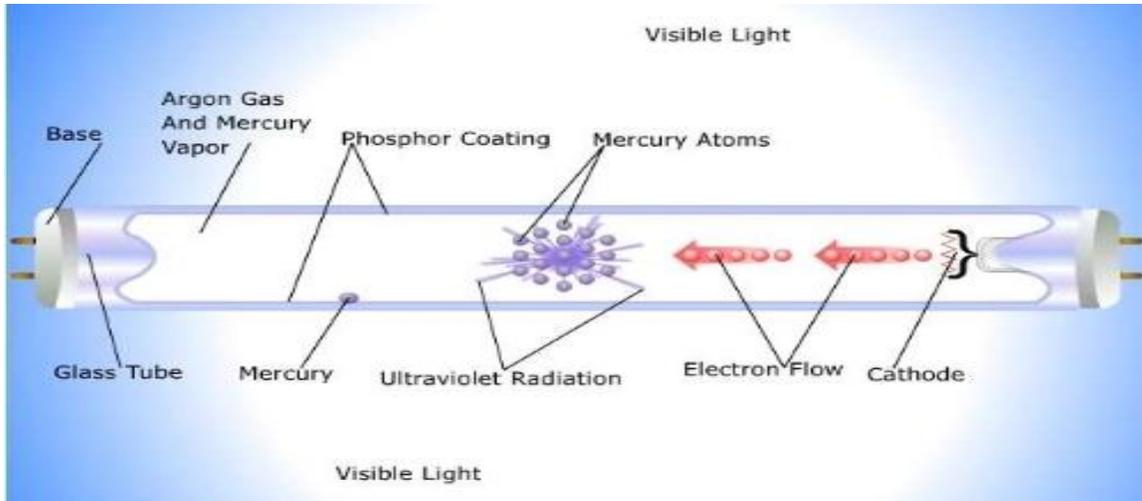
**C**ompact Fluorescent Light Bulbs (CFLs) contain a small amount of mercury. Concern over mercury found in the household is necessary because mercury is a highly toxic metal. Exposure pathways for humans include contact with the skin; breathing mercury vapors; or consuming fish with a high mercury content. Mercury is in liquid form at room temperature, but does

vaporize upon contact with air. Children are at the greatest risk from exposure, and should be kept away from exposed mercury.

CFLs contain approximately 5 mg of mercury (equivalent to an amount that would cover the tip of a ball-point pen) as compared to 500 mg for a thermometer. Electrical charge heats the mercury to gas form. The collision of

the mercury gas with phosphors powder is what allows the bulb to be an efficient light source. CFLs use about 75% less energy than a standard incandescent light bulb and last at least 6 times longer.

*\*per H-GAC: all HHW programs in the Houston area with the exception of Pearland will accept CFLs and other fluorescent bulbs for recycling.*



This is a significant energy savings given the fact that lighting accounts for close to 20% of the average home's electric bill. No mercury is released when the bulbs are intact or in use.

### Residential

CFLs for home use are not considered hazardous waste according to federal solid waste rules (per the EPA), but they are best disposed appropriately by bringing them to a household hazardous waste (HHW) collection facility. The City's two (2) HHW collection facilities accept CFLs from residents and then package them in appropriate containers. These items are then picked up by a contracted HHW company who then sends them to a mercury retorter where the mercury vapor is collected, processed and reused in the manufacture of other products. For your information, the City is charged \$1.75/pound by the HHW vendor to handle the CFLs.

The recommended action for care of CFL in a home is

- Store unused bulbs in protective packaging to prevent breakage
- Wear protective eyewear when replacing bulbs
- Recycle used bulbs at a local HHW facility

It is important to note that the amount of mercury in a CFL is very small and use of CFLs presents an opportunity to prevent mercury emissions from entering the environment because they help to reduce emissions from coal-fired power plants (which account for approximately 40% of the mercury emissions in the U.S.) When coal is burned mercury naturally existing in coal is released into the air.

The most common pathway for human exposure to mercury is through the deposition of these emissions onto bodies of water. The mercury settles along the bottom in the sediment layer.

Microorganisms turn this mercury into methylmercury. As mercury moves up the food chain it bio-accumulates in the fatty tissue of fish - the larger the fish the more mercury in the tissue. It is the methylmercury form that is able to cross tissue membranes in the body. Acting as a neurotoxin, it can cause damage to the endocrine system.

A power plant will emit 10 mg of mercury to produce the electricity to run an incandescent light bulb compared to only 2.4 mg of mercury to run a CFL for the same time period. This is a considerable reduction in mercury emissions.

### **Commercial**

Fluorescent lights generated within City facilities can be safely disposed of through vendors on contract with the City to safely handle these types of items. In fact, the Building Services Department currently uses this approach to handle fluorescent lights. With the HHW collection facilities available to residents along with contracted vendors set up to handle City generated material, we provide a responsible option for the safe handling and disposal of CFLs. The City does not currently provide solid waste service to commercial interests (per City ordinance). These companies have the opportunity to establish contracts with local HHW vendors for the safe handling of their CFLs just as the City does.

Some businesses may not realize fluorescent bulbs are hazardous; and could be unaware of being a generator of hazardous waste. The City can help provide accurate information about the proper disposal of these materials; and

promote vendors listed on the TCEQ website: [www.recycletexasonline.org](http://www.recycletexasonline.org).

### **How should I clean up a broken fluorescent bulb? (per EPA)**

- 1. Open a window and leave the room (restrict access) for at least 15 minutes.**
- 2. Remove all materials you can; DO NOT USE a vacuum cleaner.**
  - Wear disposable rubber gloves, if available (do not use your bare hands).
  - Carefully scoop up the fragments and powder with stiff paper or cardboard.
  - Wipe the area clean with a damp paper towel or disposable wet wipe.
  - Sticky tape (such as duct tape) can be used to pick up small pieces and powder.
- 3. Place all cleanup materials in a plastic bag and seal it.**
  - If your state permits you to put used or broken CFLs in the garbage, seal the CFL in two plastic bags and put into the outside trash (if no other disposal or recycling options are available).
  - Wash your hands after disposing of the bag.
- 4. The first time you vacuum the area where the bulb was broken, remove the vacuum bag once done cleaning the area (or empty and wipe the canister) and put the bag and/or vacuum debris, as well as the cleaning materials, in two sealed plastic bags in the outdoor trash or**

protected outdoor location for normal disposal.

\*(per EPA)

### **Federal and State Regulation**

1996 EPA adopts hazardous lamps under the Universal Waste rule –

See 40 CFR Part 273

Texas adopted the EPA definition of Universal Waste –

See 30 TAC Sections 335.261

Broken bulbs that do not pass the toxicity characteristic leaching procedure (TCLP) hazard standard for toxicity must be treated as hazardous waste. The TCLP regulatory limit is 0.2 mg/ L for mercury.

In the state of Texas, a generator may either cover the cost of disposal at a permitted hazardous waste landfill or

recycle the spent bulbs. Crushing lamps is permissible only under the controlled conditions described in 30 TAC Section 335.261(e). The crushing system must have the approval of the executive director of the TCEQ, and the selected crushing method must be carefully evaluated.

Any item from a household stream retains exemption from hazardous waste regulation as do conditionally exempt small quantity generators (CESQS).

### **Common Household Items and Related Mercury Content**

Many household items contain mercury; and so long as the metal is contained within a device it does not pose a health risk to humans.

*By Sarah Mason*

## **Environmental Spotlight**

Since our last newsletter we have introduced an environmental spotlight to our web page. Here we feature businesses, organizations, and individuals who have demonstrated a commitment to the environment.

Each spotlight will last about one month. In addition, in subsequent issues of the *Environmental Standard*, we will identify those who have been recognized in our spotlight since the last issue. Past businesses, organizations, and individuals who have been recognized, will have their honorable mentions saved

on our website under the environmental spotlight archives page.

The Texans at Reliant Stadium, and the Astros at Minute Maid Park, and their partner Waste Management; share our current environmental spotlight.

Last months environmental spotlight was Continental Airlines.

All environmental spotlights can be viewed on the environmental website at <http://www.houstontx.gov/environment/spotlight.html>

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## View Previous Issues of the *Environmental Standard*

 Our previous issue featured the Houston Regional Air Pollution Reduction: a voluntary plan for major sources, Recent Rankings on Houston's Sustainability, and the City of Houston's new Environment web page.

To view past issues of the *Environmental Standard*, log onto our website and select e-Newsletters from the left-hand column, from there you can select which issue you would like to view.

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Do you have an environmental question or comment for us?  
If so please email us at [envcomments@cityofhouston.net](mailto:envcomments@cityofhouston.net)