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#### LED light bulbs do least environmental harm

LED light bulbs have a slight environmental edge on compact fluorescent bulbs and both trump traditional incandescent bulbs by a wide margin, the Pacific Northwest National Laboratory says in a new report.

PNNL, a U.S. Department of Energy lab based in Richland, Wash., compared the environmental footprint of the three bulbs, including mining of raw materials, manufacturing, disposal and electricity use. It's the first public report to examine the impact of LED manufacturing in depth, the lab says.

Among the study's conclusions:

- Both LEDs and CFLs are substantially more environmentally friendly than traditional incandescent, which consume far more electricity - the dominant environmental impact. Switching away from incandescent reduces the environmental harm of lighting by three to 10 times.

- Today's LED (light-emitting diode) bulbs cause slightly less environmental harm than compact fluorescents in 14 of 15 areas studied. Those areas include global warming potential, land use and pollution of water, soil and air.

- The LED bulb's main environmental drawback is its use of an aluminum "heat sink" at the bottom of the bulb. That's because mining and processing aluminum is energy intensive and generates sulfuric acid and other hazardous byproducts.

- By 2017, LED bulbs will have half the impact of today's LED bulbs and 70 percent less impact than today's CFLs, which are not expected to change significantly. LED bulbs will become more efficient, for example, reducing energy use and cutting the heat generated and the required size of heat sinks. Next, lab researchers will study the amount of hazardous materials in the three types of bulbs -- mercury in CFLs, for example -- and whether they exceed federal and California disposal regulations. Energy Star, the federal government's program to certify energy efficient products, warns that LED bulb quality can be spotty and some manufacturers make exaggerated claims. Energy Star's light bulb page includes a list of LED and CFL bulbs that meet its quality standards.

### Electricity Pricing – Sep 11, 2012

	On-Peak	Off-Peak
2012	\$.03555	\$.02203
2013	\$.03765	\$.02427
2014	\$.03891	\$.02512

### LMP Electric Price

Time Period	Average per Kwh
Sep, 2011	\$.03058
Oct, 2011	\$.02968
Nov, 2011	\$.02816
Dec, 2011	\$.02971
Jan, 2012	\$.03043
Feb, 2012	\$.02963
Mar, 2012	\$.02894
April, 2012	\$.02659
May, 2012	\$.02816
June, 2012	\$.03089
July, 2012	\$.04303
Aug, 2012	\$.03112
Sep 1 thru Sep 10	\$.03194

### Extended Temperature Forecast:

#### Chicago Area

	Tue	Wed	Thu	Fri	Sat
High	84	88	76	69	72
Low	62	66	60	59	57

