

environmental impact of efficient lighting.

by Diana Grant



Saving lighting energy means more than just a reduction in your building's operating costs. It also means reducing your impact on the planet. Here are some of the ways lighting improvements reduce the load on the environment.

Air pollution reductions: Seattle City Light estimates 1200 pounds of CO² are saved for every megawatt hour of lighting savings. One megawatt hour is 1,000 kilowatt hours.

Above: Ross Lake in the North Cascades. Environmental stewardship is taken seriously by Seattle City Light. Photo courtesy Seattle City Light/City of Seattle.

- Estimated achievable savings regionwide in 20 years in commercial lighting = 3,066,000 megawatt hours. Potential CO² savings is 1,839,000 tons.
- Estimated achievable savings regionwide in 20 years in residential lighting = 4,642,800 megawatt hours. Potential CO² savings is 2,785,680 tons.

"Would it be great if the concept of waste was obsolete 100 years from now?"

— Denise Fong, principal of Candela Lighting Design in LD+A Magazine

Mercury:

It only takes 24 broken fluorescent lamps to pollute the fish in a 20 acre lake. This makes proper lamp disposal and using low-mercury lighting products very important. Average mer-

cury content has been reduced in lamps from 45 milligrams in 1988 to less than 3 milligrams today. EPA regulations make it illegal to improperly dispose of mercury-containing products. Do you recycle your spent fluorescent lamps? If not, check the laws in your community.

Cradle to Cradle:

What is the environmental impact of your lighting choices? Do your manufacturer choices make environmentally responsible choices when manufacturing and shipping? What are the pollution costs of shipping your luminaires, lamps and ballasts—do they come from 250 miles away or 12,000? Fuel and air pollution costs for shipping half a world away can be enormous. T5HO systems use much less material and weigh less, reducing shipping impacts, and the future impact on landfills.

new tech: small ceramic metal halide.

by Randal Smith



Above: small ceramic metal halide lamps offer new ways to think about reflector lamps. Photo courtesy GE Lighting

Traditionally, reflector lamps, specifically PAR lamps have involved a sort of sealed-beam system where the lens, socket, filament and reflector have all been considered disposal. A new generation of small, low-wattage ceramic metal halide calls some of that thinking into question.

Two lamp manufacturers, GE and Philips, have developed small bi-pin CMH lamps that can be changed when needed, but keeping the reflector, lens and all the rest of the lighting system. Besides being more environmentally responsible (see article

above) it has the potential to result in lower costs, too.

GE and Philips offer these in wattages ranging from 20W to 70W sizes. Unfortunately, not all of these pin-based lamps are compatible between manufacturers. (Come on, guys!)

Potentially, having a replacement light source means that reflectors can be more greatly optimized to the light source and more choices in beam spreads and optical performance would result.