

Sustainable Lamp Procurement



City of Los Angeles

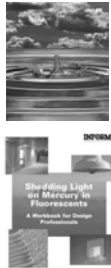
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Green Purchasing Institute

- Helps government agencies, businesses and institutions purchase environmentally preferable (sustainable) goods and services
- Extensive experience promoting procurement of high-performance, low-mercury lamps
- Co-founder of National Green Lighting Campaign



Green Lighting Policy Goals

OPTIMIZE:

- Energy efficiency
- Lamp life
- Toxicity reduction
- Recycling (convenient, private sector-financed)
- Sustainable manufacturing



Who Specifies Lamps?

- States, local governments, institutions, and businesses
 - Procurement for own operations
 - Setting standards for what can be sold in jurisdiction
- Retailers
 - Have strong influence on supply chain
- Utilities
 - Rebates
- Nonprofit organizations
 - Giveaway programs
 - Renovation projects
 - Re-lamping contracts



Opportunities for Sustainable Lamp Procurement

- Commodity contracts
 - Lighting equipment supplies (lamps, ballasts, fixtures)
 - Hardware, office and electrical supplies
 - Office furniture, appliances, electronics
- Service agreements
 - New construction
 - Renovation projects
 - Re-lamping contracts





Mercury-Added Lighting



Fluorescent

- Linear, circular & u-bent tubes
- Compact fluorescent lamps



High intensity discharge (HID) lamps




- Mercury vapor
- High-pressure sodium
- Metal Halide



Neon signs



How Does Mercury in Lamps Get Released?

- Manufacturing
 - Especially if hand dosing/liquid mercury used
- Transportation
 - Factory to retail to consumer to disposal
- Installation/storage
 - Accidental breakage 
- Disposal
 - In dumpsters, garbage cans/trucks, incinerators, landfills 
- Recycling
 - Crushing, mercury recovery, smelting 

Choose Energy-Efficient Lamps and Ballasts

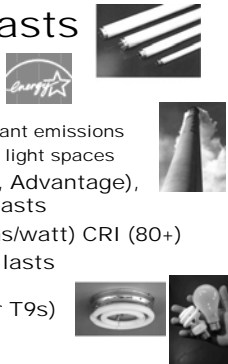
High-performance lamps:

- Reduce mercury from power plant emissions
- Decrease # of lamps needed to light spaces


Specify "Super T8s" (SPX, XPS, Advantage), T5s and "extra-efficient" ballasts

Set minimum efficiency (lumens/watt) CRI (80+)

Eliminate inefficient lamps, ballasts & fixtures from contracts (T12, mercury vapor, circular T9s)

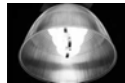


Specify Low-toxicity Lamps

- Require mercury content and lead disclosure
 - New Jersey and San Francisco
- Set mercury limits by lamp type (best-in-class)
 - Specify low-mercury models (ECO, ALTO)
 - Almost always inverse relationship between mercury and efficiency, lamp life, etc.
- Prohibit high-mercury lamp types from contracts
 - Mercury vapor, standard metal halides
 - T12s, "preheat" fluorescents, circular T9s
 - Apply to new fixtures and ballast purchases
- Specify use of safer dosing methods 

Specify Long-lasting Lamps

- Reduces number of times lamps need to be replaced
 - Particularly important in high-bay applications
- Specify lamp-life minimums (rated hours)
- Eliminate lamp types with short lamp life ("preheat" fluorescents)
- Look for long-life lamps (XL, XP, PLUS, LL)
- Consider cold-cathode CFLs, induction lamps and LEDs



Expand use of LEDs



- Exit and Business signs
- Traffic signals
- Street lights
- Night lights & pathway lighting
- Elevator lights
- Task and Track Lighting
- Replacements for CFLs
- Specialty (e.g., underwater) lighting
- Holiday lighting



Advantages & Limits of LEDs

Advantages

- Long-lasting - 25,000 to 100,000 hours
- Mercury-free
- Significantly more energy-efficient in many applications
- Directional: good for lighting specific spots
- Cost is dropping



Disadvantages

- Not as energy-efficient as some other technologies such as linear fluorescents
- Directional: not good for general illumination
- Poor color quality
- High initial cost



Why Add Recycling Language to Lamps Contracts?

- Uses market incentives to jump-start recycling
- Creates private-sector recycling infrastructure
- Saves government agencies time and money (more efficient)
- Can stimulate product (and packaging) redesign



Current Lamp Recycling Practices

- Some don't recycle
- Negotiate separate contract
 - For lamps
 - For all mercury or hazardous waste
- Use HHW program
 - Inefficient
 - Accidental breakage
- Mail-in programs (expensive)
 - Grainger RECYCLEPAK
 - Waste Management's LampTracker



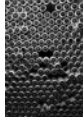
How to Incorporate Lamp Recycling into Contracts

- Require or give preference to vendors that agree to collect and recycle mercury-added lamps
 - Request recycling plan, cost info with bid
 - Give preference to vendors offering low price, convenient system(s) for lamp recycling
- Set strong standards on lamp recycling services
 - Require verification of mercury recovery
 - Electronics Recycler's Pledge of True Stewardship (avoid exporting of harm)



Challenges of Adding Lamp Take-Back to Contracts

- No manufacturer-financed program exists for lamp vendors to use (unlike programs under EPEAT)
 - Distributors will need to engage manufacturers so they can offer cost-effective recycling services
- Purchasers need help specifying and evaluating vendors' lamp recycling services
 - Certification program needed for lamp recyclers
- Need to address historical lamp waste
 - Request one-for-one recycling credit



Green Lighting Policies

- NYC adopted law directing City to set minimum efficiency and maximum mercury levels for all lamps purchased by City departments.
www.nycouncil.info/pdf_files/bills/law05119.pdf
- San Francisco's EPR policy calls on the Dept of the Environment to "help City government lead by example" ... by specifying product and packaging collection and recycling requirements, in contracts for commodities."

See [www.productpolicy.org/assets/pdf/SF_Resolution_PASSE D - EPR universal waste.pdf](http://www.productpolicy.org/assets/pdf/SF_Resolution_PASSE_D_-_EPR_universal_waste.pdf)



State of California Lamps Contract

- Established environmental and performance standards for high-volume fluorescent lamps
 - Efficiency (CRI)
 - Minimum rated life
 - Maximum mercury content (disclosure and independent verification)
- Requires all vendors to offer lamp recycling
 - Price is <\$1/lamp
See www.pd.dqs.ca.gov/contracts/62-31.htm
- California law (AB1109) will set new efficiency and mercury-content standards for all lamps sold in state.



Sustainability Guidelines for CFL Giveaways



In January 2008, Sierra Club adopted comprehensive *Guidelines for Selecting Distributing and Recycling Environmentally Preferable Light Bulbs During Mass Giveaways*



- ENERGY STAR
- Long-life (10,000 hours +)
- Preference for 3 mg or less, lead-free
- Sustainable manufacturing (encapsulated dosing)
- Recycling (preferably via retail/private sector programs)

www.sierraclub.org/policy/conservation/cfl-guidelines.pdf



Generic CFL Green Guidelines available for adoption

Questions?

Comments?