

Association of Lighting and Mercury Recyclers

A non-profit organization representing members of the recycling industry.

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NATIONAL MERCURY-LAMP RECYCLING RATE and Availability of Lamp Recycling Services in the U.S.

As a public service the ALMR publishes an annual report estimating the recycling rate and trends in lamp recycling. We collaborate with the National Electrical Manufacturers Association (NEMA) to collect data used in the report from lamp manufacturers and mercury-lighting recyclers. *We emphasize this is not a scientific survey, but it is the only collection of data available.* Lamp manufacturers and recyclers believe it is a reasonable portrayal of the national lamp-recycling rate and it is our best professional judgment of the lamp recycling market.

Background on mercury-lamp recycling in the U.S.

Technologies to reclaim mercury from spent lamps and recycle them in a safe and compliant way (i.e. by commercial recyclers) were developed in the U.S. starting in 1989. Service providers were few and from 1990 until mid-1999 the recycling rate for mercury-lamps grew to 10-12%. State regulations began to drive the market, recyclers increased, and in July 1999 EPA announced the addition of lamps to the Universal Waste Rule. As more people learned of the rules and marketing increased, lamp recycling increased to about 20% by the end of 2000. Most states adopted the UWR, many with increased stringency, and marketing continues to increase. In 2003 EPA granted funds to the ALMR to work with the states and other organizations to develop educational and outreach information on lamp recycling for the U.S. The Lamp Recycling Outreach Project is underway.

Lamp Recycling Today

In the last few years lamp recycling capacity has increased to meet anticipated demand. There are now more facilities and consolidation points, new equipment is being developed and the entire nation can now be served. Capacity still exceeds demand, due to the $\pm 76\%$ land disposal (non-recycling) rate. In some cases recyclers are operating at 1/3 of their design and permitted capacity. While the UWR has contributed to increased recycling, more outreach, education and resources are needed to change people's disposal behavior. About 22% of all lamp usage is by people who are not and may never be regulated under federal rules (e.g. residential and CESQGs). Therefore, of the 514 million lamps per year that are currently entering the solid waste stream and potentially releasing mercury into the environment, about 142 million are from residential, while 372 million are from businesses, government and institutions.

70.8% of the mercury-lamps used by business and 98% of the lamps used in homes are not being recycled. These lamps can and should be recycled! EPA has embarked on a national program to provide this information to those who can best influence the "disposal decision." Rules generally relax the regulatory standards for generators or handlers of lamps today, although Destination Facilities remain fully regulated and permits or state approvals are required.

National Mercury-Lamp Recycling Rate

	2001	2002	2003	Comments
Total Lamp Recycling facilities	41	37	37	Recycling facilities are defined here as locations that actually process spent lamps, approved or permitted by states as UWR Destination facilities.
ALMR Member recycling facilities	25	25	25	ALMR members operate from 60 locations in 27 states.
Other, non-ALMR recycling facilities	16	12	12	
Total lamps recycled (millions)	147.9	149.85	156.4	Estimated by recyclers to be 98% from business and 2% from residential (Note 1).
Lamps recycled by ALMR members	116.2	121.55	128.67	(Note 2)
Lamps recycled by other recyclers	31.7	28.3	27.73	
ALMR%	78.6	81	82.3	
Others (%)	21.4	19	17.7	
Estimated number of lamps (millions) disposed or recycled in the US	665	670	670	This number includes NEMA member company lamp sales and U.S. Census import data, allowing for time lag between purchase and disposal, using five-year average life (Note 3).
National Recycling Rate (%)	22.2	22.4	23.3	This rate is a national average for all lamps. There is no way of knowing state-specific rates because spent lamps are freely imported, exported, and are treated as interstate commerce without regulatory reporting. Some states (in particular, FL and MN) may have higher rates due to the success of local programs and multiple recyclers locally.
Estimated number of lamps disposed or recycled in the US by Businesses, Government and Institutions (millions)	525	530	525	“Business” lamp includes all lamps that are not residential (both regulated generators and some CESQGs). NEMA estimates that “business” lamps comprise 78% of all lamps used (Note 4).
National Recycling Rate for Business, Government, Institutions (%)	27.6	27.7	29.2	The “business” recycling rate is higher than the overall recycling rate due to regulations, marketing, awareness and user convenience.
Estimated number of lamps disposed or recycled by residential users (millions)	140	140	145	Except in some states, these lamps are generally exempt from regulation as hazardous waste.
Estimated Residential Recycling Rate (%)	2.1	2.1	2.1	This is consistent with the overall rate of household participation in locally sponsored collection programs.

Conclusion: Of the 670 million lamps discarded last year, nearly 156 million (23.3%) are being recycled and 76.7% are not being recycled. The business sector recycles 29%, yet only about 2% of residential lamps are recycled.

Notes:

1. There are no government data available on the number of lamps that are recycled. Most lamps are shipped using Bill of Lading, not the HW manifest, so there is no tracking system in place. Most states do not require any reporting by generators or recyclers for Universal Wastes. There is no way of sub-categorizing business lamps by “regulated” or from Conditionally Exempt Small Quantity Generators (CESQGs). Residential lamp sales are tracked separately through distribution channels.
2. ALMR members and other recyclers provide data to the ALMR on a voluntary basis. Where data are not provided volumes are estimated by using general competitive knowledge of recycling markets, public contract awards, etc.
3. The exact number of lamps used and discarded in the country varies from year to year. There are general economic trends that influence the number of lamps sold each year. Variables include lamp life, import volumes, domestic volumes, lamp types, economic conditions, energy conservation measures, etc.
4. The number of lamps recycled today has a relationship to lamps sold in the past. Lamp life varies for a number of reasons. In general, NEMA lamp manufacturers estimate that the average life of mercury-containing lamps is 5 years. On average lamps disposed in any one year were sold 4-6 years earlier. In the last few years the lamp sales have been fairly flat, due to general economic conditions. Use by households is up due to CFL sales, and business sales are down a little due to the systematic replacement of T-12s by T-8s and the longer life they give, reducing turnover.

Setting up recycling service

Recycling services are provided by ALMR member companies anywhere in the United States and its territories, Mexico and Canada. Services are available to large lamp users, small businesses, contractors, municipal government agencies and the public through household waste collection programs. Either directly or through a network of transportation contractors, material can be picked up in any U.S. community. There are also a number of lighting, maintenance and other building contractors offering to collect spent lamps and get them recycled for their customers.

Lamp collection programs can be designed for all generators.

- Small users can participate by using a “box program”, where a container is provided and when full it can be sent to any recycler via ground mail shipment. This is a prepaid program and labels and shipping papers are provided.
- Individuals and small users can also take lamps to any locally operated household waste facility in their community.
- For larger users, recyclers can arrange milk-run pick-ups and common carriers will transport lamps to accumulation facilities throughout the country, where they are consolidated for shipment to destination facilities.
- For very large generators materials can be picked up in trailer loads as needed.
- There are numerous collection locations around the country that ship large quantities of lamps to recycling “Destination Facilities” (state authorized recyclers) every day.
- Recyclers typically provide customer services and containers, and will also arrange all aspects of getting lamps recycled for anyone who is interested.

What is the ALMR?

ALMR, The Association of Lighting and Mercury Recyclers, is a non-profit organization representing members of the mercury recycling industry, and serving as an educational and informational resource to government, business and the public. ALMR members currently recycle about 82% of the mercury lamps that are diverted from the municipal waste stream.

We are committed to: 1) promoting lamp recycling for all mercury-containing lamps, 2) implementation of the federal and state-specific Universal Waste Rules for lamps, 3) helping EPA, state and local agencies with lamp diversion policies and programs, and 4) providing public information and outreach.

Information on the Lamp Recycling Outreach Project or lamp recycling locations:

www.almr.org or www.lamprecycle.org