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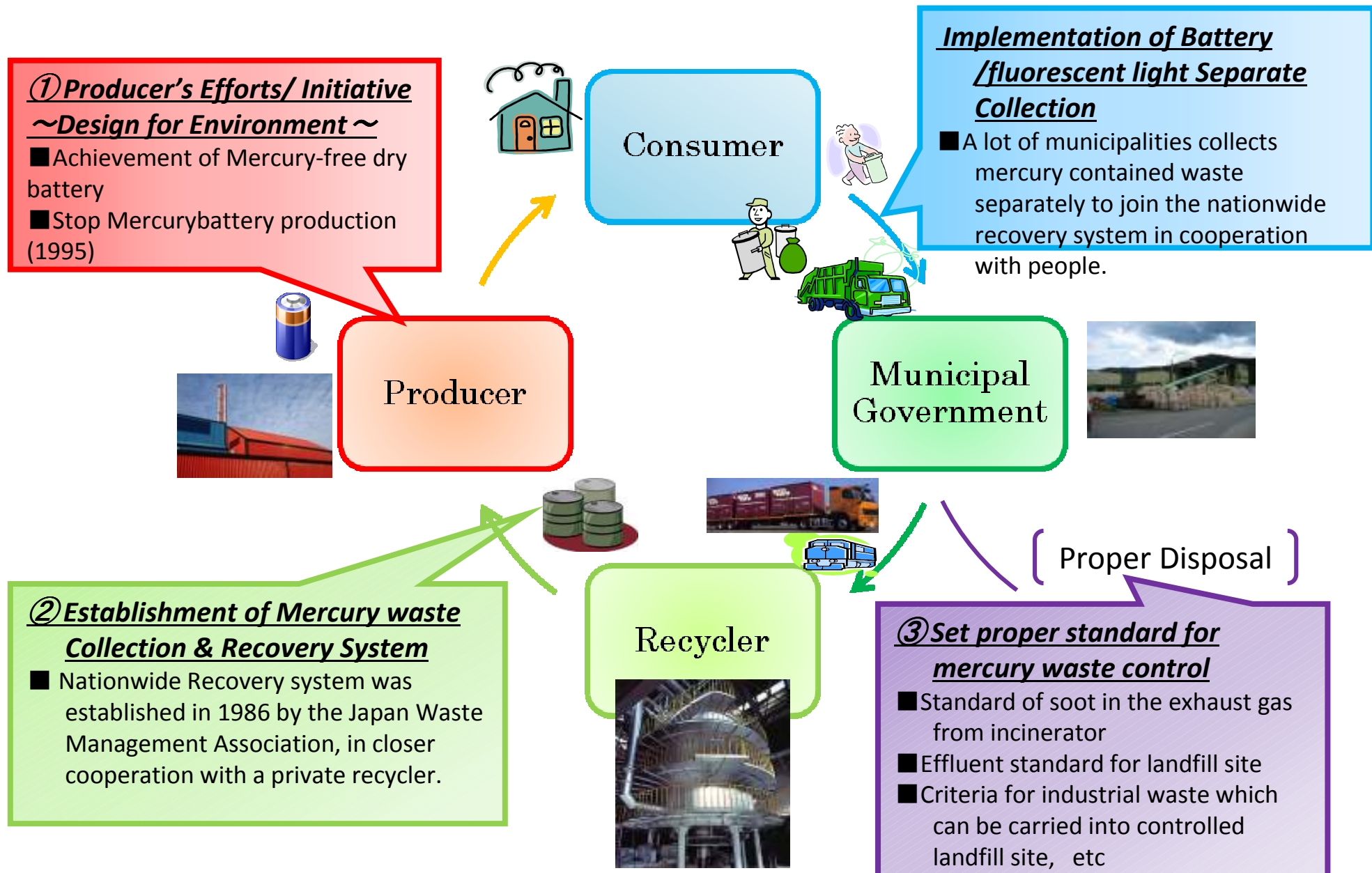


Japan's Effort in Management of Mercury Waste

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Outline of Mercury Waste Control in Japan



History of Mercury Reduction Efforts in Japan

- 1968 Minamata disease certificated as pollution- related illness
- 1973 Stop production of Mercurochrome Chlor-Alkali plant need closed-system by government (mercury method nearly 100%)
- 1983 Public anxiety on the risks of environmental pollution caused by waste battery which includes mercury through the waste treatment process
- 1986 Nation-wide collection & recycling system was established Mercury method of Chlor-Alkali plant became “ 0%”
- 1991 Mercury Free completed in Manganese Batteries
- 1992 Mercury Free completed in Alkaline Battery
- 1995 Stop production of Mercury Battery

① Producer's Efforts/Initiative

Central Government's Request to the Battery Association of Japan (BAJ) in 1984

Ministry of Health and Ministry of International Trade & Industry requested BAJ

- (1) Reduction of mercury amount for battery
- (2) Expand of voluntary-collection of battery etc.



Response by the BAJ in 1984

BAJ committed

- (1) Manufacturers of mercury battery never create new market.
- (2) Strengthening the Collection of mercury battery
- (3) Research for reduction of mercury from Alkali battery & Manganese Battery
- (4) Development of mercury-free dry battery
- (5) Research on environment risk in the soil



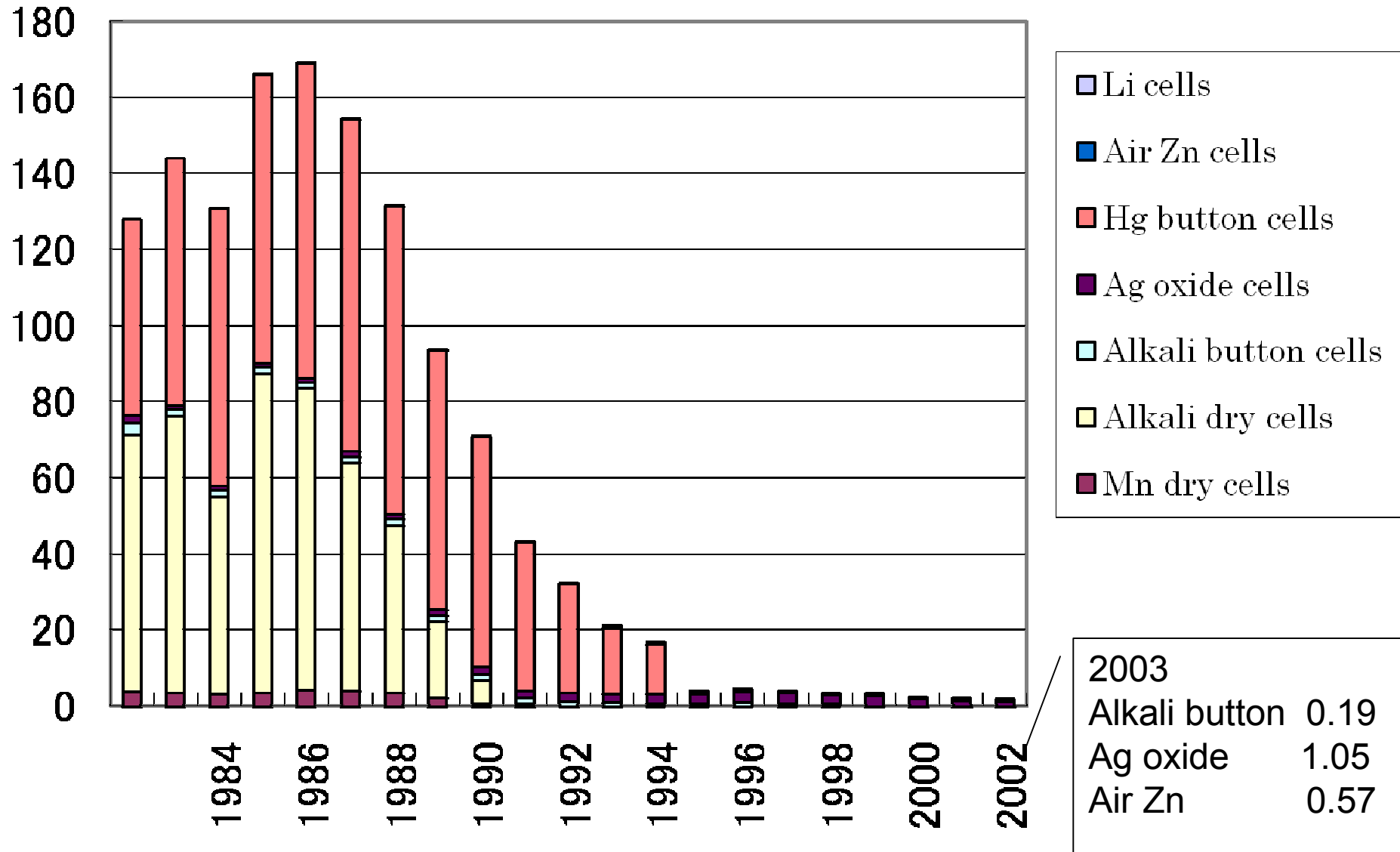
Further Achievement by BAJ

BAJ have achieved

- (1) Dry batteries without mercury by 1992
- (2) Stop of Mercury battery production in 1995

Mercury use in Batteries

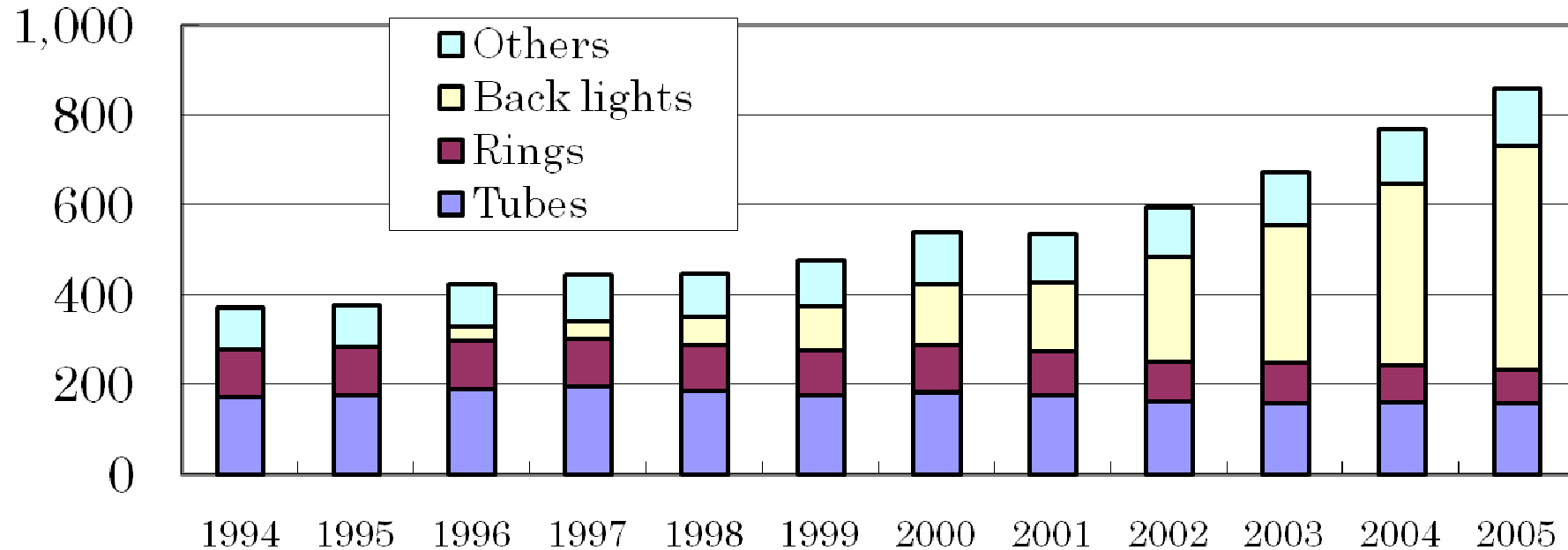
(Metric tons)



Source: Battery Association of Japan

Production of Fluorescent Lamps

(million units)



| | | 2001 | 2002 | 2003 | 2004 | 2005 |
|---------------|---------------|-------|-------|-------|-------|-------|
| Backlight | Hg [mg/unit] | 2.4 | 2.4 | 2.4 | 2.4 | 2.8 |
| | Total Hg [kg] | 362 | 562 | 745 | 985 | 1,386 |
| Others | Hg [mg/unit] | 10.6 | 9.2 | 8.5 | 8.0 | 7.5 |
| | Total Hg [kg] | 4,052 | 3,330 | 3,118 | 2,918 | 2,709 |
| Total Hg [kg] | | 4,414 | 3,892 | 3,863 | 3,903 | 4,095 |

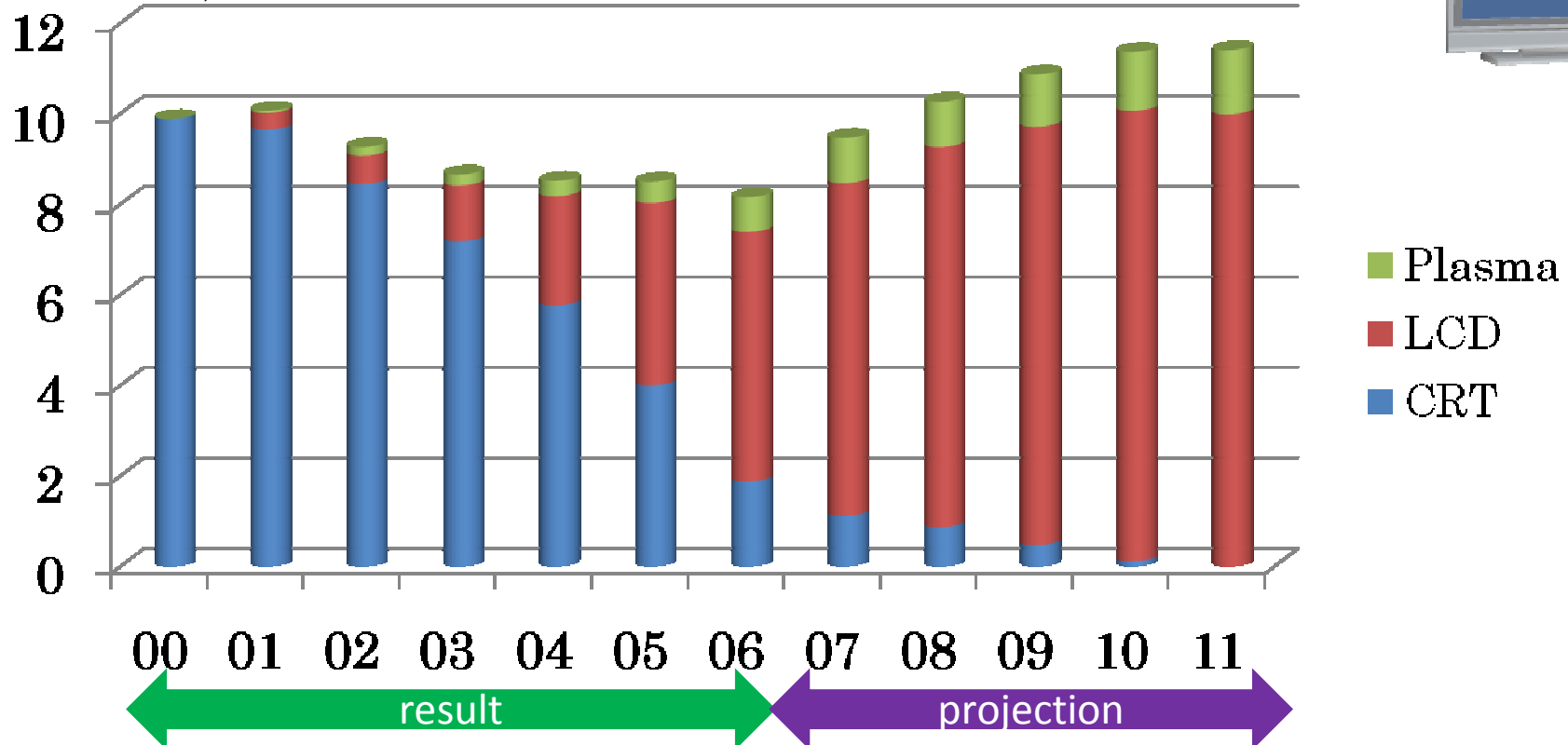
Source: Japan Electric Lamp Manufacturers Association

Mercury Collection from Backlight of LCD

- LCD collection & recycling will start from April 2009, based on “Home Appliances Recycling Law”.
- Mercury will be collected from backlight of LCD, and recovered in the proper way.

Shipment of TV in Japan

(unit: million ton)



Source: Japan Electronics & Information Technology Association

Nationwide mercury waste Battery System

Panel's Recommendation in 1985

nt Council established by Ministry of Health made a report
can be controlled as far as relevant standards under Waste
; Public Cleansing Law are observed
onwide waste battery collection & recycling system



nt Association set up the nationwide collection system in 1981

“Nationwide Waste Dry Battery Collection & Recovery Plan”.
ed “Nationwide Waste Dry Battery Collection & Recovery
hich consists of municipalities.
nt has also been collected under this framework



006)

municipalities joined the above consortium as of Mar. 2006.
f waste dry battery collected is 6,592t/yr
te fluorescent light collected is 2,588t/yr.

Source: Japan Waste Management Association

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