E-waste management in Japan
Best Practices

Daniel Ternald – UNEP IETC
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Basic Environment Law

Fundamental Law for Establishing a Sound Material-Cycle Society

Waste Management and Public Cleansing Law

Law for Promotion of Effective Utilization of Resources

<Appropriate treatment of waste> <Promotion of recycling>

Container and Packaging Recycling Law

Small Home Appliances Recycling Law

Home Appliances Recycling Law

Construction Materials Recycling Law

Food Wastes Recycling Law

End-of-life Vehicles Recycling Law

(Rules according to the Characteristics of Respective Items)

Law on Promoting Green Purchasing

Effective since Aug 1994

Jan 2001

Apr 2000

Apr 2013

Apr 2001

May 2002

May 2001

Jan 2005

<table>
<thead>
<tr>
<th>Objective</th>
<th>Legally promote ESM of E-waste and efficient use of recyclable resources</th>
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<tbody>
<tr>
<td>Mechanism</td>
<td>Introduction of responsibilities to all stakeholders:</td>
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<tr>
<td></td>
<td>• End users: payment of recycling fee</td>
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<td></td>
<td>• Retailers: collection of used home appliances</td>
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<td></td>
<td>• Manufacturers: recycling of collected appliances</td>
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<td>Targets</td>
<td>Air conditioners</td>
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<td>Televisions (CRTs, LCD/PDP TVs)</td>
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<td>Refrigerators and freezers</td>
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<td>Washing machines and clothes dryers</td>
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<td>Objective</td>
<td>Extend the coverage of the home appliance recycling law to cover other electronics as well</td>
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<td>Mechanism</td>
<td>Introduction of responsibilities to all stakeholders:</td>
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<td>• End users: Deliver the electronics to retailer or other collector</td>
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<td>• Retailers: Ensure consumers' proper processing of the electronics</td>
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<td>• Manufacturers: Reduce costs for recycling, use recycled materials</td>
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<tr>
<td>Targets</td>
<td>All household electronics except the four categories in the appliance recycling law.</td>
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E-waste recycling rate in Japan

Recycling targets
- A/C units: 60% (~2008), 70% (2009~)
- CRT TVs: 55%
- LCD/Plasma TVs: 50% (2009~)
- Fridge/freezer: 50% (~2008), 60% (2009~)
- Washer/dryer: 50% (~2008), 65% (2009~)
E-waste recycling plants in Japan (2016)

**Group A:** Panasonic, Toshiba, Corona, JVC, Daikin

**Group B:** Hitachi, Mitsubishi, Sony, Sharp, Mitsubishi Heavy Industries, Fujitsu General, Funai, Chofu

- **Group A:** 28
- **Group B:** 17
- **Other:** 2
- **Total:** 47
Flowchart of recycling plant in Japan
E-waste storage
Recycling processes

- CRT TV dismantling
- Magnetic separating
- Indoor AC dismantling
- Wet gravity separating
Fridge → Manual dismantling

Whole body → Shredding → Separating

Plastic parts → Shredding

Crushed plastic

Crashed plastic
Chlorofluorocarbon
Compressed urethane
Low-density mixed plastic
High-density mixed plastic
Iron
Copper
Aluminum

Refrigerant
Compressor

Obtained copper

Recycled resources
Tokyo 2020 Medal Project

Silver
3,500kg

Gold
32kg

Bronze
2,200kg
Thank you

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