Policy Direction on E-Waste Recycling in Korea

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The generation of E-waste in Korea has been rapidly increased, due to economic growth & shortening life span of the products.

Annual Generation of E-Wastes

- TV, Refrigerator, Washing Machine, Air Conditioner

<table>
<thead>
<tr>
<th>Year</th>
<th>1995</th>
<th>2000</th>
<th>2005</th>
<th>2010 (expected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(thousand)</td>
<td>3,800</td>
<td>5,500</td>
<td>6,800</td>
<td>9,455</td>
</tr>
</tbody>
</table>
History of Recycling Policy of E-Waste

Introduction of Waste Deposit-Refund System (1992)
- A deposit is levied on products sold for their collection and recycling, and refunded based on the amount of products recycled (TV, washing machines)

- Guideline on restriction of use of hazardous substances and recyclability rate

- Producers should recycle E-waste for themselves and report the results to the government.
E-Waste EPRS

- **Items under EPR system**
  - It began with 5 items and extend to 10 items now

<table>
<thead>
<tr>
<th>Year</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>• Refrigerators, Washing Machines, TV, Air Conditioners, PC(including Monitor)</td>
</tr>
<tr>
<td>2005</td>
<td>• Audio, Mobile Phone</td>
</tr>
<tr>
<td>2006</td>
<td>• Printers, Copy Machines, Facsimile</td>
</tr>
</tbody>
</table>
E-Waste EPRS

Player’s Role

- Respective role is assigned to each player

<table>
<thead>
<tr>
<th>Player</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producers</td>
<td>• Produce and design of recycling-friendly products</td>
</tr>
<tr>
<td></td>
<td>• Establish and manage recycling facilities</td>
</tr>
<tr>
<td></td>
<td>• Charge expenses to recycle E-Wastes</td>
</tr>
<tr>
<td>Consumers</td>
<td>• Separate discharge of the recyclable goods</td>
</tr>
<tr>
<td>Sellers</td>
<td>• Collect wasted products at no cost (in case of purchasing new product)</td>
</tr>
<tr>
<td>Local Authorities</td>
<td>• Collect wasted products</td>
</tr>
<tr>
<td>Recyclers</td>
<td>• Recycle wasted products and report the results</td>
</tr>
</tbody>
</table>
E-Waste EPRS

Outcome of EPR system

- Remarkably increase in collecting and recycling rate
  (50% increase for 3 years)

Unit: thousand
E-Waste EPRS

- **E-Waste Recycling Center**
  5 recycling centers are operating across the country
Proposed Act for Resource Recycling of Electrical/Electronic Products and Automobiles

Background: Supplementation & Extension of Existing Regulations

- Design & Production in consideration of recycling
  - Elimination of hazardous substances
  - Design of product to easy-to-dismantle
  - Use of easy-to-recycle substance

- Environmentally friendly collection, treatment & recycling
  - Systematic collection, sorting, transport of wasted product
  - Environmentally friendly pre-treatment
  - Return of environment-economic value through recycling
  - Environmentally friendly treatment of waste
Proposed Act for Resource Recycling of Electrical/Electronic Products and Automobiles

Structure of the proposed act

- The act consists of precautionary and end-of-pipe regulation along with life cycle of the product

Precautionary Reg.

- Production in consideration of recycling
- Providing recycling information

End-of-pipe Reg.

- Environmentally friendly return & recycling
Proposed Act for Resource Recycling of Electrical/Electronic Products and Automobiles

❖ Current Situation

- It is in the process of legislation and will be enforced on Jan. 2008
- Open forums and symposiums have been held for cooperation among stakeholders (producers, recyclers, NGOs)
Precautionary Regulation

Restriction on use of hazardous substances

- The use of prescribed hazardous substance in electrical/electronic products is restricted
- Concentration and exemption are the same as to EU RoHS Directive

Electrical/Electronic

- Pb, Hg, Cr6+, PBB, PBDE : under 1000ppm
- Cd : under 100ppm
Proposed Act for Resource Recycling of Electrical/Electronic Products and Automobiles

❖ Precautionary Regulation

Design of easy-to-recycle product

- At design stage, producers self-test and improve the recyclability
- The guideline about material/structure improvement should be obliged.
  
  ※ plastic material labeling, structure to easy-to-separate and dismantle

Provision of recycling information

- Producers provide recycler with recycling information to enhance recycling (internet, CD-ROM etc.)
Proposed Act for Resource Recycling of Electrical/Electronic Products and Automobiles

- **End-of-pipe Regulation**
  - The current EPR system is implemented.

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**Operating Organization**

1. Report the previous year's output
2. Notify mandatory recycling amount by item
3. Submit recycling duty implementation plan
4. Approve the plan
5. Submit the implementation report
6. Confirm the recycling performance/Charge recycling dues in case of failure of implementation
7. Pay the recycling dues

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**Producer**

- Free collection old item upon selling new one
- Conduct the recycling duty

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**PROs (Organizations of conducting producer's duty)**

- Enables to request the implementation to a PROs by joining one
- PROs represent producers in conducting all obligations when the agency contract is made
Future Agenda

Harmonization with international test/analysis methods such as EU, etc.
- Self-declaration concerning to restriction on the use of hazardous substances and standardization of test methods

Enhancement of cooperation among stakeholders
- Strengthening cooperation among government, civil society and companies for collecting E-waste
- Promoting purchase of green products

Development of recycling technology
- Technology for environmentally friendly recycling of E-Waste
Thank You