

EPR System in Korea

Department of Institutional
Management
EPR operation Team



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About Republic of Korea

- Location : North-east Asia
 - Area : 99,720km² (**109th** in the world)
 - Population : 51million(**26th** in the world)
- Korea is a relatively small country with large population and limited quantity of natural resources.
- Thus, Resource recirculation policies are indispensable for both the environment and the economic growth.



Source: Northeast Asian History Foundation, Korea

How to operate EPR system in KOREA

■ About “EPR system”

- **Extended Producer Responsibility**
 - **EPR System(2003)** : **Take-back obligation** for the items with recycling goals is **given to producers.** (7 products and 4 packaging materials)
- ➔ Focus on household waste.



How to operate EPR system in KOREA

- EPR system imposes **a certain quota for the collection/recycling of wastes** from products or packaging materials **on the producer** of the products or the producer of products that use the packaging materials.
- If the target is not fulfilled by a producer, **a fine that is greater than the cost of implementing proper recycling** shall be imposed **upon the producer**.
- The legal basis of EPR program is on "the Act on the Promotion of Saving and Recycling of Resources (Hereinafter referred to as the 'Recycling Act)", and K-eco operates the program.

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■ Items under EPR system

- As of 2017, the target items of the EPR Program consist of 4 types of packaging materials and 7 types of products.

Packages	<p>◆ Metal cans, glass bottles, carton packs, plastic packages that are used to pack Food and Beverages, Agriculture, fishery and livestock Products, Cleansers, Medicines and Cosmetics, butane gas, pesticides and germicides, apparel, paper product and rubber gloves, Lubricants, Other items. * Lubricants, Other items : plastic packaging materials only.</p> <div data-bbox="363 1818 1420 1926">  </div>
Products	<p>◆ Battery, tire, Lubricant, fluorescent lamp, Styrofoam float, etc</p> <div data-bbox="376 1998 1417 2110">  </div>

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Items under EPR system



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Items under EPR system



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Items under EPR system



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Scope of Producer

- "A Producer" refers to the **manufacturers and importers of products and packaging materials** under the EPR Program
- Importers are defined as "producers" **regardless of the ownership of trademarks.**
- Manufacturers are classified **based on the ownership of trademarks**

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■ Exemption

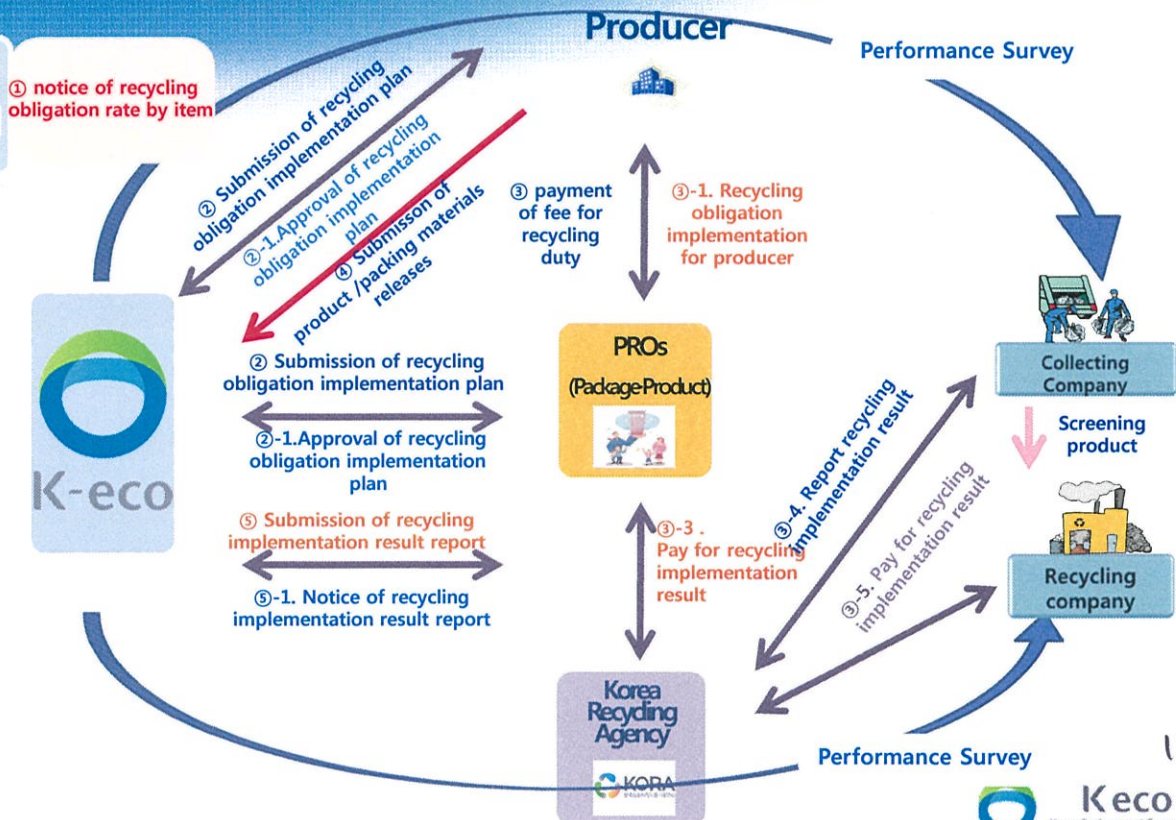
- Products : No exemption
- Packages : Small manufacturers or importers are exempted from recycling obligation.

(Example) Criteria for Producers of Packaging Materials

Type of Business	Size of Business	
	Amount of Sales or Import	Volume of Sales or Import of Packaging Materials
Manufacture and import of packaging materials made of carton packs, metal cans or plastic (synthetic resin foam excluded)	Manufacturers whose previous year revenues are KRW 1 billion or higher, and importers whose previous year revenues are KRW 0.3 billion or higher	Manufacturers whose previous year sales volumes are 4 tons or higher, and importers whose previous year import volumes are 1 ton or higher

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How to operate EPR system in KOREA



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Roles of each entity

Entity	Roles
Consumer	- Thoroughly separate and discharge recycling resources
Producer (Recycler)	- Faithfully fulfill the responsibility for recycling individually or by joining a PRO(Producer Responsibility Organization) - Operate separate recycling marking system for packaging materials to ensure separate discharge at source
Local Government	- Separate collection of target items of EPR
KECO	- Accept and approve the sales & import records and the responsibility fulfillment plan of producers - Accept the fulfillment report and verify/inspect performance - Manage administration and oversight related to EPR operation, including recycling charges
Ministry of Environment	- Operate the overall EPR Program, and enact and revise laws, regulations and guidelines. - Calculate and announce the recycling target rates for each item

Recycling methods and standards

Items	Recycling methods and standards
Carton Pack	- Make toilet paper, buffer material, paper box, recycled paper or cardboard - Export destined for recycling
Glass Bottle	- Reuse after rinsing - Make construction material, glass products, powdered glass - Export destined for recycling
Metal can	- Press or shred to make recycled raw material - Export destined for recycling
PET bottle	- Make recycled raw material - Make recycled products - Export destined for recycling, but the amount should be less than 20% of the total amount of PET bottle recycled
EPS	- Make recycled raw material - Make recycled products - Make refractory ware or fiber coated products - Export destined for recycling
Plastic packages	- Make recycled raw material - Make recycled products - Convert back to oil - Make RDF which contains more than 60% of used plastics or recover energy, but the RDF manufacturing and energy recovery should be less than 70% of the total amount of plastic packing materials recycled - Export destined for recycling - Gasification
Battery	- Take out metal material used for the chemical reaction of batteries, and safely dispose
Lubricant	- Convert back to oil
Tire	- Make simple processed products - Make recycled raw material(ex. Rubber powder) - Convert back to oil - Make methanol - Recover energy - Treat in the cement rotary kiln or make RDF, but the amount should be less than 70% of the total amount of tire recycled - Use for liner and cover material in the landfill - Export destined for recycling
Fluorescent lamp	- Make base material(ex. glass powder) for glass products, and take out contained mercury in the form of metallic mercury or mercuric compound

Recycling obligation & recycling cost(2011)

Items		Recycling Target Rate	Recycling cost	
Packages	Carton pack	0.350	185/kg	
	Glass bottle	0.763	34/kg	
	Can	Iron can	0.808	87/kg
		Aluminum can	0.797	151/kg
	Plastic Package	PET bottle	0.818	178/kg
		Colored PET bottle	0.818	235/kg
		Mixed material PET bottle	0.830	360/kg
		EPS	0.807	317/kg
		PSP	0.423	327/kg
		PVC	0.733	981/kg
	Plastic container and tray	0.796	327/kg	
	Film and sheet type plastic materials	0.653	467/kg	
	Lubricant container	0.790	327/kg	
	Products	Lubricant	0.730	20/liter
Tire		0.767	30/kg	
Fluorescent lamp		0.356	143/product	
Styrofoam float		0.281	627/kg	
Battery		Mercury battery	0.600	39.6/g
		Silver oxide battery	0.670	35.5/g
		Lithium battery	0.726	0.8/g
		Nickel-cadmium battery	0.403	0.78/g
		Manganese battery	0.216	0.35/g
		Nickel-hydrogen battery	0.207	0.16/g
film for Bale Silage		0.300	527/kg	
drying screen of laver	0.798	545/kg		

Formula for calculating the recycling target

- Previous year's recycling rate + (Long term recycling rate – Recycling rate of the previous year) × **Reflection coefficient** + **Adjustment coefficient**
- **Reflection coefficient** gradually increases from 20% in the first year to 100% in the fifth year.
- **Adjustment coefficient** takes into account the capacity of recycling facilities, development of recycling technology, life cycle of products and so on.

Formula for calculating the recycling charge

- Unfulfilled amount × **Standard recycling fee** + **Additional charges**
- Standard fees** are set out in the “recycling act”.
- Additional charges** are differentiated according to the unmet portion
* range from 115% to 130% of the recycling fees

As a result,

Contribute to National Policy's Attainment



Emission quantity
per capita

Amount of Recycling
per capita

As a result,

■ Create Economic Values

(since 2003)

- Economic values of recyclable materials



4 billion USD

- Reduce Incineration costs and Landfill costs



-4 billion USD

- Creation of employment



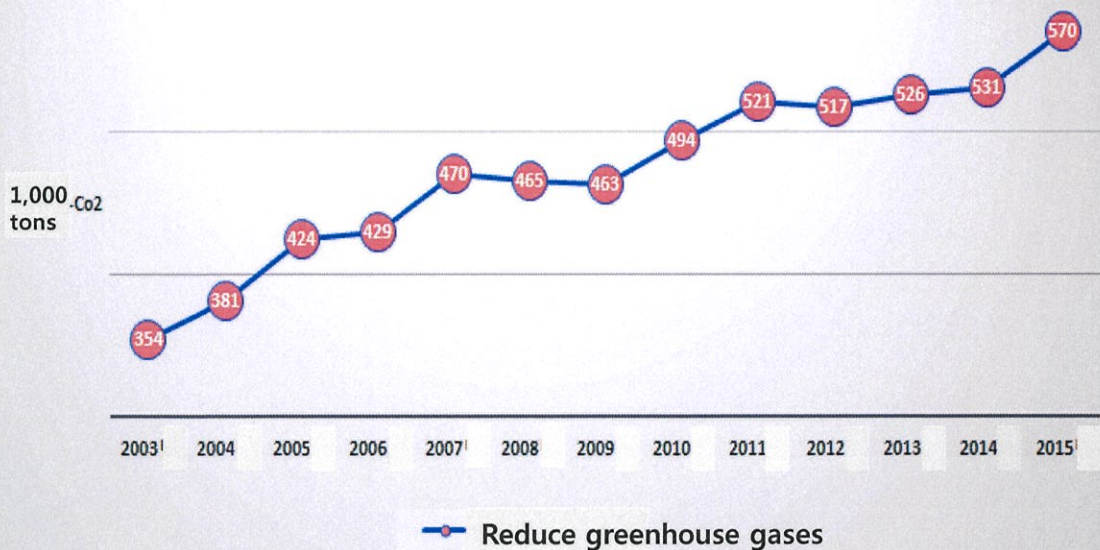
13,505 (1,038 per year)

As a result,

■ Reduce Greenhouse Gases

6,145,000 CO₂

18,081,000 tons



conclusion

- Korea's Recycling policies have played an important role in reducing waste production at source and promoting the circulation of recyclable resources.
- In order to operate the System more effectively, all entities need to be encouraged to participate in the Program voluntarily and actively.
- To this end, the government, businesses and the recycling market must complete the development of a systematic cooperation system.

Thank you

