

## Expanding Producer Responsibility for Waste Management in Korea

### *From the Deposit Refund System to Extended Producer Responsibility*



#### PROJECT DATA

##### PARTNER ORGANIZATION:

KDI School of Public Policy and Management

##### REGION:

East Asia

##### ORGANIZATION TYPE:

Academic

##### PROJECT DURATION:

1992–2010

##### DEVELOPMENT CHALLENGE:

Waste Management

##### DELIVERY CHALLENGE:

Overambitious Goal, Weak Private Sector

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##### SECTOR:

Environment

##### COUNTRY:

Republic of Korea

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## Abstract

This study examines the expansion of the role of the producers of recyclable goods in the arena of Korean waste management between 1992 and 2010. In the late 1980s, increasing waste generation became a serious problem in Korean society. To initiate recycling activities, the producer-based Deposit Refund System (DRS) was introduced in 1992. The major feature of DRS was a combination of a deposit on sales of recyclable products with a refund upon proper recycling. The refund was expected to function as an economic incentive for increased recycling. However, under DRS the recycling performance of producers was limited because of the low deposit rate and the lack of recycling infrastructure. To overcome the shortcomings of DRS, the Extended Producer Responsibility (EPR) program replaced DRS in 2003. Under EPR, a mandatory recycling rate was imposed on producers and the recycling rate steadily increased. This study traces the transition from DRS to EPR and explains how the delivery challenges of DRS were addressed with the implementation of the EPR program.

## Introduction

Waste management is a common social problem and an important development challenge in many developing countries. As economic activities expand, waste

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generation increases sharply, and waste management becomes a public concern.<sup>1</sup> Central and local governments initiate policies and build social infrastructure (e.g., incinerators) to handle waste, while citizens and the private sector also have a role to play, such as taking part in recycling efforts. The government designs and enforces a policy, but the key to policy success is the contribution of citizens and the private sector.

In the beginning of the 1990s, Korea faced an increasing waste problem. The Korean government adopted a wide range of policies to deal with this emerging issue (Table 1). This study focuses on two of these policies: the producer-based Deposit Refund System (DRS), introduced in 1992, and Extended Producer Responsibility (EPR), which replaced DRS in 2003. The goal of both policies was to increase the role of producers in recycling. In both cases, producers were encouraged to collect and recycle their products once they were disposed of by consumers, but the two policies incentivized producers in different ways.

The producer-based DRS utilized an indirect economic tool: a deposit. These deposits, which were paid by producers when they released products to the market were refunded when the product was recycled, and functioned as an economic incentive. Unfortunately, the overall recycling performance under DRS was lower than expected. The main delivery challenges were an overambitious goal and a weak private sector. Setting a proper deposit rate is essential to implementation of a DRS. In this case, the deposit rate was insufficient to motivate producers to opt in. Also, the poorly developed recycling industry was a critical obstacle to further success.

In 2003, EPR was introduced to overcome the shortcomings of DRS. Unlike DRS which gave economic incentives to producers who recycled their products, EPR was a compulsory recycling regulation. Each producer was allocated a recycling target, which consisted of a certain percentage of whole sales volume in domestic market for the year. The quota was dependent on market share, and was assigned to individual manufacturers and importers. EPR not only made a significant difference in the total volume of recycling, which reached 1,384 thousand tons by 2007—an increase of 148 percent compared to 2002<sup>2</sup>—but also created an atmosphere of greater stability in the recycling industry that had previously not been achieved under DRS. This case

**Table 1 Introduction of Waste Policies in Korea**

1992	Producer-Based Deposit Refund System
1993	Waste Charge System
1993	Restriction of Use of Disposable Products
1995	Volume-based Waste Fee
2002	Voluntary Agreement for Disposable Products
2003	Extended Producer Responsibility
2008	Eco-Assurance System

study traces the transition from the producer-based DRS to EPR, and explains how the delivery challenges confronting DRS were solved with EPR.

## Contextual Conditions— The Emergence of the Waste Management Issue in the Late 1980s

After the end of the Korean War in 1953, almost no industry was left in the Republic of Korea; by 1960, GDP per capita was slightly over US\$150 (World Bank).<sup>3</sup> However, beginning in the early 1960s, Korean society underwent rapid industrialization, leading to significant economic growth and overall enhanced living standards. In the late 1980s, GDP per capita reached US\$5,000 and waste generation emerged as a public issue for the first time. The Nanji landfill, which had been sufficient for disposing of waste from the capital city of Seoul and the surrounding area since 1978, was projected to become oversaturated in 1993.<sup>4</sup> Selecting a new location for facilities to substitute for the Nanji landfill became a controversial social issue, with residents of proposed landfill areas objecting to the creation of these facilities close to them—known as the NIMBY (Not In My Back Yard) response. As public debate spread, the public became more aware of the need to explore new ways to manage the ever-growing waste problem.

1 Ministry of Strategy and Finance and KRIHS. (2012).

2 Ministry of Environment. (2010).

3 World Bank data.

4 Yoo 2014.

In response to the social turmoil caused by increasing waste and the debate over how to deal with it, the government began to introduce a comprehensive legal framework for waste management. First, in 1986, the Waste Management Act was enacted. This legislation built a solid foundation for the future of waste management, as it categorized different types of waste and clarified the responsibility of managing each type of wastes. Secondly, to establish the principles for resource circulation, the Act on the Promotion of Saving and Recycling of Resources was enacted in 1992. This act set restrictions on packaging and disposable items and provided the basis of the producer-based DRS.

Based on this legal framework, a wide range of policies put in place (Table 1). Of great impact was the Volume-based Waste Fee System for Municipal Solid Waste (VWF), which led to significant changes in Korean society.<sup>5</sup> The VWF used a “pay as you throw” principle on all household waste, requiring all households to use a designated plastic bag with an easily distinguishable design. These could be purchased in grocery stores, and the VWF mandated that only the waste in this plastic bag would be collected by the local government. For recyclables such as paper, metal, and polyethylene terephthalate (PET), the designated bag was not required, but these recyclables were required to be separated from other waste. At first, VWF created confusion among the public, but over time, it has led to the routine daily sorting and separating recyclables for most Korean households.<sup>6</sup>

While VWF targeted households, other policies targeted producers. Producer-based DRS (1992–2002), EPR (2003–ongoing), and the Eco-assurance system (2008–ongoing) all expanded the producers’ role in enhancing resource efficiency through the entire lifecycle from product design to recycling. But VWF tackled the waste problem at the level of individual consumers. More extensive actions were possible from policies that encouraged participation of producers. Producer-targeted policies were used for producers who use packing and containers for their products, and who fabricate products that need specialized treatment in their recycling processes. These policies required the optimization of the use of raw materials in initial fabrication, and producers of products fabricated with special technologies or complicated materials

are required to decompose or recycle them in an appropriate manner, since they best equipped to do so. Consequently, these policies enabled producers to reduce waste generation from the pre-production stage to the distribution stage.

## Tracing the Implementation Process

Two generations of policies were introduced by the Korean government to address the growing issue of waste build-up.

### Introduction of Producer-based DRS

Producer-based DRS uses economic incentives to encourage producers to recycle their own products. The policy imposed a deposit at a certain rate on the producers. When producers collected and recycled their disposed products properly, they received a refund on their deposit. It was essentially a combination of a disposal fee on producers’ waste, and subsidies for submitted recyclables. Producers were likely to recycle if the recycling cost was lower than the deposit rate, but if the recycling cost was higher than the deposit rate, they would forgo the refund of the deposit, and simply not recycle.

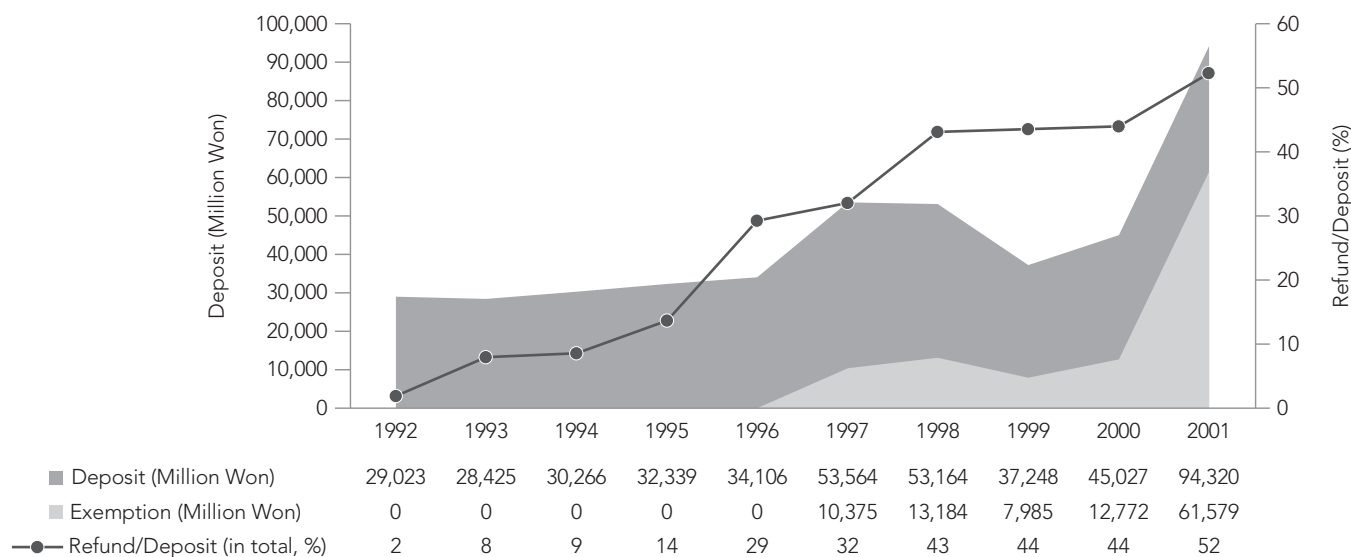
### Implementation

In January 1992, the Waste Management Act and the Act on the Promotion of Saving and Recycling of Resources legislated producer-based DRS. Under DRS, producers of specific products and packaging were required to deposit with the regional offices of the Ministry of Environment an amount corresponding to their items’ recycling cost; and the collected deposits were then reimbursed according to the amount recycled by the producer each year. The target products were packaging (paper, metal, glass, PET), tires, lubricants, large home appliances, and batteries, though there were several adjustments of the products covered by the policy throughout its implementation. The deposit rate, a key element of the DRS, was set relatively low. Although there were several instances of the rate being raised, the actual recycling costs were not fully applied to the deposit rate.<sup>7</sup> In 1997 the deposit was partially exempted when producers built

<sup>5</sup> Park 2018.

<sup>6</sup> Lee et Paik 2010.

<sup>7</sup> Hong et Park.(1997). Chang et al.(1999).

**Figure 1 Changes in Deposits and Ratio of Refund to Deposit Under DRS**

or operated a nationwide take-back or recycling facility, as a part of a voluntary agreement policy that encouraged producers to invest in recycling systems.

## Outcome

After the introduction of the DRS policy, both total deposits and the ratio of refunds to deposits showed a steady increase (Figure 1). In 1992, the ratio of refunds to deposits was only 2 percent but increased continuously before leveling off at 43–44 percent in 1998. In 2001, just before the introduction of the EPR policy, the ratio rose to 52 percent. Changes in total deposit were affected by an increase in total production, the adjustments in the deposit rate, and newly added target items. The overall total deposit increased under DRS. In 2001, as the voluntary agreement policy became popular, the amount of exemptions exceeded about 50 percent of the total deposit.

## Delivery Challenges

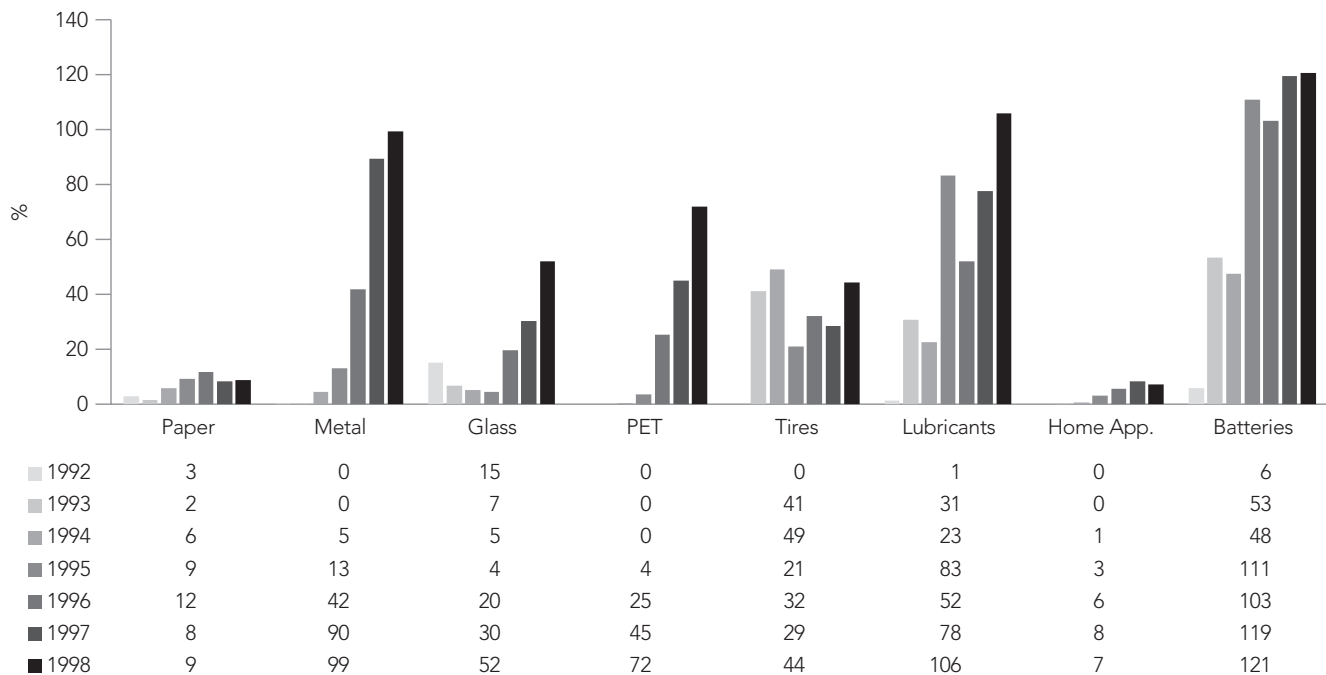
Throughout the 10 years of DRS, the ratio of refund to deposit increased continuously. However, the refund ratio in 2001 was still just slightly over 50 percent. Half of the designated products and packaging were not collected and were instead being disposed of with other waste. The economic incentive that allowed producers to freely choose whether or not to recycle resulted in limited

recycling. The limitations of DRS can be seen by the clear distinction in the ratio of refunds among product groups (Figure 2). While metal, lubricants, and batteries were consistently collected, home appliances and paper were not. There were product groups that approached a 100 percent refund rate, while some did not even reach 10 percent. More specifically, the difficulty in setting an optimal deposit rate for various products and the lack of recycling infrastructure were two major challenges that contributed to the low participation in recycling efforts.

## Difficulty in Setting an Optimal Deposit Rate

Since producers' participation in recycling is driven by the deposit rate, setting an appropriate deposit rate is the key element that determines the success of DRS. Theoretically, the deposit rate should be the amount at which the social optimum level of recycling can occur. This also assumes a clear consensus on the socially optimum level of recycling. When the deposit rate is higher than this optimum rate, there will be more recycling than the optimal level. Conversely, when it is set lower, recycling occurs at less than the optimal level.<sup>8</sup>

<sup>8</sup> Walls, M. 2013.

**Figure 2 Changes in Ratio of Refund to Deposit by Product Group under DRS**

Source: Korea Environment Institute (1999).

In practice, however, it is not easy to calculate the social optimum level of recycling and an appropriate deposit rate. In fact, the deposit rate was set at a level much lower than the actual recycling costs, even after several attempts to raise it. The deposit rate of home appliances and paper reflected only 26 percent and 3–7 percent of the actual recycling costs respectively (Table 2). This is a probable explanation for the fact that the ratio of refunds to deposits remained at less than 10 percent during the whole period. In short, to changing producers' recycling behavior with only an impractical deposit rate that did not reflect the actual recycling cost was a bit overambitious.

### **Underdevelopment of the Recycling Sector**

As manufacturers and importers, the producers of recyclable products targeted by the DRS policy specialized in making and selling goods. For them, taking back and recycling products was an entirely new area. In addition, there was almost no infrastructure or

**Table 2 Deposit Rate and Recycling Costs**

	Deposit Rate (Won/ea, kg)	Actual Recycling Costs (Won/ea, kg)	Deposit Rate/Actual Recycling Costs (%)
Paper	0.3–0.4	4–10	3–7
Metal	2	6	30
Glass	1.5–3	5–17	17–27
PET	4–7	12–28	24–32
Home Appliances	38	142	26
Lubricants	25	26	95
Batteries	75–125	73–118	100–102
Tires	50–450	90–763	28–59

Source: KEI (1999).

recycling industry to which producers could entrust the task of collecting and recycling products. Before the



introduction of the Volume-based Waste Fee (VWF) in Korea, local governments had no established collecting systems, and they lacked private recycling businesses. Considering the expenses needed to build new infrastructure, many producers decided to give up the deposit rather than recycle and get a refund. Therefore, with the exception of those producers that had already built recycling facilities before DRS, producers called for the abolishment of DRS.

Producers of home appliances, for example, resisted DRS because of the underdeveloped recycling industry. In 1996, they organized an association, taking the position that due to the lack of infrastructure, they could not afford to recycle appliances. With the voluntary agreement policy, they established two recycling centers. Even though this gave them exemptions to deposits, the recycling rate remained low. Under DRS, the deposit not refunded amounted to US\$5.2 billion.<sup>9</sup>

## Contextual Change—Impact of the Implementation of VWF in the Late 1990s

The VWF, implemented in 1995, was the primary cause of the significant change in the physical and social circumstances of recycling in Korea, especially during the 1990s, when DRS was in force. With the introduction of the VWF, the recycling industry emerged and became more established. Municipalities that were responsible for the collection and disposal of solid waste from households established a nationwide collecting system. Also, the private recycling industry was growing, and expanded the capacity to process the recyclable resources that had been separated from household waste. Secondly, there was a definite increase in people's concerns about waste management. By implementing VWF, government officers accumulated know-how and became more confident in waste management. More crucially, VWF had a major impact on public awareness of recycling. In the past, mixed waste from households had simply been collected and landfilled. Through the practice of separating recyclables themselves to reduce the volume of mixed waste, people began to recognize the importance of recycling resources. Encouraged by

the successful implementation of VWF, identified as an exemplary environmental policy by the OECD (OECD 2006), Korean society was able to advance to establishing stricter recycling regulations for producers.

## Transition to a New Policy – EPR

As producer recycling under DRS reached a ceiling and leveled off, discussions on the transition to a more comprehensive and mandatory regulation began among policymakers.<sup>10</sup> While DRS was in effect, producers had complained about the fact that deposits were imposed on the entire volume of sales. To recycle all products on the market is not only nearly impossible but also undesirable considering the social cost which will be incurred not only as the measurable expenses for a recycling process but also the unmeasurable effort and time consumed to separate and collect all the product. There was also a possibility that the burden on the producers caused by non-refunded deposits could be transferred to consumers by raising the product price. Moreover, owing to the flexible opt-in and indirect recycling under DRS, the growth of the recycling industry fell short of expectations. The government was aware of the problems faced by the producers and knew that adjusting the deposit rate alone would not solve all of these problems.<sup>11</sup> There were other problems to solve besides the difficulty in setting a deposit rate. Accumulating non-refunded deposits and a lack of effective support for the recycling industry brought about discontent among producers, which ultimately called for a transition to EPR.

## Implementation

The DRS was abolished in 2002 and replaced with EPR in January 2003. A total of 15 products were made subject to EPR, and were nearly identical to the items targeted by DRS. The number of items was adjusted and expanded to 24 products as of 2010 (Table 3).

The EPR and DRS shared common ground in that they obliged producers to take back and recycle what they sold in the market. The difference was in whether the recycling

9 Korea Economic (2003–6-10) “Argument on the 65 billion of No-refunded Deposit”, KRW 1=USD 0.08(<http://xtop.com>, 2003.12.31).

10 <https://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=101&oid=001&aid=0000287082> on November 7, 2018.

11 <https://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=100&oid=001&aid=0004338383> on November 7, 2018. Ministry of Environment. (2012).

**Table 3 Subjects of EPR in 2010**

From DRS	Products	Electronic Appliances (TVs, Refrigerators, Air-conditioners, Washing Machines etc.), Tires, Lubricants, Fluorescent Lamps, Batteries (Mercury, Silver-oxide Cells)
	Packaging	Carton Packs, Metal Cans, Glass Bottles, PET bottles
Newly Included in EPR (In addition to the above)	Products	Home Appliances* (Mobile Phones, Stereo Systems, PCs, Printing Machines, Copying Machines, Fax Machines) Batteries (Manganese, Manganese-alkaline, Nickel-hydrogen)
	Packaging	Plastics (PE, PP, PS/Vinyl Packaging), Expanded Polystyrene(EPS)

\*From 2008, Home appliances have been regulated separately by Eco-Assurance System.

Source: Ministry of Environment (2011).

was an obligation or not: it was mandatory under EPR, whereas it was not under DRS. As the result, the amount of recycling under each policy differed: with EPR the total volume of recycling increased significantly—a 148 percent increase compared to DRS. Under EPR, the government set recycling rates on an annual basis for each product group separately, and producers were required to meet an allocated recycling quota. Failure to meet the required quota would result in the imposition of a levy of up to 130 percent of the actual recycling cost. Detailed roles of participants in EPR are shown in Annex A and Annex B.

## Outcome

### *Smooth Transition to Direct Regulation*

Despite the command and control nature of the EPR, there was no stout resistance from producers when the administration shifted the policy from DRS to EPR. In hindsight, DRS was a cornerstone for the smooth implementation of EPR. In working to resolve differences and build support for recycling policies, both the public administration and producers had grown accustomed to recycling practices. Moreover, annual increases in the obligatory recycling rate were gradual, and took the previous year's performance into account. The obligatory rate for the first year was calculated by taking into account factors such as previous recycling performance, the volume of sales, and the conditions of recycling infrastructure. This means that in the first year of EPR, the producers had only a slightly higher recycling quota than the amount that they had done of their own accord in response to the economic incentive of DRS. Most of

all, the producers no longer had to pay deposits for all the products they released to the market.<sup>12</sup>

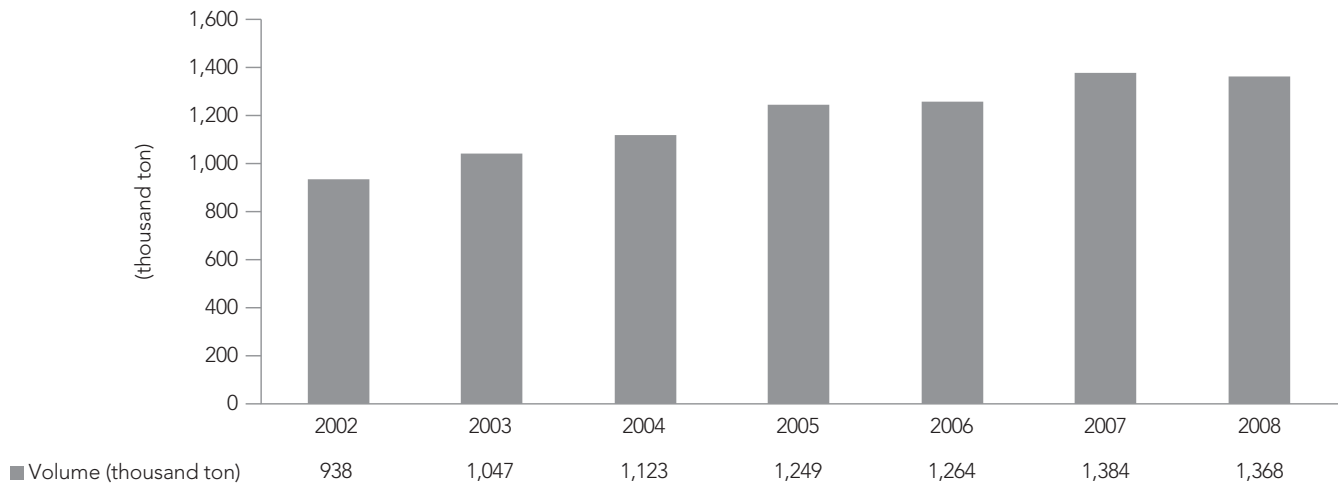
The outcomes of EPR from 2003 to 2008 are shown in Figure 3. The total volume of recycling, which had plateaued under DRS, began to increase again with the implementation of EPR in 2003. In 2003, the total amount of recycling increased by 12 percent compared with 2002. As time passed, the amount of recycling reached 1,384 thousand tons in 2007. The growth of recycled volume continued throughout its implementation with the exception of 2008, when a global financial crisis hit. Changes were also apparent in performance by product groups (Figure 4). The recycling rates of home appliances and PET, both of which had relatively low refund rates under DRS, increased sharply at the introduction of EPR. This was because those producers who had not previously been motivated enough by the provisions of DRS were now being required to change by the direct regulations of EPR. Meanwhile, metal and lubricants, which had been recycled in considerable amounts under DRS, did not show noticeable growth with the introduction of EPR.

### *Growth of Recycling Infrastructure and Private Recycling Industry*

Because producers' annual recycling quotas are set by the EPR's mandatory recycling rate, the recycling industry was able to forecast their long-term demand and operate in a stable and sustainable manner. The number of recycling companies in Korea grew 31

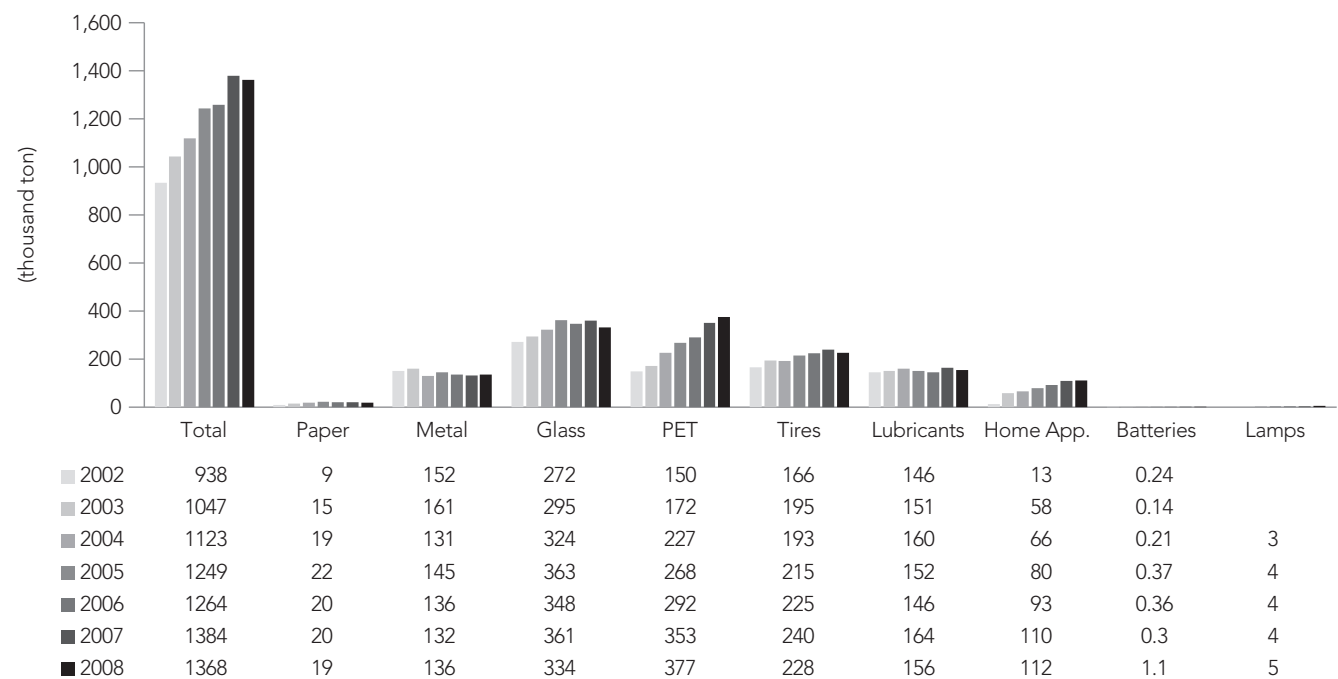
<sup>12</sup> Ministry of Environment. (2003).

Figure 3 Changes in Total Volume of Recycling Under EPR



Source: Ministry of Environment (2010).

Figure 4 Changes in Total Volume of Recycling by Product Group under EPR



Source: Ministry of Environment (2010).



percent, from 418 in 2001 to 550 in 2008.<sup>13</sup> In addition to quantitative growth of the total volume of recycling, the overall advancement of the recycling industry was led by Producer Responsibility Organizations (PROs). Under EPR, not only does the company fulfill the obligation to recycle by itself, but the company also establishes a collective body for each product group, which manages recycling on behalf of the producers. Consequently, 11 PROs were established as of 2010 and 93 percent of the total amount of recycling required by EPR was conducted by PROs. Because recycling obligations could be fulfilled at a collective level with PROs, the demand for recycling grew, and, as a result of the changes brought on by PROs, excessive competition between small recycling companies was minimized. In this relatively stabilized condition, recyclers began to have room to make further investments in recycling technology, and the transparency of the recycling market improved.

While collective bodies of producers existed under the DRS, the transition to EPR allowed the role of these bodies to be expanded and be officially recognized. Government approval is necessary to organize a PRO, and each one must correspond to a product group. PROs depend on the contribution of their members and carry out the required recycling on behalf of their members. Although the most common way for PROs to recycle is to contract with private recycling firms, they can also build and operate their own facilities directly. For example, the PRO for plastic packaging constructed and operates a Refuse Plastic Fuel facility, a source of energy made by waste plastics. The PROs of metal packaging and tires also operate their own recycling centers. The PRO of home appliances added three recycling centers in addition to two recycling centers that had been built under DRS, and also created a nationwide take-back system for home appliances.<sup>14</sup> It is clear that efforts to comply with the mandatory regulation of EPR have resulted in more organized and active investments.

From its introduction in 2003 to 2010, EPR has established itself as a stable practice in the industrial sector. The outcome of EPR is significant—the volume of recycled materials has increased by 46 percent compared to 2001, and the recycling industry itself has benefitted and grown.<sup>15</sup> The next step to advancing EPR is to include

more products in EPR and also to enhance the quality of recycling, including improvements to the efficiency of the process and the quality of recycled goods. Old vehicles and more electronic appliances should be added to EPR and large retailers and mobile carriers should be obliged to take back designated products. Meanwhile, in order to enhance the quality of recycling, the administration needs to pay attention not only to the recycling volume but also to the energy efficiency of the whole recycling process and on the quality of the final goods produced by recycled materials. To create more value through recycling, measurements to simplify packaging materials and incentivize eco-friendly designs are still being examined.

## Lessons Learned

### Maximizing Synergy with Ongoing Policies

When a social problem such as waste management presents itself, various approaches are taken into consideration. Sometimes, individual approaches may conflict with each other, but in this case, two policies—VWF and DRS—proved relatively synergistic. Most of the challenges encountered in the implementation of producer-based DRS stemmed from the resistance of companies. On the one hand, the administration could not set a bold deposit rate because of resistance from producers. On the other hand, many producers were left to forgo the deposit because there was little infrastructure for recycling. VWF, which was carried out targeting households in almost the same period with DRS, tackled the poor recycling industry and its infrastructure nationwide. In the process, the challenges faced by producers were gradually overcome together.

Recycling companies were created to deal with recyclable resources discharged from households. The take-back system of local governments, which was designed to implement the VWF, was also used to collect and transport recyclable items for the designated producers. Crucially, VWF changed perspectives on recycling. When DRS had just been introduced, some target industries opposed its enforcement saying that even advanced countries had not adopted such a scheme. With VWF, the public soon became familiar with separating recyclables from mixed waste, and they were no longer as opposed to the policies.

<sup>13</sup> Ministry of Environment 2013.

<sup>14</sup> Ministry of Environment 2013.

<sup>15</sup> Ministry of Environment 2013.

VWF and DRS complemented each other in preventing duplicated labor and cost. Furthermore, the change in public perception of recycling brought on by VWF was an indispensable element in the successful implementation of EPR. The synergy created between VWF and DRS had served as a stepping stone to the stricter and more improved model of EPR. The lesson here is that when adopting a new policy, it is essential to check out other ongoing policies and social contexts. These circumstances differ in policy sectors and across countries, and so these variations must be taken into consideration in delivery of policies.

### **Incremental Implementation of Policies**

In the early 1990s, Korean society began to consider environmental issues as a serious social problem. The soaring rates of waste generation accompanied with the lack of landfill and the NIMBY phenomena called for more effective waste policies. Because DRS was a completely new regulation in how it hinged on producers' participation, there were practical limitations in its implementation. Despite the theoretical validity of DRS, it could not be firmly established as an effective policy. The low deposit rate was the main reason. The producers' resistance and the poor recycling infrastructure restricted setting a reasonable rate, and it weakened the effectiveness of DRS.

In hindsight, however, DRS functioned as a transitional recycling policy which laid the cornerstone of EPR, a

mandatory regulation. With an economic incentive, DRS allowed companies to choose whether to participate in recycling or not. In doing so, the available amount of recycling that individual firms could afford, and the recycling condition for each product group were identified. This information eased the conversion to the compulsory regulatory model of EPR, especially in setting mandatory recycling rates. The obligatory recycling rate in the first year of EPR was primarily based on the amount of recycling under DRS, and subsequently adjusted to be a bit higher over time. This incremental approach in setting the mandatory recycling rate relieved producers' burden and reduced resistance.

Policy implementation is a continuous decision-making process. Rather than setting an ideal plan from scratch, beginning with a practical and attainable goal and then modifying plans continuously can be a more effective strategy. At about the same time that Korea implemented DRS, Taiwan, China, forced producers to recycle under compulsory obligations. But this proved short-lived. Because the producers did not comply with the obligations, eventually the policy was abolished.<sup>16</sup> From this case, it is possible to identify the importance of an incremental enforcement approach in trying to attain a given policy goal.

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<sup>16</sup> Manomaivibool and Hong 2014.

## ANNEX A: Role of Actors in EPR

Consumer	<ul style="list-style-type: none"> <li>• Thoroughly separate and discharge recycling resources</li> </ul>
Producer	<ul style="list-style-type: none"> <li>• Faithfully fulfill the responsibility for recycling individually or by joining a PRO)</li> </ul>
Local Government	<ul style="list-style-type: none"> <li>• Separate collection of target items of EPR</li> </ul>
Korea Environment Corporation	<ul style="list-style-type: none"> <li>• Accept and approve the sales and import records and the responsibility fulfillment plan</li> </ul>
Ministry of Environment	<ul style="list-style-type: none"> <li>• Operate the overall EPR program, and enact and revise laws, regulations and guidelines</li> <li>• Calculate and announce the recycling rates for each item</li> </ul>

Source: [www.keco.or.kr](http://www.keco.or.kr).

## ANNEX B Procedures in EPR

Process (and responsible organization)	Schedule
Announcement of Mandated Rate of Recycling by Item (Ministry of Environment)	December of the Previous Year
Submission of Recycling Plan (PRO and Producer → KECO)	January 31 of Current Year
Fulfillment of Recycling Responsibility (PRO and Producer)	Current Year
Submission of Sales and Import Record of Products and Packaging Materials (PRO and Producers → KECO)	April 15 of the Following Year
Submission of Recycling Report (PRO and Producers → KECO)	April 30 of the Following Year
Notification and Payment of Recycling Charges (PRO and Producer Failing to Meet the Recycling Mandate)	July 31 of the Following Year (Notification) and August 31 of the Following Year (Payment)

Source: [www.keco.or.kr](http://www.keco.or.kr).

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