

Best Practices and Recommendations for Waste Reduction

Towards Sustainable Consumption



sustainability
REDUCTIONS

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Introduction:

Shifting from Recycling to Reduction on the Path to Sustainable Consumption

Major cities in developing countries in the Asia-Pacific region have seen an increase in the amount of waste generated and changes in the composition of waste (increase in plastic waste, e-waste) in line with shifts in consumption patterns as cities have undergone rapid urbanisation and the arrival of the consumer age. The rise of and changes in waste composition in cities in developing countries have resulted in an increase in environmental pollution due to improper treatment and environmentally unsound recycling practices. Increased consumption is predicted for developing countries in the Asia-Pacific region as they are expected to undergo further economic development. This is an indication that today's waste issues will likely become more severe in the future.

In general, the informal recycling sector in developing countries in Asia, which recycles items that consumers no longer need, is active on a market-based recycling activities, and is instrumental in reducing the amount of waste sent to final disposal sites. In fact, recycling activities also contribute to a reduction in greenhouse gases compared with the manufacturing of the same type of materials from natural resources, help save resources, and create jobs. On the other hand, recycling that is solely dependent on the market may stop circulating as a result of progressive economic development because the income from the collection of recyclable resources falls comparatively, and public awareness improves. In this case, it may become necessary to promote recycling that has been dependent on the recycling market to date as part of governmental policy. Although recycling plays a major role in reducing the amount of waste sent to final disposal sites, in this situation, there is concern about the increased burden on national and local governments for the treatment of waste.

Therefore, measures which control the generation of waste and unwanted items at source, i.e. “reduce,” become noteworthy. Waste reduction measures have the potential to raise the awareness of the community and other stakeholders, control the generation of waste, and improve the quality of recyclable resources. By implementing waste reduction measures, we can anticipate a reduced burden on waste management. In fact, although waste management in Japan focuses on incineration and recycling in order to reduce the amount of waste disposed, in recent years, various measures to control the generation of waste at source have also been taken in order to reduce waste. There are a number of similar, distinctive actions being carried out in Republic of Korea and Europe as shown in this report, as well.

In the hierarchy of waste management, we first focus on reduction (reduce), and then reuse and recycle. However, it is difficult in many cases to get a picture of the specific measures that should be taken when it comes to reducing and preventing waste. This report provides an introduction to the various activities for waste prevention systems in Japan, Republic of Korea, and Europe and others, national level policies (regulations, economic tools), independent actions by the industrial sector, and activities of local residents and NGOs. In particular, this report will introduce (1) examples of actions to control excess/excessive packaging, (2) policies and actions to reduce the use of single-use shopping bags, (3) actions to reduce disposable products, (4) movements in both Japan and overseas reduce the use of PET bottles and review policies on tap water, and (5) examples of community building focused on waste prevention that contributes to local revitalization.

This report was developed by Friends of the Earth Japan (FoE Japan) and the Institute for Global Environmental Strategies (IGES) with updated case studies as an English-language version of the Japanese report “*Yori sukunai shigen de yori yutakana kurashi wo* (A Richer Life with Fewer Resources),” published by FoE Japan in March 2013. This report was produced for policymakers, experts, NGOs, and local organizations that are involved in 3R policies in developing countries in Asia as reference for actions to reduce waste. Although there may be cases that are not necessarily suitable for the current situation in developing countries in Asia, we expect that this paper will be helpful as a compilation of specific measures to reduce and prevent wastes.



Reduction Policies and Initiatives



Controlling Excess Packaging

The most effective method of “reduction” that a producer can carry out in the design phase of a product is to reduce the amount of packaging as much as possible. Regulations, standards, award systems, and campaigns are in place to support this.

Japan

In Japan, although regulations on excess packaging enacted by local governmental ordinances and independent guidelines developed by business groups are in place, there are no unified/comprehensive national guidelines on packaging.

1. Regulations on excess packaging enacted by local governmental ordinances

Some local governments in Japan have set up regulations for excess packaging and standards for proper packaging through local ordinances.

The move to establish these ordinances began in the 1970s with the objective of protecting consumers from misleading advertising that could arise from the use of excess packaging, and is oriented in ordinances related to consumer lifestyles. After the establishment of these regulations, measures to reduce waste and conserve resources were added. The cities of Kobe, Kyoto, Sendai, and Nagoya have also enacted similar standards for proper packaging, such as space ratio. Compliance by businesses is regulated in two ways by local governments: as compulsory and as an obligation to make an effort to comply.

<Case: Excess packaging regulated through ordinances in Kobe>

1) Background

Kobe was the first city in Japan to adopt ordinances to regulate excess packaging. First, women’s groups in the city conducted measurement tests, and from this, gained an awareness of the issues surrounding excess packing. This resulted in the development of activities that

included the creation of original and proper packaging standards, requests to manufacturers to correct packaging practices, and the development of a “worst packaging” voting system. With the support of the city of Kobe, the goals and intent of these activities were adopted in city ordinances. In 1972, “excess packaging” was incorporated in environmental ordinances with the objective of protecting consumer habits; in 1974, this shifted to the establishment of ordinances on consumer habits. In the same year, a “Committee on Proper Packaging” was established, which consisted of representatives from academia, businesses, and consumers. This committee discussed the necessity of specific standards for packaging, and in 1983, established guidelines that included these standards.

2) Overview of system

Article 26 (Prevention of Excess Packaging) of the “Ordinance to Protect Kobe Citizen’s Lifestyles” clearly outlines regulations for excess packaging, and stipulates that businesses must not use excessive packing above what is necessary to protect or maintain the quality of a product, and that may mislead consumers by exaggerating the contents of an item (including packaging for items that are directly given to consumers and packaging using containers). Regulations target the packaging of items (excluding expensive items, such as jewellery) that consumers will physically hold. Specific standards for excess packaging are oriented in enforcement regulations and guidelines, as follows.

1. Space capacity (capacity after deduction of the volume of the product contents from the packaging capacity) of more than what is required for the actual item (space capacity: over 15%)
2. Packaging costs that are higher than necessary when

compared to the price of the actual item (packaging cost: over 15%)

3. Items that include information other than the proper display or description (product name, weight, price, directions for use, description) that unduly influences a consumer's selection
4. When space capacity is higher than necessary due to item assortment or package deals.
5. Packaging which clearly camouflages secondary use (usage after an item's primary function has been fulfilled, such as protection of the item and preservation of the item's quality)

Calculation methods for space ratio are specified in guidelines using illustrations.

3) Security control measures and current state of implementation

Article 30 specifies guidance or recommendations of corrective measures for persons who offer items that are in violation of these regulations, and the publication of violations if recommendations are not followed.

Actual monitoring is carried out regularly for businesses that are the targets of these ordinances. During Japan's mid-year and end-of-year gift giving periods, city employees conduct surveys on gifts at department stores and supermarkets, and when there is a direct complaint from the city's residents. Although the local government provides "corrective instruction" for businesses in the city if packaging is found to be in violation of standards, this type of instruction remains in the form of a request ("correction request") since much of the packaging and production of products is carried out by businesses outside of the city.

2. Actions by businesses

1) Independent standards for proper packaging by industry

In order to deal with the problem of packaging that exaggerates the contents of an item, business groups enacted a fair competition code for sightseeing souvenirs in the 1960s, which specified guidelines and standards that businesses should observe. Although this is a comparatively early example, there are various independent guidelines that exist for each industry.

For example, Article 11 (ban on excess packaging) of the fair trade agreement for cosmetics states that businesses must not use excess containers and packaging other than what is required to protect an item, preserve quality, for forming techniques or for designs. Proper packaging regulations for cosmetics have been defined based on this.

Although it is assumed that the ratio of content volume as per the capacity of the immediate container must be less than 40% and that there must not be any unnecessary space in the outside container, a numerical value for the space ratio has not been specified.

2) Actions by manufactures' organisations for different materials

Details on the roles of businesses and the necessity for cooperation between stakeholders were confirmed during the process of reviewing the Containers and Packaging Recycling Law, and the Liaison Committee Promoting 3R was formed by eight different organisations of material manufactures in 2005, which released a voluntary action plan for the promotion of the 3Rs (target date: FY 2010).

Businesses have been able to reduce waste by limiting the amount of packaging used by reducing weight and using thin containers (includes numerical targets), promoting proper packaging, and developing refillable containers. By 2010, numerical targets for reducing weight had been achieved for seven out of eight materials, and further reduction targets have been released in the second voluntary action plan (target date: FY 2015).

Specific examples of waste reduction include, for example, the publication of a collection of case studies by the Plastic Packaging Recycling Council. In particular, we can see that detergent, for example, has become more compact and repackaged sales have increased. However, even with actions being taken by top companies, the practice of excess packaging is still in place today.

3. Actions by civic groups and local governments

1) Suginami Environment Award

An award event was held in Suginami Ward in Tokyo on the theme of excess packaging, as the main plan of the ward-sponsored environmental exhibition over a six-year period from 2004 to 2009. The Suginami Environment Award presented awards in two categories from the perspective of the ward's residents: a "heavy dress award," presented for products or to industries that use excessive or unnecessary containers and packaging, and a "light dress award," which was presented for products or to industries that use simple packaging and contribute to waste prevention. Candidates were selected by a committee (Chair: Itaru Yasui, UNU Vice-Rector Emeritus for Environment Sustainable Development; FoE Japan was also a member of the committee), and winners were determined by the residents' votes. Awards were also presented for eco-actions of the ward's residents and businesses.

Items selected for the “heavy dress award”/ semi-finals of the Grand Prix included gifts from department stores, excess packaging of mail orders, container packaging of every day household items from department stores, and disposable containers from fast food establishments. Items selected for the “light dress award”/semi-finals of the Grand Prix included repackaged products (such as coffee) and reusable packaging of moving companies. “Winners” of the “heavy dress award” did not attend the award ceremony, however, these companies and business groups were contacted by the ward and requested to correct these practices. Changes were reported in the business practices of department store gifts and packaging of cell phones, and at subsequent ceremonies, these businesses were given a “Diet Award.”

This is a noteworthy example, as it is an event organised by the local government, which allows a message to be sent from the point of view of residents to businesses that use excess packaging. It also plays a role in urging corrections for business practices that are not conducive to a healthy environment.



Representative from the ward’s residents accepting the “Heavy Dress Award” from the ward director

2) *Herasou* (Let’s reduce) Shopping

A group of students from the Faculty of Economics of Kobe University formed an NGO, Gomi-Japan, which conducts studies on content weight and the weight of containers and packaging for select items, such as detergent, shampoo, and PET bottle beverages. Gomi-Japan has carried out a campaign since 2007 for consumers at stores, such as supermarkets, to recommend “*Herasou* products” (products with reduced packaging) that have low packaging ratios. Students, civic groups, retailers, manufacturers, and the local government work with each other to expand activities.

Republic of Korea

3R measures in Republic of Korea are developed based on the “Act on the Promotion of Saving and Recycling of Resources,” which was enacted in 1992. This law stipulates the control of excess packaging and regulations for disposable items, as both a recycling system and concrete waste prevention system that puts responsibility on producers.

1. Control of excess packaging

Regulations for excess packaging were introduced in August 1993 based on Article 9 of the Act on the Promotion of Saving and Recycling of Resources. This system includes rules and regulations that are defined in order to control excessive and unnecessary packaging in the process of the manufacture, import, or sale of a product.

Under these rules and regulations, businesses involved in the manufacturing, import, or sales of a product are urged to reduce the amount and number of packaging materials, control unnecessary packaging, and use packaging materials that are easy to recycle.

Specifically, the following standards were established: standards for packaging materials (Article 3), standards for packaging methods according to the type of product (Article 4, paragraph 2), and standards for the reduction each year of packaging materials made with synthetic resin (Article 8, paragraph 1). Standards for packaging methods according to product type are shown in Table 1-1.

In addition, retailers with a store space of over 33m³ are requested to avoid repacking items with additional packaging as a way to control excess packaging (Article 11).

2. Recommendations for the production of repackaged products

Excess packaging regulations specify that businesses must strive to ensure that products that have packaging that can be reused by repacking or refilling are higher than the fixed ratio of the total production of the product concerned (Article 10). Specifics are below.

1. Makeup articles (of cosmetics): 10%
2. Liquid and powder detergent that uses synthetic resin containers: 50%
3. Shampoos, conditioners: 25%
4. Wet tissues: 60%
5. Instant coffee: 70%
6. Crayons, paints: 10%

Table 1. Packaging standards by product type (Related to Article 4, paragraph 2)

Product Type			Standards	
			Packaging space ratio	Packaging times
Unit Item	Food and beverages	Processed foods	No more than / maximum 15%	No more than / maximum double wrapping
		Beverages	No more than / maximum 10%	No more than / maximum single wrapping
		Liquor	No more than / maximum 10%	No more than / maximum double wrapping
		Confectionary items	No more than / maximum 10% (35% for cakes)	No more than / maximum double wrapping
		Health aids	No more than / maximum 15%	No more than / maximum double wrapping
	Cosmetics	Cosmetics (Includes fragrance)	No more than / maximum 10% (excludes perfumes)	No more than / maximum double wrapping
	Detergents	Detergents	No more than / maximum 10%	No more than / maximum double wrapping
	Miscellaneous	Toys, dolls	No more than / maximum 35%	No more than / maximum double wrapping
		Stationery	No more than / maximum 30%	No more than / maximum double wrapping
		Miscellaneous (limited to wallets, belts)	No more than / maximum 30%	No more than / maximum double wrapping
	Articles other than medicine	Articles other than medicine	No more than / maximum 20%	No more than / maximum double wrapping
	Clothing	Dress shirts, underwear	No more than / maximum 10%	No more than / maximum single wrapping
General Products	Primary foods, processed foods, beverages, liquor, confectionary items, health aids, cosmetics, detergent, miscellaneous	No more than / maximum 25%	No more than / maximum double wrapping	

II. Policies and Actions to Reduce the Use of Single-use Shopping Bags

Measures are being taken in many countries to reduce the use of plastic and other single-use shopping bags as the first step for waste prevention actions in retail stores.

Systems and actions in Europe and Asia

In some countries in Europe and Asia, systems for waste prevention at the national level are moving full-steam ahead. In developed countries, systems are being introduced with the primary objective of resource conservation; developed countries are introducing systems with the primary objective of environmental pollution control because streets are becoming littered with disposable bags. Reduction techniques are roughly divided into the following types: economic instruments (such as taxes), regulatory instruments (such as bans on free distribution), and voluntary agreements. There are also countries that have established charge systems as a business practice, rather than an institutionalised system, and others that are regulating the use of petroleum-based plastic bags (PBP) in order to prevent pollution, not shopping bags themselves.

1. Economic instruments

1) Ireland: Taxation to shopping bags
As a national policy, Ireland instituted a tax of EUR 0.15 for each shopping bag used at all stores in 2002 in order to reduce the use of shopping bags through a tax levied on consumers (Plastic Bag Levy). The first fiscal year after the introduction of this tax saw a reduction of 95%, and 90% in the second year in the use of shopping bags. After that, the refusal rate fell to 69% in 2006, so the government raised the tax to EUR 0.22 per bag from 2007, after which the rate rose again (to 79% in 2007).

In addition, biodegradable plastic, as well as PBP, were added as taxable items. Tax revenues are applied to the government's environmental fund.

2) Denmark: Taxation on manufacturers

As part of the country's green tax, which raises taxes according to environmental impact, Denmark introduced a packaging tax for containers, packaging, and disposable tableware in 1994. Taxes are levied on manufacturers and importers according to material and weight (i.e., for plastic shopping bags, the levy is DKK 22/kg). Retailers purchase shopping bags on which a tax has been added, and supermarkets collect charges levied on their customers for the use of shopping bags. A reduction of 60% was achieved after the introduction of this tax. Tax revenue serves as part of the country's general finances.

2. Regulatory instruments

1) Republic of Korea: Ban on free distribution of shopping bags

In Republic of Korea, the use of "single-use items (disposable items)," which includes shopping bags, is regulated in the Act on the Promotion of Saving and Recycling of Resources (see Chapter 1). Since performance was inconclusive, a ban on the free distribution of shopping bags (both plastic and paper) was bolstered through voluntary agreements between major chains and the Ministry of the Environment, and in 2006, the refusal rate rose to 80%. Governmental change in 2008, however, resulted in the removal of paper bags from the list of target items.

2) China: Ban on free distribution of shopping bags

In China, the use of shopping bags has increased with rapid economic growth, and the impact of “white pollution” on ecosystems because of littering has become a serious problem. With the “Notice of the General Office of the State Council on Restricting the Production, Sale, and Use of Plastic Shopping Bags” in 2008, free distribution was uniformly banned for all retailers, and a ban on the production of bags that are less than 0.025mm thick was instituted (includes recommendations for reuse and biodegradability). The price of shopping bags is different for each company; for Wal-Mart, for example, bags are charged as follows: CNY 0.1 for small bags, CNY 0.2 for medium bags, and CNY 0.3 for large bags (in Japanese yen, this is JPY 1, JPY 3, and JPY 5, respectively). However, at retailers other than large supermarkets, charge systems for bags are not yet a part of business practices.

3. Voluntary agreements

United Kingdom: Voluntary agreements between distribution business circles and the Department for Environment, Food, and Rural Affairs, and application of charges through security measures

Actions to reduce waste have also been strengthened as part of the UK’s aim to create a low-carbon society. In 2007, the British Retail Consortium (BRC) and the Department for Environment, Food, and Rural Affairs (DEFRA) concluded a voluntary agreement to reduce the use of disposable bags. Participating companies included large supermarkets, such as Tesco, Sainsbury’s, and Marks & Spenser, which all agreed to a 25% reduction by December 2008 compared to 2006 levels. Reduction methods were left to the discretion of each company, and targets were achieved through user charges, as well as rebate points. Subsequently, although the agreement targeted a 50% reduction by the spring of 2009, this target could not be achieved, and there was doubt that the final target of a 70% reduction could be achieved.



Sales of reusable bags at the registers of Marks & Spenser that started charging for the use of disposable shopping bags

The Climate Change Act, enacted in November 2008, specified procedures for charging for the use of disposable bags, and security measures were already in place in the case that sizable reductions through

voluntary measures could not be achieved. Following this, compulsory charges and taxes through the legal system in each territory were introduced. In Wales, a five pence charge was implemented for all types of disposable bags (plastic, paper, biodegradable bags) from October 2011. In Northern Ireland, a five pence charge was implemented for all disposable bags from April 2013. In Scotland, as well, charges for shopping bags will be implemented from October 2014, with England to follow suit after elections in 2015. All proceeds are appropriated to charities, such as for environmental conservation.

4. Other

1) Germany: Establishment of charge system through business practices

In Germany, although a charge system for bags has been established in supermarkets, it is not legally defined. Rather, it is a traditional business practice that has been in place for years and which values rationality.

2) Italy: Charge system based on business practices and ban on the use of PBP to protect the environment

Italy is the world’s first country to implement institutional measures for the use of shopping bags, by applying a levy on non-biodegradable plastic shopping bags as an environmental pollution measure. These measures were put into place after whales washed up on the country’s shores in 1984, and died from ingesting a number of plastic shopping bags. Although this tax system was eventually eliminated due to opposition from producers, the practice of retailers collecting required costs from customers is still in place, and most supermarkets have instituted a charge system for the use of plastic bags.

From January 2011, the use of PBP bags was banned by law, and supermarkets started to use bags that are biodegradable or made of plant-based plastics that can be composted. These measures also make up Italy’s industrial strategy, where biodegradable and plant-based plastics that can be composted are produced from the starch of corn produced domestically. Retailers price bags at around EUR 0.10-0.15, and there are stores that offer large bags that can be used more than once.



Price list for bags displayed at supermarket registers in Italy

Actions in Japan

Reductions in the use of plastic shopping bags in Japan were jumpstarted by local actions and as familiar eco-activities that had been in place for many years. Techniques that are effective in reducing the use of plastic bags were introduced by some businesses and areas, taking advantage of the regular planning of, and reporting by, retailers that use more than 50 tonnes of containers and packaging per year (as specified in the Containers and Packaging Recycling Act of 2006 (rev)). However, there are still some businesses and areas that are not taking effective measures, and this disparity is significant.

1. Local actions

Movements, such as local voluntary agreements to promote a reduction in the use of plastic bags, rose up in various areas through the cooperation of local governments, businesses and civic groups that seized upon the revision of the Containers and Packaging Recycling Act of 2006. According to the results of a study by the Ministry of the Environment in FY 2011, the number of prefectures that were implementing charge systems for the use of plastic bags through agreements rose to 19, including designated cities, designated mid-level cities and special areas, such as the cities of Sapporo, Nagoya, and Kyoto, as well as Sugunami ward (in Tokyo). The enforcement of these agreements differs for each local government.

For example, in Oita prefecture, a ban on the free distribution of shopping bags based on agreements was implemented for the entire prefecture from June 2009, and as of February 2013, 224 stores of 31 businesses are participating in this agreement (This includes most of

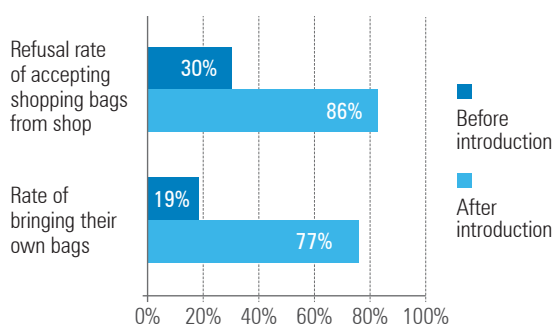


Figure 1. Refusal rate after introduction of charge system for plastic shopping bags (in prefectures (MoEJ 2011))

the food supermarkets in the prefecture). Each month, data on the use of personal shopping bags for the entire prefecture, per business, and per city/town/village is published on the prefecture's website. As of February 2013, the use of personal shopping bags was 84.8% for the entire prefecture.

A study by the Ministry of the Environment of Japan found that the disposable bag refusal rate in local governments that are implementing charge systems reached about 80% after the introduction of the charge system (as compared to a rate of 20% prior to the implementation of the system) (Figure 3-1). Although discounts and points are incentives for some people, this demonstrates that the application of "charges" can be a most effective measure.

However, highly-effective measures, such as this type of charge system, have not spread to major cities with large populations and high consumption rates, such as Tokyo and Osaka.

FoE Japan compiled information on measures for these areas as follows.

<Actions to reduce the use of plastic shopping bags in each area (prefecture)>

1. Fees charges through agreements at prefectural level (leading prefectures)
Aomori, Fukushima, Yamanashi, Toyama, Mie, Gifu, Hiroshima, Yamaguchi, Oita, Okinawa, etc.
2. Fees charged through the conclusion of agreements between cities/towns/villages and businesses (participation by prefectures is weak)
Hokkaido, Miyagi, Yamagata, Aichi, etc.
3. Actions other than charge systems (campaigns to use personal bags, etc.)
Kanagawa, Shimane, Ehime, Fukuoka, Saga, Kagoshima, etc.
4. Specific actions by prefectures unknown
Tokyo, Osaka, etc.

2. Actions by businesses

Since no information has been collected and released about the current state of measures implemented for every business, FoE Japan compiled information about measures to reduce the use of plastic shopping bags from the top 20 selling major supermarkets and co-ops, as well as public reports from businesses (CSR reports, other) that are carrying out their own original measures. Information on some of these measures can be found below.

Table 2. Actions to reduce shopping bags in supermarkets (by method)
1. Charge system at all stores

Company name (Chain name)	Area/No. of stores	Reduction measures	Implementation area, No. stores implementing measures	Reduction targets	Refusal rate
Seiyu GK (Seiyu)	National / 368 stores	Charge system (M: ¥2, L: ¥3)	Charge system: 368 stores (from Jul 2012)	Refusal rate: 70% (FY 2013)	52.1% (2011)
Ito-Yokado Co., Ltd. (Itoyokado)	National / 176 stores	Charge system (¥2) from Feb 2013	Charge system: all stores (from Feb 2013)	Refusal rate: 70%	43.3% (FY 2011)

2. Charge system in place for some stores

Company name (Chain name)	Area/No. of stores	Reduction measures	Implementation area, No. stores implementing measures	Reduction targets	Refusal rate
AEON Co., Ltd. (AEON)	National	Charge system (¥5), cash-back system	Charge system: 787 stores (end of Apr 2012)		60.4% (2011)
UNY Co., Ltd. (Apita, Raspa, other)	Chubu, Kansai, Hokuriku, Kanto / 227 stores	Charge system (¥5), stamp system	Charge system: 173 stores (end of Jun 2012)	Refusal rate: 75% (FY 2012)	74.1% (FY 2011) Charge system in stores: 88.3%

3. Cash-back and point systems (methods other than charge systems)

Company name* (Chain name)	Area/No. of stores	Reduction measures	Implementation area, No. stores implementing measures	Reduction targets	Refusal rate
Life Corporation (Life)	Kansai, Kanto / 224 stores	2 points for each time bags refused (¥500 rewarded for 500 points)	Point system: 224 stores All stores		26.2% (FY 2011)
The Maruetsu, Inc. (Maruetsu, Lincos)	Kanto / 269 stores	Cash-back system (¥2) For purchases over ¥1,050		Usage 5% reduction compared with 2010 level	18.7% (FY 2011)

1) Supermarkets

Top supermarkets that meet the requirements as businesses that use a large amount of containers and packaging are introducing incentives for certain reductions in waste (charge systems, discounts, rebate points, etc.). AEON and Uny have slowly expanded charge systems in stores through agreements with local governments (as seen in previous section). Prices for bags are set at JPY 5, which has led to a refusal rate of over 80%.


 Shopping bags displayed
 as goods for sale at
 registers in Seiyu

There was a major movement in top supermarkets with the simultaneous start of charge systems in Seiyu and Itoyokado in July 2012 and February 2013, respectively. Although both already offered a JPY 2 discount at the register if a customer used their own bags, the stores decided to implement a charge system to achieve larger reductions. Although the price of bags is low, both stores have reported large reductions, compared to prior to the start of the charge system.

The extent of effective actions to reduce the use of plastic bags is low at local, small- and medium-sized supermarkets and upscale supermarkets that do not have

a lot of stores. Discount stores have had charge systems in place from the start of business. Eighty-six percent of co-ops incorporate a charge system (includes price box system).

2) Other businesses

Since convenience stores have a number of stores, they are considered to meet the requirements of a business that uses large amounts of containers and packaging. However, convenience stores do not take part in local voluntary agreements, but instead carry out limited activities depending on customer demands. Drug stores also only take part in some local agreements.

Reduction measures are for the most part unobserved in the apparel and cosmetics sector. Customers who purchase such items are expected to act as “walking billboards,” as they carry around bags that contain the name of the brand. However, some apparel businesses are taking action to reduce the use of excess packaging. Patagonia implements a JPY 100 deposit system at all stores, and most customers bring their own bags when shopping at this brand. In addition, at stores such as United Arrows, a system to contribute to environmental organizations is in place when customers refuse to use a bag when shopping.

III. Actions to Reduce Single-use Products (such as Paper Cups)

In addition to single-use shopping bags, various other single-use items exist. However, there are not many examples in which the use of these items is controlled institutionally. There are some examples that can be observed in Republic of Korea, which has regulated the use of various single-use items based on national law. We can also learn about reducing the amount of single-use cups and plates from examples in Europe. The use of reusable cups and plates has spread at event sites in Japan as well.

Regulations to control the use of single-use products in Republic of Korea

1) Overview and objectives

In March 1994, Republic of Korea introduced regulations to control the use of single-use products based on Article 10 of the Act on the Promotion of Saving and Recycling of Resources, at the time the act was put into effect. The regulations advise industries that manage businesses over a fixed scale, such as restaurants, department stores, and public baths, as well as businesses that are determined by an executive order, to control the use of single-use items (or “disposable items”).

2) Expansion and review of targets

These regulations have expanded to target additional businesses and items through several revisions of the law since its enforcement in 1994. For example, items targeted under these regulations include tableware (cups, plates, forks, spoons, etc.), toothpicks, plastic tablecloths at restaurants; bans on the free distribution of disposable shopping bags (plastic bags) at large-scale stores (department stores) and wholesale markets; and bans on the free distribution of razors, toothbrushes, toothpaste, shampoo, and conditioner at hotels and public baths. Additional businesses added under these regulations include pharmacies, bookstores, and public gymnasiums.

After a change of the government, in June 2008,

regulations were eased for the following: use of paper cups in restaurants, free distribution of paper bags in retail stores, and use of lunch containers made out of disposable plastic. Current targets under these regulations are below.

3) Voluntary agreements

The strengthening and easing of regulations has been mixed until recently. However, voluntary agreements (independent agreements) have also been put into place in Republic of Korea to complement these regulations.

A voluntary agreement to reduce the use of single-use items has been concluded between 39 department stores and the Ministry of the Environment from June 2002 for both plastic and paper shopping bags at retail stores. This agreement introduces incentives for a complete charge system of over KRW 50 and promotes the use of personal shopping bags.

In addition, a voluntary agreement to reduce the use of single-use items was concluded between chain stores and the Ministry of the Environment from January 2003 for disposable containers at fast food restaurants and coffee chains. This agreement promotes a shift to discontinuing the use of disposable cups, introduces items that can be used more



Glass mug at Starbucks in Korea (Photo by FoE Japan in 2006)

Table 3. Industries targeted under regulations on the use of single-use items and compliance rules (Article 4, paragraph 2)

Industry Type	Compliance Rules	Single-use items targeted under regulations
1. Food services, central kitchens used to produce food for large groups	(1) Control use	<ul style="list-style-type: none"> • Disposable cups (plastic, metallic foil, etc.) • Disposable plates (paper, plastic, metallic foil, etc.) • Disposable containers (paper, plastic, metallic foil, etc.) • Wooden chopsticks, toothpicks • Disposable spoons, forks, knives • Disposable plastic tablecloths
	(2) Control use, such as control of manufacturing and distribution	Disposable advertising materials
2. Public baths, hotels (with seven or more guest rooms)	Ban free distribution	<ul style="list-style-type: none"> • Disposable razors • Disposable toothbrushes, toothpaste • Disposable shampoos, conditioners
3. Large-scale stores as per Article 2, paragraph 3 of the law on developing transportation and communication industries (hereafter referred to in this table as “large-scale stores”)	(1) Ban free distribution	Disposable bags/shopping bags (excludes paper)
	(2) Control use, such as control of manufacturing and distribution	Disposable advertising materials
4. Wholesalers and retailers listed in the classification system of Korean’s standard industries (excludes industries in Article 3, and industries that report to minister of the environment in accordance with Article 8, paragraph 1, item 6)	(1) Ban free distribution	Disposable bags/shopping bags (excludes paper items)
	(2) Control use, such as control of manufacturing and distribution	Disposable advertising materials
5. Food manufacturing and processing industry; extemporaneous sales, manufacturing, and processing industry (limited to offices that carry out business in large-scale stores)	Control use	Containers made from disposable plastic
6. Financial industry, insurance/pension industry, security/futures broking industry, real estate leasing/supply industry, advertising industry, educational facilities other than those in the educational services industry, theatre management industry, and public performance management industry, as per the classification system of standard industries in Republic of Korea.	Control use, such as control of manufacturing and distribution	Disposable advertising materials
7. Playgrounds, gymnasiums, general physical education facilities	Ban free distribution	Disposable support items

than once at stores of a fixed size, and implements deposit systems (afterward abolished) for disposable takeout containers. At Starbucks, in particular, disposable cups are not used in all stores in principle, regardless of store size. The measures taken by Starbucks, which include the design and use of original glass mugs for cold beverages (a first for Starbucks worldwide), are leading the industry.

Civic groups play a key role as local governmental partners in carrying out mediation for these types of voluntary agreements, conducting monitoring activities to ensure compliance, and improving systems.

Control of the use of disposable food containers in Germany

In Germany, when beverages are sold at various event sites, including traditional beer and wine festivals, they are poured into mugs and glasses and sold under a deposit system, not as disposable tableware. Many cities, town,

and villages have banned the use of disposable tableware through ordinances at events held in governmental facilities.

Since the 1990s, the use of reusable plastic containers has been in place at large-scale facilities and event sites, such as soccer stadiums, exhibition centres, and outdoor music events. Eco-businesses have also popped up that provide services from the loan of such items, to collection and cleaning. These actions have resulted in a 60% reduction of waste at soccer stadiums.

Promotion of actions for the use of reusable cups at events in Japan

Although a national system to regulate the use of disposable items is not in place in Japan, activities at local events are carried out to reduce the use of disposable tableware.

In 2001, the Global Environmental Forum (GEF) visited and inspected a successful case on the use of reusable cups in Germany (Cup Concept), which won the highest award from a public advertisement of policy recommendations organised by the Ministry of the Environment. A study on the enforcement of the use of reusable cups was developed based on this, and resulted in the introduction of reusable cups at soccer stadiums in Oita, Yokohama, and Niigata prefectures. In addition, organisations that are involved in the introduction of reusable tableware at local events, and organisations that loan out reusable tableware started to emerge. Currently, 45 organisations nationwide are part of a network of groups promoting the use of reusable tableware.

The track record of these organisations has increased greatly over the years: 570,000 items loaned out for 584 events in 2005 and 2,360,000 items loaned out for 1,957 events in 2010. One event that was the largest in terms of use was “apbank fes” in July 2011, where 140,000 plates, 100,000 cups, and a total of 240,000 items were used. With the use of these items at more events and facilities, the development of an efficient and sanitary cleaning system is also expected.

Collection Point of Reuse Cups and Plates at a Festival Event
(Photo by FoE Japan)



Draft beer sold in reuse cup at Nissan Stadium (copyright: Global Environmental Forum)

IV. Movements to Reduce the Use of PET Bottles and Review Policies on Tap Water

The number of PET bottles (bottles for beverages made from plastic) produced is on the rise in all countries. Even with recycling, there are still a number of environmental impacts that are generated from the production of bottles, the transportation of beverages, refrigeration and sales, recycling, and the lifecycle of the product from production to disposal.

In many countries that have water service infrastructure in place and can provide safe and high-quality tap water, there are measures and campaigns being implemented to reduce the use of PET bottles, and review and promote the use of tap water.

United States

1) Ban public purchase by local governments and declaration to review the importance of tap water

A declaration to review the importance of tap water was adopted at the U.S. Conference of Mayors in June 2006. The declaration confirmed the importance of tap water, with local governments responsible for taking measures against increases in the consumption of bottled beverages and rising environmental impacts, as the main body offering safe and quality tap water to consumers. In 2008, local governments stopped the supply of bottled water to government and resolved to promote the use of tap water.

Of the local governments in the U.S., the Mayor of the City of Los Angeles submitted an official notice in 1997 banning the supply of bottled water from the city's budget, and supply has since stopped. In response to resolutions at the 2007 and 2008 U.S. Conference of Mayors, a number of cities and states, including San Francisco (from 2007), New York (from 2008), and the State of New York (from 2009) have banned the public purchase of bottled water.

2) TAP IT Campaign

In 2008, activities to provide water services (refill water bottles) at cafes and restaurants started for persons bringing their own water bottles. The names of

participating stores are published on a map on the internet, and can be searched using a smart phone or other device. This campaign has been expanded to other areas of the United States.



TAP IT map of water spots in New York City

3) Expansion and review of drinking fountains in public spaces

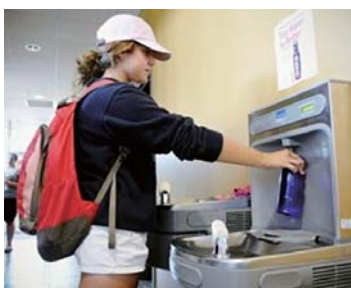
In New York City, Pilot Project, a group of experts that are work with original and sustainable urban designs, planned to create attractive urban spaces and reduce environmental impacts from the use of PET bottles by promoting the use of public tap water and water fountains. The group set up 100 new public water fountains and launched the "100 Fountains" design competition. The group also carries out activities, such as the "Respect for Fountains" performance held in parks in mid-summer, which provides an opportunity to promote the "OUR WATER" awareness campaign, to help people become aware.

4) Student campaigns at universities and increase in water supply systems

Activities for tap water promotional campaigns by

universities and students, as well as increasing water supply systems for canteens, are moving ahead at universities in various parts of the United States.

A campaign by eco-club students called “Take Back the Tap” started at Portland State University in Oregon in 2008. The campaign featured awareness activities that informed students of the environmental impacts from the use of PET bottles. With the sales of water bottles which were inexpensive, the university converted its drinking water coolers to types that could supply bottled water using the profits from these sales. An evaluation of these activities resulted in an increase in the number of bottled water supply coolers in the university, and today, you can see many students on campus with their own water bottles. In addition, Loyola University in Chicago, Illinois, banned the sale of bottled water on-campus from the fall of 2012, after increasing the number of water supply coolers in the university and calling for students and faculty to use water bottles and tap water. Universities taking similar measures are on the rise.



The number of water coolers that provide water for water bottles are on the rise in U.S. universities

5) Ban sales of beverages in plastic bottles in national parks

The sale of bottled water has been banned in the Grand Canyon National Park since 2012 in order to cope with the increase of PET bottles that make up 20% of the waste thrown away in the park. In connection with this, a number of water stations that use spring water have been installed in the park, and park officials are calling for visitors to bring their own water bottles to use at these water stations. The sale of bottled water has similarly been banned at Zion National Park in Utah and the Hawaii Volcanoes National Park.

UK

1) Ban procurement of bottled water for ministerial/ government meetings

With the release of the UK Sustainability Report in 2008, Secretary of State for the Environment, Hillary Ben, announced a governmental plan to ban the use of PET bottled drinking water at government/ministerial meetings, as the UK moves along its path towards the

creation of a low-carbon society. Official notifications continue to be issued even today.

2) Tap water promotion in London

In 2008, the Mayor of London commented that PET bottled water is 500 times more expensive than tap water, and emits 300 times more CO₂ emissions. This comment was the start of the city’s tap water promotional campaign. The Thames Water “London on Tap” campaign featured a design contest for a carafe in 2008 in order to promote the supply of tap water in city restaurants. The winning entry was manufactured as London’s original carafe and recommended for use at the city’s restaurants. In addition, the city increased the number of drinking fountains in city parks, for example, as the city prepared for the 2012 London Olympics.

Australia

1) Regulations banning the sale of bottled water in cities

Bundanoon, a small town with a population of 2,500 in the suburbs of Sydney, approved a ban on the sales of PET bottled water in the town with an overwhelming majority obtained in a referendum, and enacted an ordinance in 2009. Water fountains and towers are installed here and there in the town, which can be used by everyone free of charge. Although the origins of this movement lie in the planning of major companies to develop sales of bottled water using the clean groundwater of this area, it has attracted global attention as the world’s first decision taken from the perspective of reducing environmental impacts and promoting attractive city planning.

Japan

In Japan, as well, the number of local governments that are carrying out actions to control the use of bottled beverages and promote the use of personal bottles is on the rise. There are also a number of measures and actions that target tea, since the use of both tea and water are a cause for the increase in PET bottles.

1) Ban on the use of bottled beverages in local governmental meetings

In recent years, it has become commonplace for bottled tea and water to be used at meetings of governmental ministries and local governments. However, some local governments have instituted a ban on the use of bottled

tea and water from the perspective of environmental protection, and instead, offer local tap water and tea in reusable bottles.

Tea in PET bottles is not used in Iida city in Nagano prefecture. Rather, local tap water from the southern Alps of Japan is offered to meeting attendees in the city's original reusable bottles and cups. In Ikoma city in Nara prefecture, a ban on the use of disposable bottles, such as PET bottles, at meetings was instituted in 2010 and positioned within the city's environmental management system. In January 2013, the city started to recommend the use of Daiwa tea in reusable bottles.

2) Ban on drink vending machines in public facilities

Japan has the highest number of vending machines per area in the world. The number of vending machines directly correlates to the increase in PET bottles. As part of local governmental initiatives for the environment, local governments have taken action to ban the installation of drink vending machines in public facilities.

Toyota city in Aichi prefecture removed drink vending machines one-by-one from city hall and public facilities that are managed by the city starting in 1998, as part of the city's policies on global warming (Today, some vending machines have been reinstated.) Ikoma city in Nara prefecture banned drink vending machines in government offices and public facilities managed by the city starting in 2008. Tokaimura in Ibaraki prefecture banned drink vending machines at village offices and all public facilities in July 2011 from the perspective of electricity conservation measures.

3) "My Bottle" campaigns and "tea fountains"

Actions to increase bases that offer drink services to people who bring their own personal water bottles are on the rise in different areas, including the Ministry of the Environment's "My Bottle, My Cup" campaign.

In Minamata city in Kumamoto prefecture, "tea fountains" are being installed in various places throughout the city for people using their own water bottles to brew local tea on the spot using local water. Tea is offered at the inexpensive price of JPY 100, which is actually less than bottled tea. This is gentle on the wallet, does not produce waste, and can aid local industries.



Tea spot in Minamata

4) Water sales at drink dispensers

Drink dispensers that are installed in drink bars at cafeterias and family restaurants have a direct water connection. This type of connection results in sharply lower impacts on the environment during its lifecycle, in comparison with the same drink in a PET bottle because water and concentrates can be mixed on the spot.

From June to November 2009, a demonstration "eco-convenience store" was set up in the lobby of city hall in Kyoto with cooperation from Lawson, Inc. and Coca Cola, Inc. Shopping bags were not available in this store, and all drinks were sold from a drink dispenser for customers who brought their own bottles. A result of this demonstration project, which was highly evaluated by its customers, indicated the potential for the sales of beverages from drink dispensers at convenience stores. In addition, an approximate 77% reduction in greenhouse gas emissions was reported from convenience stores that sold drinks from drink dispensers, in comparison with the usual sales of bottled drinks at convenience stores.

5) Installation of attractive water fountains

The waterworks bureau in every city in Japan carries out various PR activities to promote the use of tap water. Although many campaigns have been carried out to date, such as filling up PET bottles with tap water, in recent years, appealing water fountains have been installed, and measures have been put into place that promote drinking water directly from the tap.



Water fountain at Kobe Kitano (in front of Kazamidorinoyakata) (Photo courtesy of Kobe Waterworks Bureau)

A designer water fountain was installed in an open space in front of the Kobe Kitano Ijinkan, which is a tourist spot, by the Kobe Waterworks Bureau in July 2010. A design contest was organised for the Kitano water fountain, and a design was selected from 130 applications from both within and outside the city that incorporated aspects of the surrounding scenery. The fountain in Arima Spa is a collaborative design with local Kobe Design University. Drinking water coolers are built-in, which provides visitors with delicious tap water. A directory, sightseeing map, and road map have been set up where the water fountain is installed to make it easier for tourists to find what they are looking for. In addition, a social water fountain has been installed on the grounds of elementary schools which also serve as disaster-prevention facilities, and to improve the environment to help children become

familiar with tap water in their daily lives. In addition, a water fountain with a built-in water cooler has been installed in the open space in front of JR Okayama Station, which lets visitors taste the local tap water.

6) *Sui Do!* (Tap Water Do!) campaign

FoE Japan develops sample data that simply shows comparisons of environmental impacts from the use of water in PET bottles and from the tap in cooperation with the Hirao Laboratory of the University of Tokyo. This data was presented at a seminar organised in March 2010 together with examples of activities to reduce the use of PET bottles and promote the use of tap water in both Japan and overseas. The *Sui Do!* (Tap Water Do!) campaign started in June of the same year to encourage a reduction in environmental impacts and social costs by choosing tap water over bottled beverages, such as PET bottles.



The campaign was developed on three pillars: (1) expanding local government initiatives, (2) increasing water oases in the city, and (3) extending lifestyles that are not reliant on bottled drinks.

(1) Expanding local government initiatives

As the primary body that is responsible for supplying safe and delicious tap water to city residents, the local government is in a position to lead actions for residents to reduce waste and greenhouse gas emissions.

Campaigns are carried out to put pressure on local governments to expand initiatives, such as bans on the use of bottled drinks at meetings, and reducing the number of drink vending machines in government buildings and public facilities. In addition, a local government declaration was proposed and adopted at the “Local Government Forum in Minamata on Aiming to Become an Environmental Capital” organised in Minamata city in November 2010 to promote the local production and local consumption of water and reduce the use of bottled drinks. Today, 16 local governments are taking part in this initiative.

(2) Increasing water oases in the city

City planning that is gentle and rich for both people and the earth is proposed by increasing the number of water fountains around the city, at stations, and in public spaces that can be used freely by anyone, as well as the number of “city oases” at cafes, for example, that offer water and drinks to customers that bring their own personal bottles. The proposal encourages the excavation and installation of water fountains in different areas, and information on these oases is published on maps on websites.

From FY 2012, attractive water fountains and water supply points have been introduced both inside and outside Japan as part of the “Oasis-based City Planning” campaign. The initiative looks at how to increase the number of oases and support activities in cooperation with the local government and organisations that are involved in local activities.

(3) Extending lifestyles that are not dependent on bottled drinks

This proposal promotes comfortable lifestyles that are not reliant on bottled drinks through the dissemination of information at events and on websites. In 2010, the “*Sui Do!* Café” series was organised where professionals are on hand to teach the methods of brewing coffee, tea, and Japanese tea, using local tap water. From 2012, the “*Sui Do!*@Campus” campaign has been organised to encourage students to bring their own water bottles and install water supply points within university grounds.

(Explanation of graph)

The graph compares CO₂ emissions throughout the lifecycle, and gives four examples of drinking water outside the home.

Bottled drinks consume much energy during transport and refrigerated sales, and have a major impact on the environment because recycling of these containers also requires energy. This is ten times the amount of CO₂ emissions when compared with cases where infrastructure such as water coolers and the use of personal water bottles is encouraged.

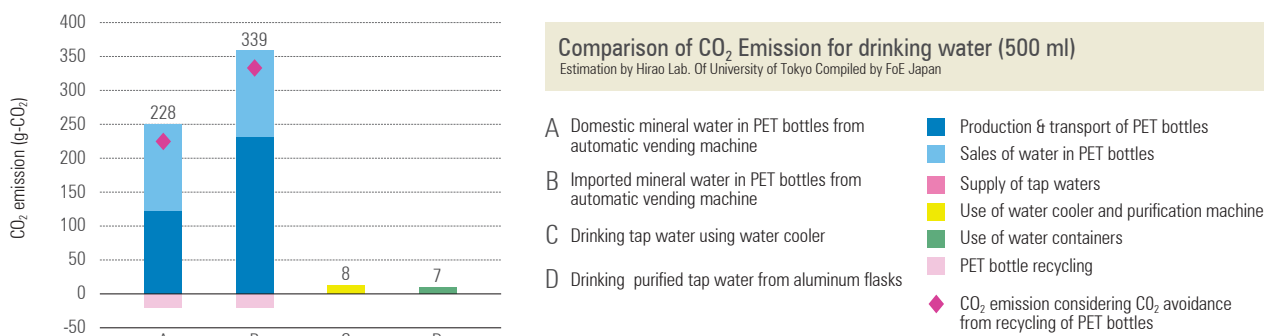


Figure 2. Comparison of environmental impacts of drinking water from PET bottles and tap water

V. Community Building Focused on Waste Prevention that Contributes to Local/Regional Revitalization in Japan

Lifecycles that do not generate garbage and do not ineffectually use the earth's limited resources can start locally. There is hidden potential to activate the local economy with the promotion of waste prevention-based community building through communication where the faces of local commerce and industries, as well as consumers, are visible. In this section, some cases from Japanese cities are presented.

1. Eco-City Project on Waste Prevention (Chigasaki Association of Stores)

During the revision of the Large-Scale Retail Stores Law in 1999 of Japan, a plan to open a large-scale shopping centre emerged, which seemed to threaten the survival of the Chigasaki shopping district in Chigasaki city, Kanagawa. Although the movements and actions against the opening (organised in cooperation between the Chigasaki Association of Stores and local consumer groups) was not successful, the “Eco-City Chigasaki” concept emerged where the store association and civic groups could brainstorm about the next step to take in community building to revitalize the city's shopping centre, and not solely focus on oppositional activities. Since 2011, numerous activities have been developed. This is a good example where businesses and consumers that share the same vision can collaborate together to create an attractive community.

(1) Promotion of returnable bottles

Campaigns were organised to recommend the use of beer in reusable bottles at local liquor stores. The development and sale of returnable bottled wine, Chigasaki's original goods, started in 2002. There are two types of wine—red and white—and if a bottle is returned, stores will return the JPY 50 deposit to their customers.

2) Composting of organic waste

With the cooperation of organic waste experts, composting activities are carried out using land borrowed from the city, and collecting organic waste from stores in the city's shopping district (perch, rice bran from rice shops, tofu residue from tofu shops). The produced compost is first used in planters in the city's shopping district and for distribution at events. After, it is developed as an action for locally produced, locally consumed products, such as with residents growing vegetables using the compost.

3) Promoting “My Bag Shopping”

The eco-friendly shopping campaign started with the shopping district association. The Eco-City Chigasaki My Bag Promotion Council was inaugurated in 2003 with the participation of the Consumer Groups Liaison Association, Large-scale Store Liaison Association, Chamber of Commerce and Industry and the local government. Consumers are encouraged to take part in “My Bag Day” held on the 5th, 15th, and 25th of each month, and reduction rate statistics are tracked. Currently, the “Every Day is My Bag Day” campaign is being carried out. Measures to create personal bags from unused umbrellas are also in place and are continuing with the help of local consumer groups.

4) Chigasaki Sunny Day Package

Gifts in Japan tend to have too much packaging. The

Sunny Day Package campaign was devised for the use of simple wrapping based on the concept of minimal wrapping to protect the global environment. In 2010, roll-like wrapping paper and stickers were manufactured based on a Chigasaki-original design for distribution to participating stores (Ministry of the Environment model project).



Wrapping paper and stickers for the Chigasaki Sunny Day Package

5) Community building for Bicycles

There are many people that will purchase an inexpensive article, and throw it away soon after it breaks. However, the purchase and repair of a bike at a local bicycle dealer can lead to waste prevention of large-scale waste over a long period of time. With the cooperation of Miyata Industries which has its headquarters in Chigasaki, bicycles were sold under the strong “Made in Chigasaki” brand with lifetime maintenance checks guaranteed.

2. Shopping using personal containers at Hagoromo Shopping District in Tachikawa city

Since 2003, a movement for shoppers to bring their own personal containers has been in place at the Hagoromo shopping district in Tachikawa city in Japan.

Women’s groups in the Tachikawa Shotengai Shin Kumiai Rengokai (Tachikawa Shopping District Promotional Association) began by talking about a part of the city’s environmental measures. When customers bring in their own containers to participating stores, such as trays, etc., in order to reduce waste, they receive incentives, such as twice the number of point coupons, “Hello Chip,” for use in the shopping district.

Participating stores include tea shops that sell tea by pouring it into in a tea canister/caddy, grocery stores that sell daily foods and miso paste by measuring the requested amount in Tupperware containers, and coffee shops that sell ground coffee beans by measuring the amount



Food store measuring out miso paste in Tupperware containers

in coffee cans. Rice from rice shops in the shopping district is delivered with a “commuting bag.” In addition, “Sayamaen,” a tea house that has a role in promoting these measures, recommends making green tea simply by shaking the powder in my own personal bottle, not only by putting tea directly into a PET bottle. Eco-events are also held periodically in the shopping district.

3. Nagoya 2R in Progress

Since Nagoya city in Japan declared a “state of emergency for garbage” in 1999 after abandoning a plan to establish a disposal site at the Fujimae tidal flats, the city has taken leading actions to reduce waste. In addition to separation and recycling activities, Nagoya got an early start with waste prevention measures, such as the introduction of a charge system for plastic shopping bags in 2007.

During the review process of the city’s basic plan for the treatment of general waste, a number of community projects were developed, and in 2008 and 2009, the Nagoya 2R in Progress project was implemented to promote the 2Rs: reduce and reuse. The project was managed through an executive committee with support from Nagoya’s Waste Reduction Department of the Environmental Affairs Bureau. FoE Japan also took part as a cooperating organisation.

This project consisted of studies to promote reuse at fast food restaurants and coffee shop chains in the city, information exchange with businesses, and encouragement of participation in voluntary declarations of stores that carry out the 2Rs. In the Nagoya 2R Participation Declaration, a list and map to stores that offer goods for people bringing their own containers (such as Tupperware), beverages for people bringing their own bottles, and welcoming customers that bring their own chopsticks was published online, and residents were encouraged to use these particular stores.

4. Yokohama: Yokohama 3R Dream (Slim)!

Yokohama city, Japan, aims at the further reduction of environmental impacts that are a result of waste treatment by promoting the 3Rs and actively carrying out actions for waste reduction, in particular, in the Yokohama 3R Dream (Slim)! Plan. This plan is the city’s basic plan for the treatment of general waste from FY 2010 to 2025.

The Yokohama R (Reduce) Hiroba was established as system to promote cooperation between residents, businesses and the government. It has become the main

facility for the receipt and transmission of information through its website and events, and as a place for exchange through its supporter registration system. In addition, the Yokohama R Committee was established with the participation of representatives from the community, businesses, and the government, and organises examination meetings to discuss the necessary matching and support for cooperating stakeholders and businesses in the development and implementation of new measures.

Activities include the spread and awareness of “My Bottle Spots” in the city, sales events for perishable foods which do not use food trays in cooperation between the city wards and local supermarkets, and activities to reduce the use of plastic bags and disposable chopsticks with the involvement of local offices. My Bottle Spots are increasing steadily, and as of March 2013, 135 places have been registered, including at public facilities within the city and chain cafes.



My Bottle Spot at a café in the Chuo Ward Office (Photo courtesy of City of Yokohama)

5. Kamakura: 2R Eco-Spot

Although the city of Kamakura in Kanagawa prefecture, Japan, is rightly proud of its top national status for the city’s waste recycling rates, Kamakura also has the most amount of waste generated per capita in the country, and understood that there was a limit to reducing waste through recycling only. In March 2013, the city established the “Committee to Recommend Waste Reduction in Kamakura,” which was a collaborative organisation made up of members of the community, businesses, and the local government. A “Waste Prevention Team” was established to promote actions to reduce the amount of waste produced. The international environmental NGO, FoE Japan also provided support from the draft plan of these activities.

The Waste Prevention Team, a pillar for activities that promote the development of new systems for waste prevention through cooperation between sellers and consumers, encouraged registration of 2R Eco-Spots to small- and mid-sized businesses in the city that were carrying out actions to minimize the use of unnecessary containers and packaging and control the generation of waste, such as by introducing incentives to reduce the use of plastic bags, and offering services, including water and tea to customers bringing their own personal bottles

and containers. Stores that submit registration forms are published in a map online, and are introduced to the community. The types of stores that are registered include grocery stores that offer a JPY 5 discount when a customer refuses a plastic bag at the register, coffee stores that offer a JPY 50 discount for customers that bring their own bags for coffee, and cafes that do not normally offer takeout services and are offering drinks at a discounted price or free-of-charge to customers that bring their own bottles. Currently, the city is preparing PR activities to encourage the use of 2R Eco-Spots to tourists who visit the ancient city of Kamakura.



Web-based map for shops participating in 2R Eco-Spots in Kamakura
http://kamagomi.kcn-net.org/ecospot_map/ecospot_map.html



Recommendations towards Waste Reduction and Prevention



Course of Action and Fundamental Perspective in the Creation of a Waste Prevention System

With this document, the following recommendations are proposed for the creation of a waste prevention system as a basic policy and course of action.

0) Minimising resources, energy, and environmental impacts

Guaranteeing global sustainability by maintaining the ingoing/outgoing balance for one earth.

1) Aiming at reduction at unit-basis (product, facility, household-level etc.)

A system to control excess packaging and promote environmental designs, such as through changes in materials, is required.

2) Aiming at reduction of total sum of waste generated, not only at unit-basis (product, facility, household-level etc.) but society as a whole

Applying the brakes on mass consumption, i.e. avoiding the use of unnecessary containers and packaging and products, is also necessary.

3) Aiming at reduction of environmental impacts, such as CO₂ emissions in total lifecycles, not only reducing the consumption of resources

For example, even if the weight of a beverage container is reduced and the container is made thinner, there are no changes in the impact on the environment from the transport of the liquid. While avoiding unnecessary consumption, alternatives must also be presented, such as recommendations for changes to sales methods (sales of contents only, for example), concentrations, and powders.

4) Develop a sense of values for services into something that is suitable for the times

Become a society which does not offer for free what

was offered in the past, and does not regard the use of charge systems as a decline in service level. In order to accomplish this, it is also important to obtain the cooperation of businesses and educate people with the help of the local government and civic groups.

5) Discovery and creation of a merit system, including improvement of social infrastructure, city planning and development, and maintaining people's health

For example, the installation of water coolers and water supply devices in business facilities and on university grounds, as well as water fountains in different areas around the city, is a chance that not only reduces the number of beverage containers/bottles, it also improves customer service and the attractiveness of city planning.

6) Develop local experience into a system for the entire country to improve effectiveness

Even if advanced measures exist in certain areas, such as local governmental ordinances or local agreements, it is difficult to spread these effects to other areas. It is also inefficient to apply measures to products that are circulated all over the country and to national chains. Effectiveness can be expected with the development of systems at the national level.

7) Thorough/complete disclosure of information to promote measures/actions

Countries disclose the information necessary to promote actions and measures, such as data on environmental impacts and the names of businesses that use a large amount of packaging. Businesses

disclose information for consumers, such as on the company’s website, about waste reduction measures.

8) Ensuring community participation in policy decision-making

It is possible to make changes to the consumer behaviour of many residents from the initial examination stages of systems, and achieve policy objectives with the involvement of NGOs/NPOs that have various expertise and experiences.

By building a new system from these courses of action, each member of society—consumers, businesses and the local society—can enjoy the merits they present. For example, if the use of excess containers and packaging is banned, it will result not only in a reduction of environmental impacts, but will also help companies reduce costs and release consumers from the stress of selecting products

to purchase. Better goods and services can be offered if communication is active between both the seller and buyer. If targets are shared within the community and activities are united, the city can regain its vitality.

To achieve this, it is important for an effective waste prevention system to be developed by building partnerships between producers, sellers, consumers, and the local and national governments. For example, producers manufacture items that prevent the generation of waste and are environmentally-friendly, and products and sellers conduct sales that prevent waste from being generated. Consumers utilise data on environmental impacts that are publicised by the national government and businesses, to make “green” decisions; and the national and local governments develop systems to promote waste prevention while also securing public participation.

A society that is created in this way is the kind of society that we are aiming for.

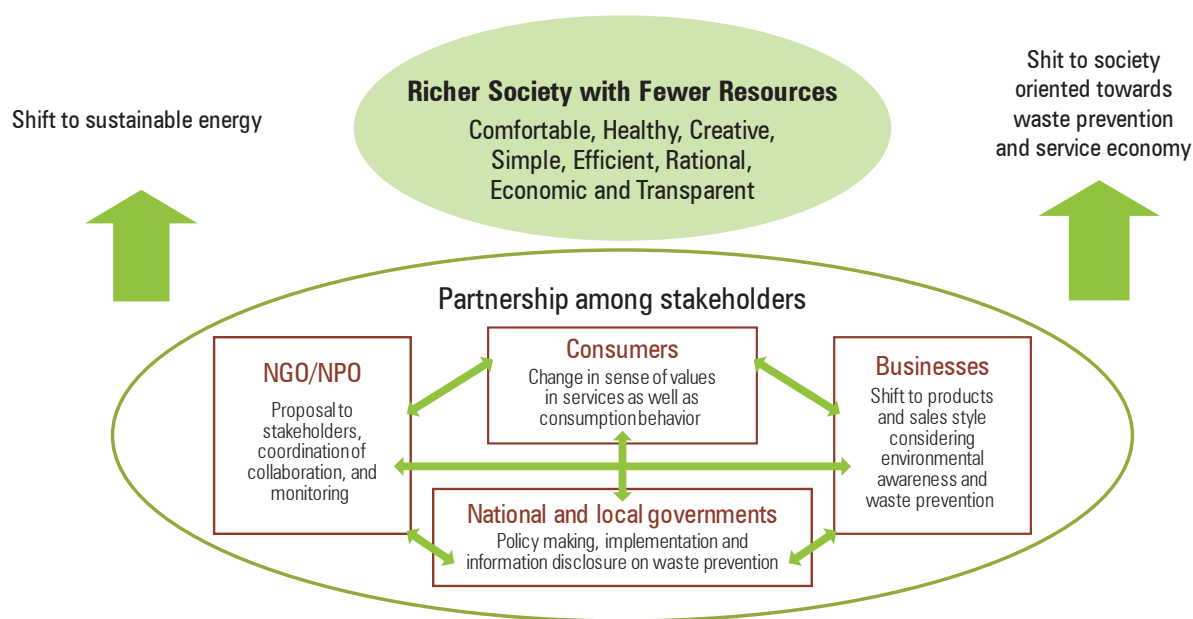


Figure 3. Collaboration for our target society

II. Recommendations

1. Control of Excessive/Excess Packaging and Promotion of Eco-Friendly Designs

Current situations and problems in Asian countries

- The purchase of packaged food and items from supermarkets has gained in popularity with the progress of economic growth. Although systems for recycling of containers and packaging are being improved and put into place in different countries, there are examples of containers and packaging that are used excessively and that act as advertising for a store, and which are difficult to separate and recycle. Refills for detergent and shampoo have gained popularity. In addition, movements to ban the sale of trays, such as at meat counters at supermarkets, are also on the rise.

Recommended course of action

The methods of proper packaging are determined through communication between consumers and producers, and monitored by society as a whole.

Recommended policies and actions

- When businesses carry out studies on customer satisfaction for a product, they collect information not only on customers' opinions of the product itself, but also about its containers and packaging.
- When a business group or national government create packaging standards for each product, they exchange ideas and opinions with consumers, governmental stakeholders, experts and NGOs/NPOs, and fully take into consideration the comparison of environmental impacts from the perspective of the consumer. In the future, evaluations from the perspective of LCA would also be useful. It is also possible to make standards universally-known, and for society as a whole to monitor their execution.
- National and local governments, consumer groups, and NPOs/NGOs support business activities through public awareness at shops and other areas so that consumers may be able to choose products with minimal packaging.

- Effectiveness can be gauged by requiring businesses to comply with proper packaging standards set up within the national system. Penal regulations can be set up for products that use containers and packaging that exceeds standards and when in violation of these standards, measures to prevent the final release of a product on the market can be considered.
- It is possible to also implement a system where best practices are recommended based on simple, model packaging and eco-friendly packaging for each product.

2. Policies/Measures to Reduce the Use of Single-use Shopping Bags (plastic and paper bags)

Current situations and problems in Asian countries

- Purchasing food and products at supermarkets has gained in popularity with economic growth, and the use of plastic shopping bags has risen exponentially in Asian areas.
- In some countries, the free distribution of plastic shopping bags has been banned by law.
- In many countries, the government carries out support activities to raise awareness. However, actual reduction measures are left up to the introduction of voluntary incentives by retailers and voluntary actions by consumers, such as using personal shopping bags.
- Although the use of paper shopping bags has been a target for regulations in Republic of Korea until 2008, reduction measures and actions are not currently in place at the national level.

Recommended course of action

After a consumer's way of thinking has permeated to some extent, an effective system that clarifies reduction targets should be introduced.

Recommended policies and actions

- The introduction of a system to tax or ban free distribution is ultimately the decision of each country. However, it is possible to conclude agreements or

impose legal requirements on businesses that use particularly large amounts of packaging or businesses that are not promoting reduction activities, such as target settings, reporting, and information disclosure to reduce the use of excessive packaging,

- It is advisable to decide what methods to take to achieve targets (charge systems, discount systems/point systems for refusal to use bags) through businesses directly communicating with consumers themselves.
- It is necessary to consider measures to levy a fee or ban the free distribution of bags as a security measure, to prepare for times where objectives may not be achieved for long periods of time.
- In cases where the system is institutionalised at the national level, it is necessary to consider methods/techniques based on a consideration/examination of how far to extend target industries (only large-scale retailers or all retailers), the type of bags to target (should it include PBP, biodegradable plant-based plastic, paper bags), monitoring methods, and penalties for violations.

3. Controlling the Use of Single-use Items (such as paper cups)

Current situations and problems in Asian countries

- Disposable paper and plastic cups used in fast food establishments, and disposable toothbrushes and razors set out in hotel rooms are used once for a short period of time, and then discarded. Many people may feel this is an unnecessary waste, and however, the only country to promote actions to reduce the use of these items and impose requirements on businesses is Republic of Korea.
- In particular, large fast food chains and coffee shops that have increased the number of stores in different countries are still using disposable paper and plastic cups in stores.
- Local actions and voluntary measures by businesses are limited in inhibiting the impacts from the use of disposable items.
- The difference in the recognition that exists between businesses and consumers of what “service” means is also considered to be a reason behind the neglect of this problem.

Recommended course of action

Businesses should limit the offering of containers and packaging and the use of disposable items that are discarded after a short period of use by promoting a shift to alternatives.

Recommended policies and actions

- For example, disposable containers currently used in fast food restaurants should be classified as disposable containers, and businesses should be required to implement actions to reduce their use.
- As with reductions in the number of times towels and sheets are washed, it would be possible to offer a system where toothbrushes at hotels are sold only to customers who want them, as part of eco-hotel measures.

4. Promoting Reductions in the Use of Single-use Cups and Plates at Events

Current situations and problems in Asian countries

- Many festivals and events use disposable cups and plates for food and beverages, which generates a lot of garbage over a short period of time.
- In Japan, actions to reduce the use of disposable cups and plates started about ten years ago. Organisations that lend out reusable cups and plates for events have sprung up in different areas, and contribute to the reduction of environmental impacts from events and environmental education.

Recommended course of action

The eating and drinking culture at events shifts to one with a low environmental impact.

Recommended actions

- It is possible to create a system that allows local governments to support the use of reusable tableware, and which satisfies fixed requirements, and that can utilise existing cleaning equipment and tableware at places that provide food.

5. Re-examining the Expansion and Promotion of Traditional Sales and Purchasing Practices

Current situations and problems in Asian countries

- Even if food or everyday household dishes that are sold at supermarkets and department stores are displayed in

containers that are filled and produced in factories, most stores will put those same items in additional plastic containers or packaging. However, in many Asian countries, the distance between sellers and buyers in the community is quite close, and traditional sales practices are still in place, such as sales without any packaging or requiring that customers bring their own containers for however much of an item they need. Such sales practices that have been lost in developed countries need to be re-examined.

Recommended course of action

Expand and promote the use of traditional sales and purchasing practices.

Recommended actions

- It is necessary to thoroughly consider hygienic management when not using packaging or using returnable containers. However, it is possible to open up the lines of communication between both sellers and buyers in local communities where people's faces can be seen, and tie these selling and purchasing practices to the revitalisation of community development.

6. Establishing 3R Promotion Centres and Local 3R Promotional Committees

Current situations and problems

- Although the separation and recycling of waste in local 3R activities is carried out nationally, there are a number of areas that do not have the necessary information and know-how to promote waste prevention measures.

Recommended course of action

Establishment of a system for the development of human resources to achieve effective cooperation between stakeholders.

Policies to be introduced (Recommended policies)

- Establish centres to promote the 3Rs in important cities that promote the 3Rs. The centres will build a support organisation for activities of local 3R promotional committees that are made up of cooperation between the local government, businesses and residents in the community. This system will make it possible to carry out effective studies and awareness activities as it develops human resources with expert knowledge and the capacity to coordinate activities and play an active role in the community.

7. Ensure Public Participation in Policy Decision Making

Current knowledge and problems

- The participation of many residents is indispensable in the operation of the structure of the 3Rs. In particular, it is important to have the participation of various residents from the planning phase of the development of a system in order to create a shift in people's lifestyles (including control of consumption) to one that prevents waste from being generated.

Recommended course of action

Ensure public participation in policy decision making for the 3Rs and waste prevention.

Policies to be introduced (Recommended policies)

- At places where 3R policies are deliberated, the balance between businesses and other stakeholders must be maintained and participation by NGOs/NPOs with expertise and experience must be secured to be the voice of the city's residents. The selection of standards and processes must also be clear.
- With the inclusion of civic groups that carry out local activities on the 3Rs in the decision making process of local governments, a place to study, learn, and discuss specific issues on the creation of systems should be established with the participation of various residents.



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