



# Non-Wasteful Usage of Products, Ingredients and Energy



## Approach

Focusing on the retail industry, Seven & i Holdings operates approximately 18,000 stores within Japan, and handles a great many products in doing so. Accordingly, within the context of moving towards the realization of a sustainable society, reducing both energy-usage and waste-generation through the Group's business activities represents a development of great impact. Meanwhile, due to reduced product and ingredient costs, and through linkages to energy-cost savings, such waste reductions also offer Seven & i Holdings significant value. Thus, the elimination of product, ingredient and energy waste represents an important material issues to which the company is now responding.

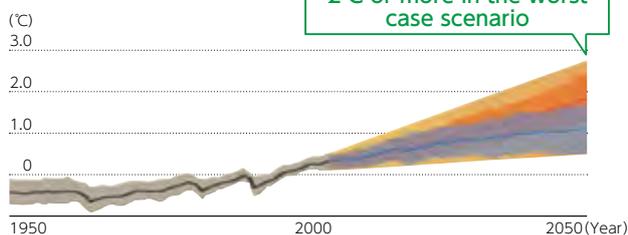
### Background

#### Climate change

Climate change is a global problem. Rising sea levels, erratic weather, and damage to primary industries, etc., pose serious threats to future generations.

An Intergovernmental Panel on Climate Change (IPCC) report states that global warming is "beyond doubt", and if current trends continue, the worst case is that temperatures will rise by almost 2°C by 2050, with CO<sub>2</sub> emissions considered to be the major cause.

#### Predicted increases in global temperatures



Taken from the IPCC "Fifth Assessment Report" on the Japan Center for Climate Change Actions website (<http://www.jccca.org/>)

#### Food waste

The volume of global food aid rose to a figure of 3.9 million tons in 2011, and food shortages have become more apparent due to population growth and weather patterns, it being felt that one in every eight people now endures a state of chronic starvation. By contrast, the annual disposal of food in Japan amounts to 17 million tons or more, and within this figure, food loss (food still edible such as leftovers and that which is beyond its use-by date, etc.), accounts for some five to eight million tons.

#### Volume of global food aid & annual Japanese food loss



Ministry of Agriculture, Forestry and Fisheries: "Working to Reduce Food Loss"

## Seven & i Holdings Policy

We believe the most pressing problem facing all people around the world is how to preserve the environment and pass on an abundant and beautiful natural world to the next generation. Our mission is to contribute to the solution of this problem. To achieve harmony between the environment and our business activities, we will work together with our customers, local communities, and business partners throughout the entire supply chain, from product development and manufacturing to distribution and sales. We will strive to be a leader in the global retail industry not only in product safety and security but also in measures to alleviate environmental problems, and pursue initiatives on a Group-wide basis.

We consider the prevention of global warming to be the largest and most serious challenge facing the world. We are aggressively pushing forward measures to contribute to the achievement of low-carbon societies by reducing emissions of carbon dioxide, the primary cause of global warming.

We endeavor to provide environmental education for all employees in the Group, to ensure that each employee is aware of the Company's social responsibilities as a good corporate citizen, and to exist in harmony with the environment and our local communities.

From the viewpoint of sincerity and transparency, we disclose all information relating to these initiatives accurately, reliably, and promptly.

From our Environmental Declaration

## Seven & i Holdings' Initiatives

### Attaining an Appropriate Grasp of Environmental Impact

Establish CO<sub>2</sub> emissions reduction targets, and for the purpose of assessing and verifying initiatives to reduce environmental impact, have CO<sub>2</sub> emissions audited by third parties.

### Reducing CO<sub>2</sub> Emissions at Stores

Because approximately 90% of Group CO<sub>2</sub> emissions result from the energy used to power equipment vital to store operations, energy-saving equipment introduction is being promoted.

### Reducing CO<sub>2</sub> Emissions from Logistics Operations

Due to the necessity of controlling CO<sub>2</sub> emissions from the vehicles representing the heart of logistics, we are promoting a range of measures that include the introduction of eco-friendly vehicles, etc.

### Promoting Food Recycling

In that at approximately 60%, food accounts for a high percentage of sales, we have established "improving food recycling rates" as an important theme and are promoting initiatives.

### Reducing Packaging Materials, etc.

Concerning packaging materials used when presenting products, we are reducing waste volumes by promoting package simplification, etc.

## Value for society

Reduced waste

Reduced CO<sub>2</sub> emissions

## Value for Seven & i Holdings

Reduced product loss

Reduced energy costs

# Non-Wasteful Usage of Products, Ingredients and Energy

## Attaining an Appropriate Grasp of Environmental Impact

### Setting CO<sub>2</sub> emission-reduction targets

Seven & i Holdings has established “CO<sub>2</sub> emissions reduction targets” for the purpose of preventing global warming. By the introduction of the latest energy-saving equipment and renewable energies, etc., whereby the same level of response as the FY2011 environmental measures of the nine Japanese domestic operating companies\*<sup>1</sup> occurs, the aim is for the predicted CO<sub>2</sub> emissions of FY2017 to be reduced by approximately 10%.

### CO<sub>2</sub> emissions audits by third parties

To correctly assess and verify the initiatives taken to reduce environmental impact, Seven & i Holdings has undertaken third-party audits of its CO<sub>2</sub> emissions from store operations since FY2011. This program initially targeted five companies in FY2011\*<sup>2</sup>, nine companies in FY2012\*<sup>1</sup>, and 10 companies in FY2013 with the inclusion of 7-Eleven, Inc. Thus, the range of companies targeted for audits is being expanded. Due to this expansion, the sales coverage of the companies targeted for audits has grown from an initial 72% to 96% of total Group sales. This development in turn is leading to more accurate figures and greater external trust of the company. (From the “Third-Party Verification Report” P78)

- \*1 Targeted Companies: Seven-Eleven Japan, Ito-Yokado, Sogo & Seibu, York-Benimaru, Seven & i Food Systems, York Mart, Akachan Honpo, THE LOFT and SHELL GARDEN (9 companies)
- \*2 Targeted Companies: Seven-Eleven Japan, Ito-Yokado, Sogo & Seibu, York-Benimaru, Seven & i Food Systems (5 companies)

## ISO14001 certification

Seven & i Holdings is promoting ISO14001 acquisition to strengthen its environmental management systems.

Sogo & Seibu was the first department store chain to acquire ISO14001 certification in 1999, and all its stores continue to operate accordingly.

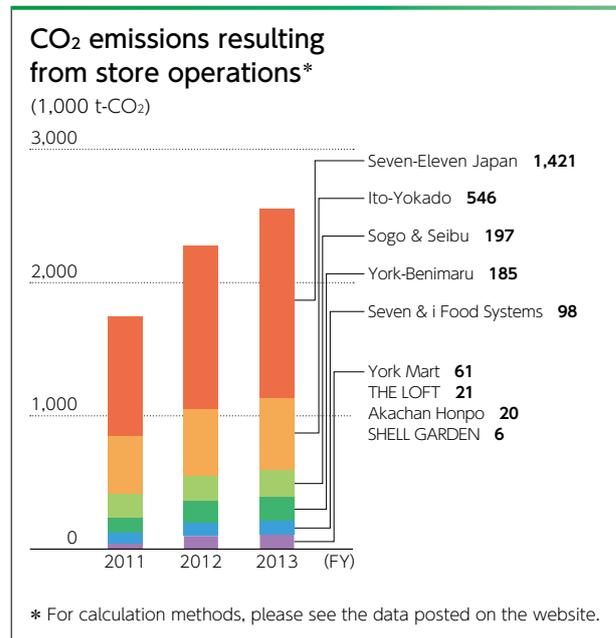
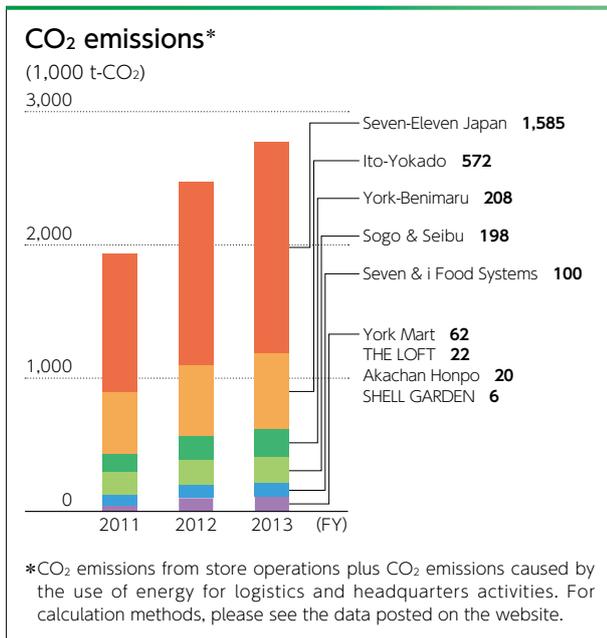
Furthermore, Seven-Eleven Japan acquired ISO14001 certification at the end of February 2014 for its headquarters as well as for its offices and directly-operated stores in Tokyo. By this acquisition, the relevant divisions are working to reduce environmental impact through their business activities.

## TOPICS

### Raising environmental awareness among employees

To raise employee environmental awareness, Seven & i Holdings has conducted a campaign to allow employees to obtain “Eco Test”\* certification. This campaign involved employees who passed the Eco Test receiving a certain amount as a support subsidy. At the testing conducted in July 2014, across the Group 598 people sat the test and some 487 passed.

\* The Certification Test for Environmental Specialists is conducted by the Tokyo Chamber of Commerce and Industry. The official name is the Certification Test for Environmental Specialists®



**Reducing CO<sub>2</sub> Emissions at Stores**

**Promoting the introduction of energy-saving equipment**

At Seven & i Holdings, so that environmental impact does not grow in proportion to increases in store numbers and increases in store size, in line with the opening of new stores and the refurbishing of existing premises, we are promoting the introduction of energy-saving equipment such as LED lights and solar panels, etc.

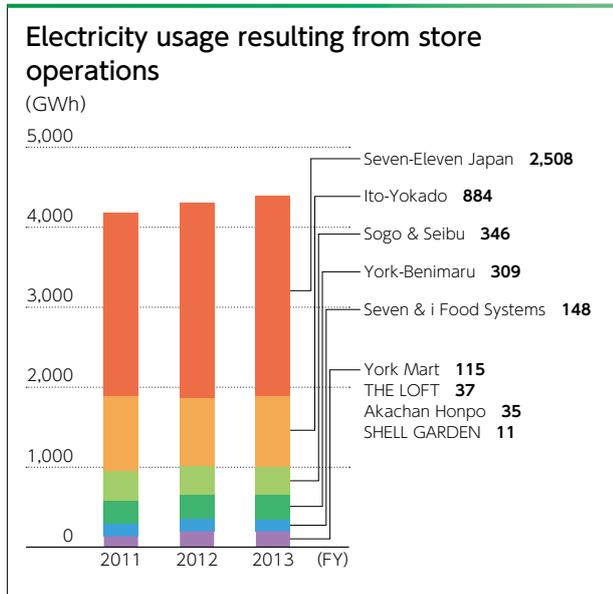
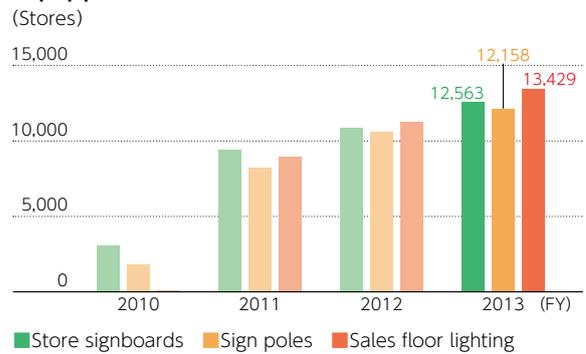
At Seven-Eleven Japan, LED lights have been employed since 2008 for store signboards, and starting in August 2009 some stores and refurbished premises used LED lights for their sales floor lighting. Since September 2011, the company has established the use of LED lights as standard practice. Furthermore, the number of stores equipped with solar panels has sequentially increased from 209 stores at the end of FY2011, to some 6,548 stores in FY2013. Additionally, since October 2009 the equipping of stores with energy-saving equipment models such as air conditioning systems and circulation ventilation systems, etc., has become standard practice.

At Ito-Yokado, to reduce the environmental burden resulting from store operations, as of the end of February 2014 some 176 stores are using LED lighting, while 13 stores have been equipped with solar panels.



Sales floor lighting

**Number of Seven-Eleven Japan stores equipped with LED devices**



**TOPICS**

**Opening stores made of wood**

Seven-Eleven Japan began opening stores made of wood in FY2009 because; compared to steel-framed stores, less CO<sub>2</sub> emissions are generated during the procurement and construction phases. Furthermore, such stores generate less construction waste when demolished. In building such stores, in that it offers strength in cold regions as well, wooden-frame construction has been used, with designs also considering the snow accumulation encountered in Hokkaido. As of the end of February 2014, 115 such stores have been built in Hokkaido, and we plan to keep opening such stores in the future.



Wooden store under construction

## Non-Wasteful Usage of Products, Ingredients and Energy

### Energy-saving initiatives through "visualization of electricity use"

By visualizing and analyzing energy use, Seven & i Holdings is working to reduce its energy usage. At Seven-Eleven Japan, as of the end of February 2014, "smart sensor (intelligent power distribution board)" measurement devices have been installed in 16,036 stores. These devices allow "electricity usage to be visualized" on the stores' power distribution boards. Using a personal computer with these devices, it is possible to confirm what equipment has used how much power and when. It is also possible to identify and rectify equipment-usage problems, and thus reduce electricity wastage. This initiative has been well-evaluated, and along with NEC Corporation (the co-developer of the smart sensor), at the "Green IT Awards 2013" sponsored by the Green IT Promotion Council, Seven-Eleven Japan won the Ministry of Economy, Trade and Industry's Commerce and Information Policy Bureau Director-General's Award in the "Energy Conservation through the Use of IT" category.



Energy conservation using smart sensors



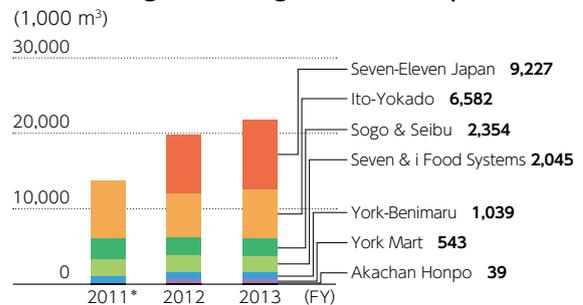
### Management of CFCs

At Seven & i Holdings stores, devices using CFCs are replaced with ones using CFC alternatives on occasions such as when refurbishments are undertaken. Moreover, devices undergo temperature checks on a daily basis to prevent CFC leakages. Devices using CFCs are disposed of by professional companies in compliance with the law, and stores receive collection certificates from these contractors as proof of appropriate disposal. We also plan to further promote the introduction of non-CFC devices in the future. At Seven-Eleven Japan, freezing and refrigeration devices that utilize CO<sub>2</sub> refrigerants have been developed, and test operation of these devices commenced at five stores in FY2013.

### Measures to conserve water

At Seven & i Holdings stores, in addition to the daily efforts made to conserve water, water-conserving faucets and energy-saving flushing toilets are also being introduced. Furthermore, through utilizing rainwater, etc., we are working to reduce the volumes of water used.

#### Water usage resulting from store operations



\* The totals for FY2011 are for 5 companies excluding Seven-Eleven Japan and York Mart.

## TOPICS

### Reusing construction materials and fixtures from old stores

At Seven-Eleven Japan, rather than being disposed of, product shelving and fixtures are repaired and reused at other stores when stores are to be rebuilt or closed. Furthermore, so as to reduce the amount of construction waste generated when stores are demolished, reusable steel frames and recyclable sashes are used in construction.

#### Reusable store initiatives

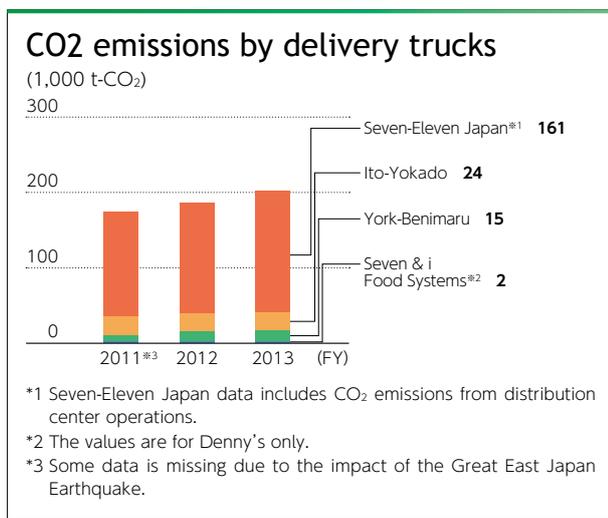
Reusable store construction methods	
DJ-HDJ method	Steel beams used in frames can be disassembled and reused.
Sashes method	Traditionally, materials were built into buildings; however, we have changed to a method that allows for the removal of materials simply by the removal of bolts.



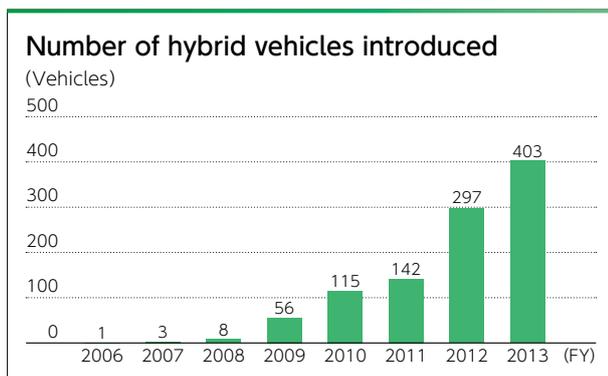
Reducing CO<sub>2</sub> Emissions from Logistics Operations

## Reducing CO<sub>2</sub> emissions from deliveries

In addition to promoting the introduction of eco-friendly vehicles, Seven & i Holdings is working to improve fuel efficiency and reduce store delivery frequencies. Furthermore, progress is also being made in the introduction of drive-data terminals to trucks, such devices record driving conditions. Based on the collected data, drivers are instructed and eco-driving seminars carried out.



We are replacing delivery vehicles with hybrid trucks at Seven-Eleven Japan. These are capable of recuperating energy generated during deceleration, and then using it as secondary power to drive motors when pulling away and accelerating. Through this technology, we hope to realize fuel-efficiency improvements and reduced CO<sub>2</sub> emissions, etc. There are 4,493 delivery vehicles in the fleet (as of the end of February 2014), and hybrid trucks account for 403 of these. We plan to replace 20% of the total fleet with eco-friendly trucks by 2020.



## Reducing CO<sub>2</sub> emissions from distribution centers

So combined deliveries to stores can occur that are comprised of different product types and of products requiring management at varying temperatures, Seven & i Holdings is revising distribution center locations.

At Seven-Eleven Japan frozen food distribution centers, ice-cream is now placed in “cold-insulated boxes” and then delivered to stores. Traditionally, vehicle engines remained running even when actual deliveries were being made so that the flow of cold air over consignments didn't stop. However, using cold-insulated boxes, it is now possible to stop engines during actual deliveries. This development has led to both fuel efficiency improvements and reduced exhaust gas emissions.



Cold-insulated box



Delivery of products using cold-insulated boxes



Recovery of empty cold-insulated boxes

Furthermore, “demand controllers” have been introduced at distribution centers. These devices monitor the electricity consumption of different equipment. They control equipment that is in use to ensure power consumption does not exceed preset limits, and thus they are promoting the elimination of wasteful electricity usage. Demand controllers have been successfully installed in 59 of our 149 distribution centers (as of the end of February 2014), and we plan to keep installing such devices at apace in the future.

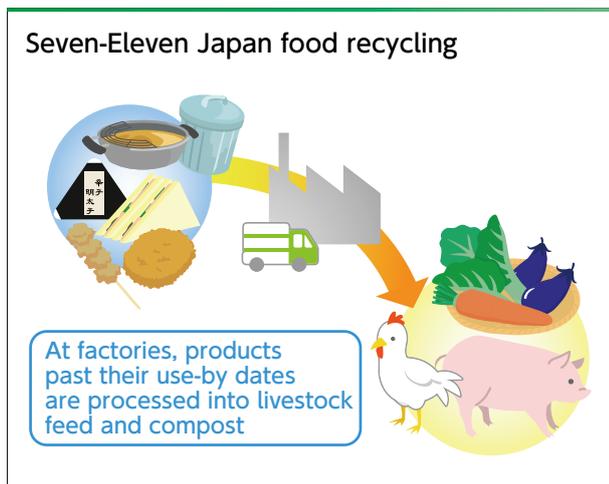
Moreover, concerning the delivery of (ambient temperature) ingredients, measures for a modal shift (from trucks to rail transportation) are moving forward, and through such reductions in CO<sub>2</sub> emissions, we are working to prevent global warming.

## Non-Wasteful Usage of Products, Ingredients and Energy

### Promoting Food Recycling

#### Processing food waste into livestock feed and compost

Since 1994 at Seven-Eleven Japan, we have advocated “Eco Distribution”, a framework that promotes the suitable processing and recycling of waste. Within this framework, we work to recycle products that have past their use-by dates, and these we process into livestock feed and compost, etc. Such activities are being conducted in 23 Japanese prefectures. In FY2013, our combined food recycling rate (expired products plus edible oils) stood at 50.9%. In the future as well, while obtaining the understanding and cooperation of franchise stores and our business partners, we will continue to promote recycling.



#### Installing systems to treat garbage

At Ito-Yokado, a “biodegradable garbage processor” system that breaks down garbage using microorganisms was introduced in October of 2011 and installed in six stores. Through the power of microorganisms, such devices breakdown into water and CO<sub>2</sub> garbage that is ill-suited to recycling (such as highly fibrous substances, etc.). This process results in reduced CO<sub>2</sub> emissions when compared to incineration processing, and it also offers an effective reduction of waste volumes.

At Seven-Eleven Japan as well, from November 2013 a down-sized version of the “biodegradable-type garbage processor” was introduced to five stores on a trial basis.

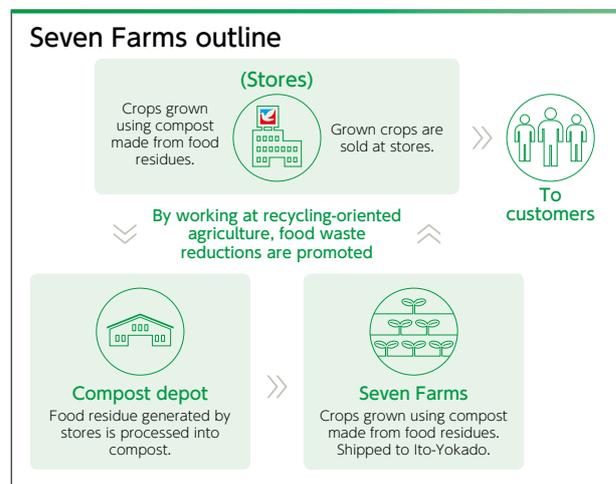


#### Recycling-oriented agriculture (Seven Farms)

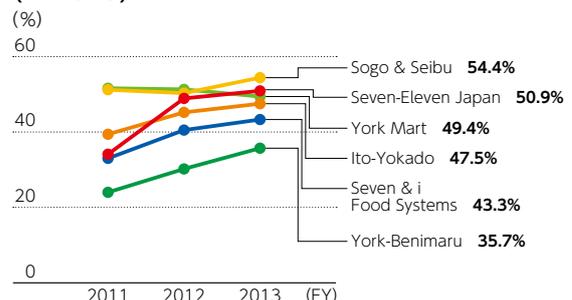
To both improve food recycling rates and invigorate regional agriculture, in August 2008 Ito-Yokado established “Seven Farm Tomisato” as an agricultural production corporation in Tomisato City, Chiba Prefecture. By doing this, the company became the first player in the retail sector to engage in “recycling-oriented agriculture”.

“Recycling-oriented agriculture” involves turning into compost food residues (garbage) generated by Ito-Yokado stores. Such compost is then transported to dedicated farms run by the company. The produce that is grown at the farms using the compost is then harvested and sold at the stores, etc., that generated the food residues in the first place. In February 2014, the 10th domestic farm location was established as “Seven Farm Choshi”.

This initiative has been well received. In the Environmental Division of the 35th Food Industry Best Company Awards, we were awarded the Minister of Agriculture, Forestry and Fisheries Award by the Japan Food Industry Association and the Organization of Food-Marketing Structure Improvement. (This is an event sponsored by the Ministry of Agriculture, Forestry and Fisheries).



#### Major company food-waste recycling rates (FY2013)



● Reducing Packaging Materials, etc.

### Installing automatic PET bottle collection machines

Ito-Yokado, York-Benimaru and York Mart have had automatic PET bottle collection machines installed at stores since 2011. Because PET bottles inserted into the machines undergo an automatic process of foreign-matter removal and volume-reduction (either by compression or crushing), large volumes of bottles for recycling can be sent to recycling plants on each occasion, and this reduces the delivery frequency from stores. Moreover, by utilizing Seven & i Holdings logistics routes, more efficient transportation is possible and the volume of CO<sub>2</sub> emissions resulting from such operations can be reduced.

Additionally, some of the collected PET bottles are reborn as new PET bottles within the domestic market. This “closed-loop recycling” system of recycling PET bottles into new PET bottles is the first attempt by a major retail chain in Japan to be implemented on such a large scale. As of the end of July 2014, across the three companies collection machines have been installed in a total of 228 stores, and we plan to expand this by another 20 stores in FY2014. In FY2013, approximately 2,500 tons of PET bottles were collected through this system. Furthermore, at the stores with the machines installed, PET bottle caps are also being collected and recycled domestically.

### Reducing the use of disposable plastic bags

Seven & i Holdings promotes the reduced use of disposable plastic bags by posting posters and POP signs, and by holding other events to encourage customers to bring their own shopping bags when shopping at stores.

For example, Ito-Yokado discontinued the free distribution of plastic bags on the food floors of all its stores. In FY2013, the turndown rate of disposable plastic bags at cash registers on food floors reached 67.5%.

