

# Recycling status of retailers

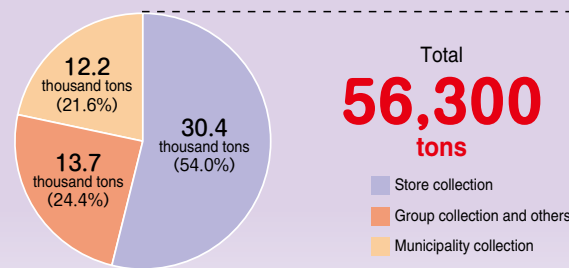
# Collection status at welfare organizations



Storefront collection boxes such as those at supermarkets collect a large volume of paper cartons.

Storefront collection boxes such as those at supermarkets collect more than 50% of paper cartons collected from residential homes. Store collection figures are based on information provided by the Japan Chain Stores Association (JCSA), the Japanese Consumers' Cooperative Union (JCCU), and our independent survey. The collection volume of cartons from stores in fiscal 2015 was 30,400 tons. This was a drop of 1,500 tons from the previous year. In keeping with changes in the types of retail stores, the survey also covers a percentage of drug stores.

Household paper cartons collection volume by collection center (Estimated value)



## We are working to recycle! Recycling Starbucks Coffee Japan, Limited

(Location: Shinagawa Ward, Tokyo)

### Activity examples

Starbucks Coffee Japan, Limited established a Japanese corporation as a joint venture of Starbucks International, Inc. of America in 1995. The business now has 1,198 stores nationwide (as of the end of June 2016).

The company's mission statement expresses that it strives to "face the customers in the community in a courteous manner." It is engaged in environmental initiatives including recycling used coffee ground beans and giving discounts to customers who bring their own coffee cups to show appreciation for their cooperation in saving resources. It started paper carton recycling in 2005. It started recycling in order to use paper cartons as a resource because some stores use more than 100 paper cartons per day. In the beginning, this was only practiced in the Kanto and Kansai areas where there were a large number of stores. It expanded the area by utilizing the company's network of 11 distribution centers throughout Japan. Since 2014, it's been possible for all stores across the country to implement the paper carton recycling.

It is now regarded as a primary example of the company's environmental initiatives, and the total annual volume of collected paper cartons comes to about 1,000 tons. Use of wet paper towels and paper napkins - made from recycled materials - in stores is well received by customers and employees since it is a way of recycling that they can actually see and feel.



"Starbucks" store

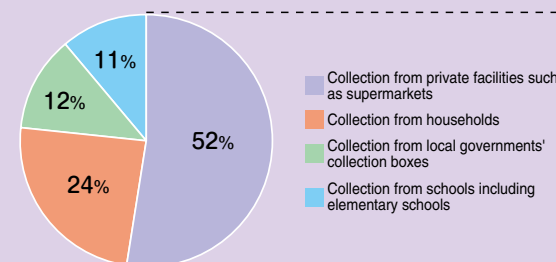


Paper napkins recycled made from paper cartons

Welfare organizations produce a range of products using collected paper cartons.

Welfare organizations mainly collect from in-store collection boxes at supermarkets. Their other collection sources are residential homes, collection boxes at local government offices, and schools including elementary schools. Many organizations deliver paper cartons they collect or receive to paper recyclers.

The percentage by collection source of paper cartons collected by welfare organizations



## We are working to recycle! Recycling Support for continued employment Type B facility Arushion

(Location: Mishima City, Shizuoka prefecture)

### Activity examples

Support facility for continued employment - Type B, Arushion was established in 2011 as one of a number of projects run by the Specified Nonprofit Corporation "Nijinokakehashi (Rainbow Bridge)." Working with the region, it has been offering work- and social life-related opportunities to people with disabilities.

It started paper carton recycling in May 2014. Paper cartons are collected at six elementary and junior high schools and five business locations of "Rainbow Bridge," inspected and slit at Arushion. They send collected paper cartons to a recycled paper manufacturer that makes toilet rolls from paper cartons. Then, people with disabilities wrap the rolls with hand-painted and decorated paper. These toilet rolls are sold at "Step," a shop in Mishima Citizens Lifelong Learning Center.

A total of 16,680 kg of paper cartons were collected through these activities at Arushion alone, and 31,630 kg (actual rate in fiscal 2015) were collected by for the corporation as a whole. Furthermore, when collecting paper cartons at school, children and pupils assisting with the work interacted with one another. This is receiving attention as a project that can help to realize job assistance, recycling, and environmental education at the same time. Arushion is considering new activities including a community event to enhance people's awareness as well as to expand the network of paper carton collection in the future.



Paper cartons collected and sent to a recycled paper manufacturer



Paper cartons recycled into toilet rolls

# Status of municipality collection and group collection



Collection of paper cartons is carried out by about 90% of local governments nationwide.

21,000 tons of paper cartons were collected through the municipality and group collection.

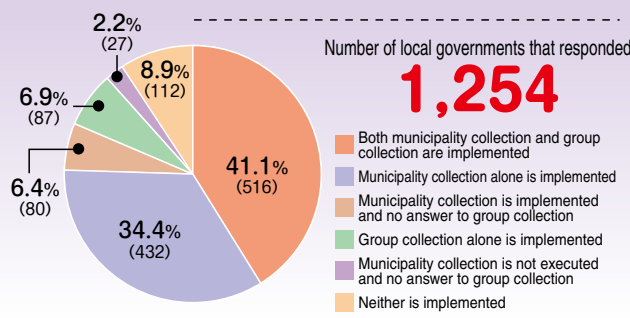
Municipality collection of paper cartons is implemented in the sorted collection approach and the collection-center approach.

Among the 1,741 municipalities in the country, we have sent questionnaires to 1,734 local governments in fiscal 2015 excluding seven areas that have been affected by the Fukushima nuclear accident. We received responses from 1,254 municipalities. The total population of municipalities that responded to the survey made up 88.1% of the total population

Used paper carton collection by municipalities and unions is classified as "municipality collection", and collection carried out by citizen's groups (registered to respective municipalities) is classified as "group collection". The implementation rates of municipality collection and group collection were about the same as those of the previous fiscal year. The municipality collection rate was 82%, and the group collection rate - excluding cases where no answers were received - was 53%. Either municipality collection or group collection was executed in 89% of the municipality. This means that almost 90% of local governments are collecting paper cartons.

\* The implementation rates of group collection = (the number of local governments which executed group collection) / ((the number of local governments which responded - the number of local governments which provided no answers to group collection) x 100%) = (516+87) / (1,254-(80+27)x100%) = 53%

### Implementation rate of municipality collection and group collection



The survey estimated the municipality collection volume and group collection volume after grouping the target municipalities into four types: "General cities," "Ordinance-designated cities," "Tokyo special wards" and "Towns and villages." In fiscal 2015, the municipality collection volume was 12,200 tons, and the group collection volume was 8,800 tons. Total collection volume was 21,000 tons.

Per capita collection volume (basic unit) of municipality collection is larger in towns and villages, and general cities, and smaller in ordinance-designated cities and Tokyo special wards. Group collection is larger in general cities and ordinance-designated cities. Collection base unit aggregated is larger in both general cities and towns and villages, and smaller in big cities including ordinance-designated cities and Tokyo special wards.

We must investigate more and develop action plans corresponding to each target city group's situation in order to achieve a better collection rate.

### Estimated municipality and group collection volumes by city type

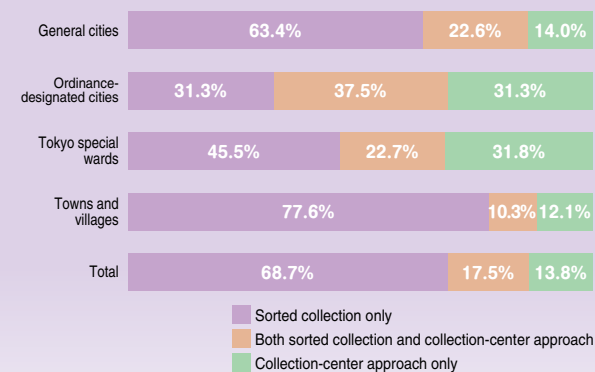
	Total	General cities	Ordinance-designated cities	Tokyo special wards	Towns and villages
<b>Municipality collection</b>					
Estimated volume (1,000 tons)	12.2	8.8	1.1	0.7	1.6
Estimated collection ratio by city type	100%	73%	9%	6%	13%
Per capita collection volume (grams per person)	95	110	39	77	137
<b>Group collection</b>					
Estimated volume (1,000 tons)	8.8	6.5	1.7	0.2	0.5
Estimated collection ratio by city type	100%	73%	19%	2%	6%
Per capita collection volume (grams per person)	68	80	61	22	48
<b>Total</b>					
Estimated volume (1,000 tons)	21.0	15.3	2.7	0.9	2.1
Per capita collection volume (grams per person)	163	190	100	99	185
Population by city type (millions)	128	80	27	9	11

\*Some figures may not add up to the total due to rounding.

Used (consumed) paper cartons are collected in two ways in each municipality. One is the sorted collection approach, and the other is the collection-center approach. The sorted collection refers to collection from households and stations, and the collection-center approach refers to collection from collection boxes at local community halls and similar locations.

By city type, the sorted collection is more widely employed by general cities, towns and villages, and the collection-center approach is used more in the ordinance-decreed cities and Tokyo's special wards.

### Ratio of paper carton collection types by city type



## We are working to recycle! Recycling Inuyama City, Aichi Prefecture

### Activity examples

Inuyama City aims to be a "city of harmony where people are lively and live with the community." It has a population of about 74,000 and is located at the north end of Aichi Prefecture. It is a historical city with old houses and streets in the city center. It is famous for Inuyama castle, a national treasure, and Ukai fishing on the Kiso-gawa river.

According to the data of the Ministry of the Environment, the municipal collection volume was 41 tons (fiscal 2014), and the per capita collection volume was 549 g, which is at a higher rank in Japan. Since the Recycling Law was enforced, the city has been actively involved in strict separation and collection of resources. There are about 500 collection sites in each area of the city, and resources are collected twice a month. On collection days, collection baskets for paper cartons are placed, along with the other baskets for bottles, cans, and plastic bottles. Local government staff members take turns watching the sites, reflecting the high level of public awareness about recycling.

In addition to other stations in the district, "Wanmaru Eco Station" has been permanently installed, and the city administers three collection sites that are opened once a month. In recent years, collection sites have been set up in front of supermarkets and in car parks of do-it-yourself stores by paper recyclers. These are being used by more people, and the volume of paper cartons collected by the city has been decreasing. Increase in the number of disposal sites brings convenience to citizens. On the other hand, if the municipal collection volume is reduced to a great degree, the return to citizens will decrease. This issue remains to be solved.



Collection baskets placed at the collection site



Even a single paper carton can be deposited



# Recycling status at schools

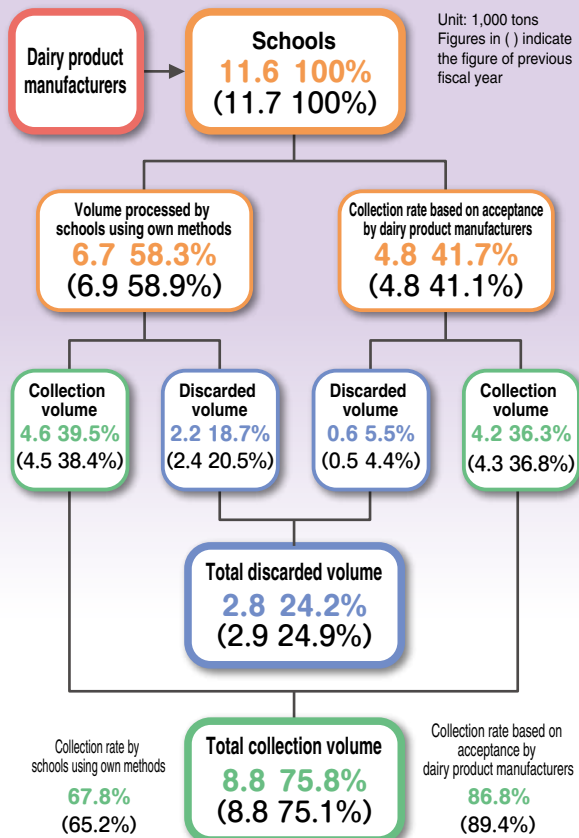
# Recycling status of recycled paper manufacturers



Recycling of paper milk cartons used in school meals is also increasing.

Approximately 11,600 tons of paper milk cartons were supplied used by school meals in fiscal 2015, which was roughly the same amount as in the previous year. Out of the total supply, 8,800 tons were collected for recycling. The figure remained high. In addition to recycling of school meal's paper milk cartons, reuse of paper cartons used in science and mathematics classes as well as collection of paper cartons from students' homes are being implemented at elementary schools.

## School Meal's Paper Carton Material Flow in Fiscal 2015 (estimated value)



※Processing by schools using their own methods refers to delivery of paper cartons directly to local governments or used paper recyclers.  
※Some figures may not add up to the total due to rounding.

## We are working to recycle! Recycling

### Okazaki City Yamanaka Elementary School

(Okazaki City, Aichi Prefecture)

#### Activity examples

Yamanaka Elementary School is located in the southeast of Okazaki City, which is famous for being the birthplace of Ieyasu Tokugawa. The school was built 136 years ago in a district named Maigi-cho. The name was taken from an episode in which "A god tree appeared from the cloud with a divine spirit on it and alighted upon the ground." The city treats children as "treasures of the region," and promotes safety-related education and aesthetic sensitivity while strengthening cooperation between families and the region.

At Yamanaka Elementary School, all children are working to recycle. Members of the fourth grade and above school lunch committee teach first graders the recycling procedure. As part of integrated learning, children from fourth grade and up are engaged in collecting plastic bottle caps, making postcards using handmade paper made from milk cartons, and producing 3R promotional posters. The school always keeps the tools for making paper available, and strives to raise awareness about the environment and recycling, and to motivate children. This year, children made postcards from handmade paper with their parents on the class observation day for fourth graders.

In order to raise children's awareness about environmental conservation, the school is planning events in which children will be able to see how the recyclables they collected are processed, and what kind of recycled products are made from them.



Tools always available for making paper

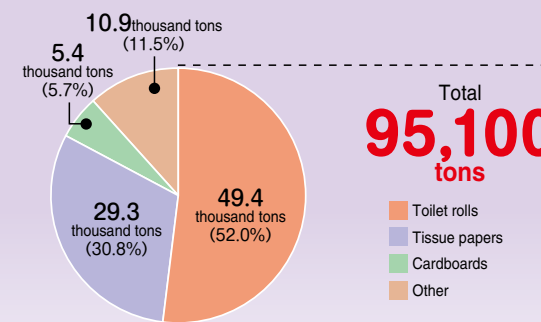


Cards made with parents on class observation day

Collected paper cartons are recycled as high-quality pulp fiber.

Among the 14 recycled paper manufacturers that answered the questionnaire, 13 manufacturers accepted paper waste (industrial paper waste) of paper cartons, used papers, and used paper cartons generated in Japan. The total volume accepted by manufacturers, which consists of the collection volume of domestic paper cartons and import volumes of used paper cartons in fiscal 2015 was 118,100 tons. About 83% (95,100 tons) of this were recycled into toilet rolls and tissue paper. Paper cartons have been used for these products as precious high-quality pulp fiber material.

## Use of accepted papers for recycled products



## We are working to recycle! Recycling

### Corelex Shin-ei Mfg. Co., Ltd.

(Fuji City, Shizuoka Prefecture)

#### Activity examples

Corelex Shin-ei Mfg. Co., Ltd. of Corelex Group, since October 1, 2015, constructed a new mill to manufacture recycled home-use paper in Fuji City, Shizuoka Prefecture, and changed their company name from SHIN-EI PAPER MFG. CO., LTD.

This company started to operate the plant to realize three themes: "Productivity" pursuing improvement of product quality through introduction of sophisticated, energy efficient equipment and improvement of productivity, "Environmental friendliness" seeking quasi-zero emissions, out of consideration for neighborhood residents, to reduce waste to the utmost limit, and promoting reduction of environmental burdens, and "Regional disaster prevention" providing a function as a shelter for community residents and people who are unable to get home in the event of a disaster by signing an agreement on disaster management with Fuji City and JR Tokai. Many areas of the plant show attentiveness to preventing work injuries as well as measures against natural disasters.

As one of the largest manufacturing plants processing recycled paper, its plant receives 200 tons of recycled paper materials per day and manufactures 160 tons of products (mainly toilet rolls and tissue paper) on average. The company examines the recycled paper materials daily, and treats paper cartons as a valuable material in order to maintain product quality when mixing the relevant quantities of materials to manufacture toilet rolls and tissue paper.

The company actively promotes recycling by setting up a special window to directly receive used paper from neighborhood residents.



Tower for maturation



Paper mill