

Recycling status of retailers

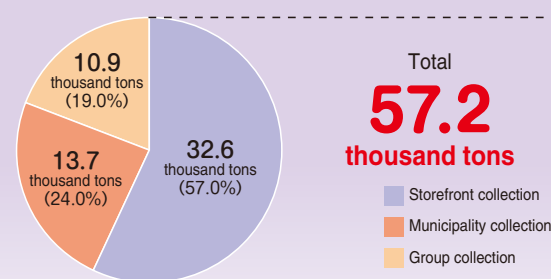
Storefront collection boxes such as at supermarkets collect a large volume of paper cartons.

Storefront collection boxes such as at supermarkets collect about 60% of paper cartons collected from homes.

Figures of the storefront collection are based on information provided by the Japan Chain Stores Association (JCSA), the Japanese Consumers' Cooperative Union (JCCU), and our independent survey. Volume of the storefront collection in 2012 was 32.6 thousand tons. This was a dip of 0.3 thousand tons from the previous year.

In keeping with changes in the types of the retail stores, the survey covers part of the drug stores.

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



We are working on recycling!

Izumiya Co., Ltd.

(Head office : Osaka City, Osaka)

Activity examples

Izumiya is a chain-store that operates 91 stores mainly in Kansai area (as of October 2013). The company promotes its environmental policies by introducing the environmental management system.

"good-i Heartful" represents their environmental-friendly products that are born as a result of the pursuit of reduced environmental load and friendliness to consumers in the entire life cycle of the products from production to consumption and disposal. Based on the unique development standards and a desire to meet customers' demands, Izumiya develops products that are, for instance, made of recycled materials, do not damage the natural environment and are friendly to atopic dermatitis and sensitive skin.

Izumiya has developed the resource circulation system in which they ask customers to bring recyclable resources that have now become unnecessary to them to the stores to "display the products made of collected resources again in the stores". Izumiya installs recycle boxes for milk cartons, aluminum cans, PET bottles and trays at every food-handling store in their chain. The volume of paper cartons collected was 297 tons in 2012.

Collected containers are recycled as products such as tissue paper and carpets at Tsumori Eco Center of Kanso Co., Ltd., a group company.



Collection box at storefront
(Nishinomiya Gardens Store)



Collection box at storefront
(Matsubara Chuo Store)

Collection status of welfare work places

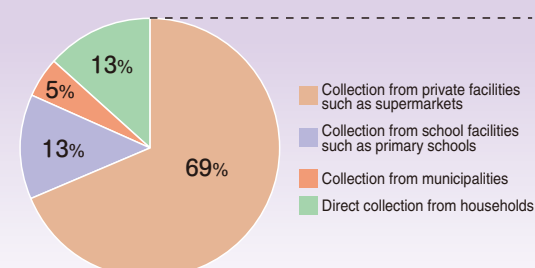
In addition to collection of paper cartons, they create products such as postcards using handmade paper made from paper cartons.

Welfare work places and citizen groups collect the biggest volume of paper cartons from the storefront collection boxes of supermarkets and other stores. It is followed by collection from homes, school facilities such as primary schools and local authorities. They have a range of collection sources. According to the basic survey of 2012, the collection volume was about 1 thousand tons. This volume was almost the same as in the past.

In addition to collection of paper cartons, many welfare work places create products such as postcards by use of recycled paper cartons.

The collection volume shown in the material flow reflects the information obtained from JAMRA's fact-finding-survey on the welfare work places, too.

Percentage by collection source of paper cartons collected by welfare workplaces and citizen's groups



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Welfare work place Hibiki Organization Activity Center Hibiki

(Higashi Osaka City, Osaka)

Activity examples

Hibiki Organization was opened in 1977 as an unauthorized joint work place for the disabled people. After Hibiki was then authorized corporate body in 1984, it has consistently promoted the welfare service on the concept that disabled people are leading players of the welfare work place. It provides welfare service to disabled people under the five basic concepts of "Creation", "Safety", "Thankfulness", "Justice" and "Solidarity".

"Activity Center Hibiki", a business site of Hibiki Organization, strives to help disabled people through work. Sorting of paper cartons is in the work program as part of these efforts.

They collect paper cartons from cooperative supermarkets once a week (twice a week during summer) using a 2-ton truck. They sort the collected paper cartons by removing trays and cartons attached to aluminum that has been mixed in. As much as 10 tons of paper cartons are delivered each month to used paper wholesalers as valuable materials.



Paper carton sorting work



Loading the truck!

Collection status of municipalities and voluntary groups



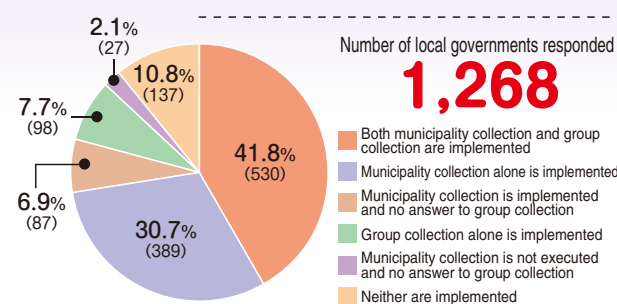
Collection of paper cartons is carried out in about 90% of local governments.

Among the 1,742 local governments in the country, our 2012 survey was conducted in 1,735 of them excluding 7 areas that have been affected by Fukushima nuclear accident. We received responses from 1,268 municipalities. The total population of municipalities that responded to the survey made up 88.8% of the total population.

Used (consumed) 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 year. The municipality collection rate was 79%, and the group collection rate was, excluding cases where no answers were received, 50%. Either municipality collection or group collection was executed in 87% of the municipality. It means almost 90% of local governments are collecting paper cartons in Japan.

Implementation rate of municipality collection and group collection



22.4 thousand tons of paper cartons are collected through the efforts of local governments.

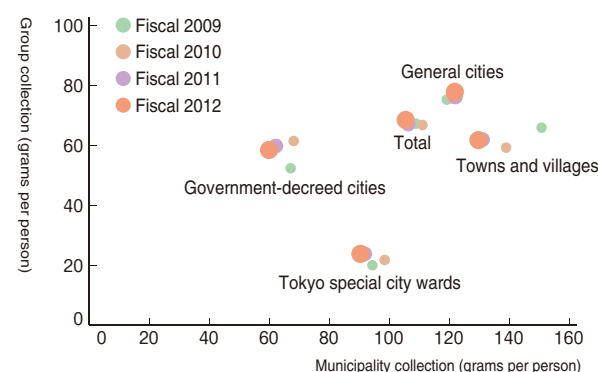
The survey estimated the municipality collection volume and group collection volume after grouping the target municipalities into four types: "General cities", "Government-decreed cities", "Tokyo special city wards" and "Towns and villages". In fiscal 2012, the municipality collection volume was 13.7 thousand tons, and the group collection volume was 8.7 thousand tons. Total collection volume was 22.4 thousand tons.

There was no large fluctuation in the collection volume per person (basic unit) because the collection volume in general cities, which share more than 60% of the national population, has remained stable over the past few years.

Estimated municipality and group collection volumes by city type

	Total	General cities	Government-decreed cities	Tokyo special city wards	Towns and villages
Municipality collection					
Estimated volume (1,000 tons)	13.7	9.8	1.6	0.8	1.5
Estimated collection ratio by city type	100%	72%	12%	6%	11%
Collection volume per person (grams per person)	108	123	60	91	130
Group collection					
Estimated volume (1,000 tons)	8.7	6.2	1.5	0.2	0.7
Estimated collection ratio by city type	100%	72%	17%	2%	8%
Collection volume per person (grams per person)	68	78	57	23	63
Population by city type (millions)	127	80	27	9	12

Change of municipality collection and group collection by city type

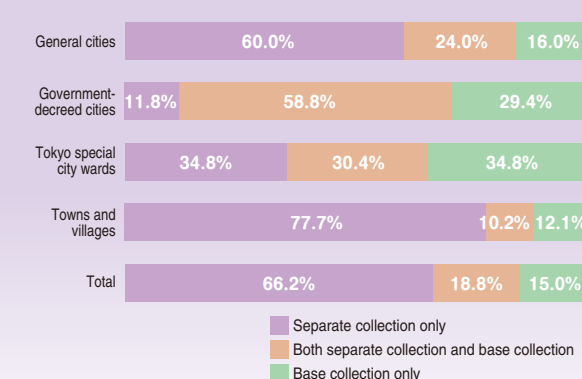


Municipality collection of paper cartons is implemented in the separation-collection approach and the collection-center approach.

Used (consumed) paper cartons are collected in two ways in each municipality. One is the separation-collection approach and the other is the collection-center approach. The separation-collection refers to collection from homes and collection stations and the collection-center approach refers to collection from collection boxes at community halls and the like.

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

Ratio of paper carton collection types by city type



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Osaka City, Osaka

Activity examples

Osaka City, thus far, has collected paper cartons by accepting the cartons brought in to the Environmental Business Center by citizens and also by installing collection boxes at public facilities such as City Hall.

However, in October 2013 it started separate collection of used papers and clothes in every ward (the separate collection was started in six wards ahead of other wards in February 2013), and paper cartons was included in the target items of the separate collection. The volume of the paper cartons collected was 211 tons from collection centers (in 2012) and separate collection was 4 tons (the volume collected in the preceding implementation from February to September 2013).

Osaka City started requesting citizens to strictly observe the separate collection rules from October 2013. The city does not collect garbage bags if recyclable trash, container and packaging plastics, used papers or clothes are mixed with regular trash. A warning seal is attached to such bags.

The city has set up a support system for groups engaged in collection of recyclable waste to promote their activities.

The city is also making efforts to launch new groups by use of information from recycling business operators, who receive used papers from group collection, and through collaboration with staff to reduce waste. The volume of paper cartons from the group collection was 5 tons (in 2012).

The city introduces stores that are implementing voluntary collection of paper cartons and toilet rolls on the website of Osaka Recycling Map to build a more functional recycling system.



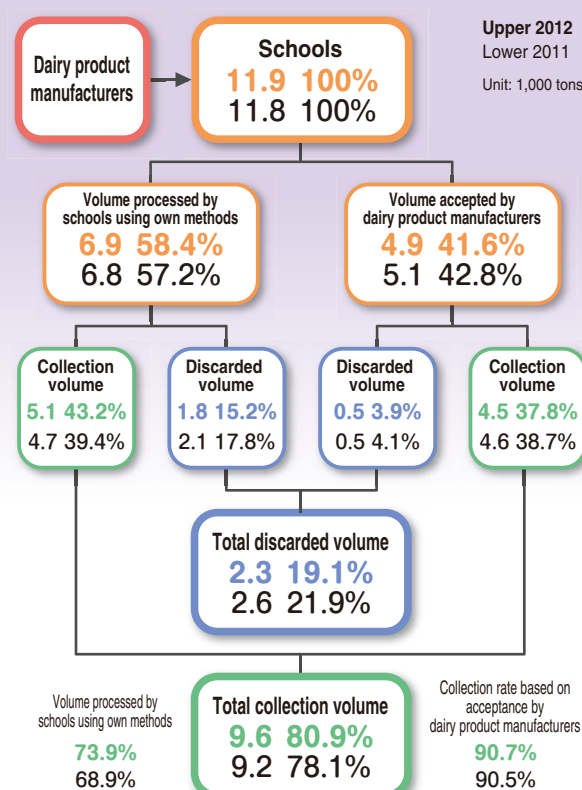
Recycling status of schools

Recycling of paper cartons of milk for school lunches also increasing.

Supply of paper cartons of milk for school lunches in 2012 was 11.9 thousand tons, roughly the same amount as the previous year. Out of the total supply, 9.6 thousand tons are collected for recycling. This figure is 0.4 thousand tons above the previous year.

In addition to recycling of paper cartons of milk for school lunches, reuse of paper cartons used in science and mathematics classes as well as collection of paper cartons from children's homes are implemented at primary schools.

Material flow of milk cartons for schools
(Estimated value)



※Processing by schools using own methods refers to deliver paper cartons directly to local governments or used paper recyclers.
※Figures may not add up to total due to rounding.

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Haga Cho Hagaminami Primary School

(Haga Cho, Tochigi Prefecture)

Activity examples

Haga Cho is located in the southeast of Tochigi Prefecture. The Gogyo and Nomoto rivers flow almost to the center of town. This town is known as one of leading rice growing districts in the prefecture. Many companies are moving into the industrial complex that has been built on the highland in the western part of the town. Hagaminami Primary School was established after three primary schools, Mizuhashi, Mizunuma and Takahashi, were integrated in 2006. There are 14 classes containing 289 children (as of April 1, 2012). Recycling of milk cartons commenced when the school opened with the support from the Environmental Measure Section of the Haga Cho. They collect about 300 cartons a day. Cartons are collected into the specified bags. School children work to collect milk cartons and separate discharge of leftovers of school lunches in concert with the town's "Town of Virtuous Cycle - Haga" activity (a publicity activity focusing on recycling, trash separation and making compost from leftover meals, etc.). Every year they implement collection of waste materials such as PET bottles, newspapers, magazines, cans and milk cartons with the cooperation of the PTA. The rules "Rinse, open, dry and bundle" are practiced by the children. They collect an amount of waste materials that occupies almost half the area of the loading platform of a lightweight truck. The profits are used to reduce the costs of children's school activities. Environmental consciousness of the children is heightened through the recycling of milk cartons and other environmental activities.



Drying overturned paper cartons!



Cooperation of homes in milk carton collection

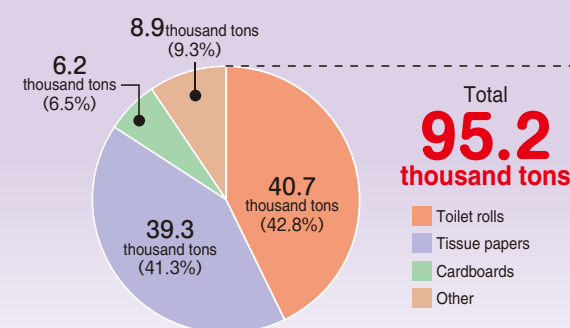
Recycling status of recycled paper manufacturers

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

Among the 21 recycled paper manufacturers who answered the questionnaires, 17 manufacturers accept paper wastes (industrial paper waste) of paper cartons, used papers, and used paper cartons generated in Japan.

The total volume accepted by manufacturers, which consists of paper cartons collection in Japan and imported paper wastes (industrial paper waste) of paper cartons in 2012 is 118.8 tons. About 80% (95.2 thousand tons) out of them are recycled into toilet rolls and tissue paper. Paper cartons are used for these products as precious high-quality pulp fiber.

Use for recycled products



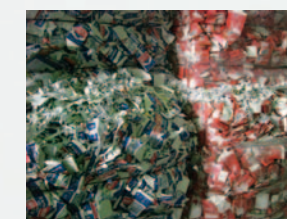
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Ehime Pulp Cooperative Association

(Shikokuchuo City, Ehime Prefecture)

Activity examples

The Ehime Pulp Cooperative Association was founded in 1969 by member firms of eight paper companies in Ehime Prefecture. It develops and produces "earth-friendly" recycled pulp made from 100% used paper. Kawanoe Cho, where the plant is located, is known as "paper town" due to its thriving paper-making and processing industry. This association supplies recycled pulp to member companies without producing the final products. Used papers primarily collected from western Japan are converted into pulp on the three different facilities consisted of AP line 240 tons/day (it produces pulp using mainly used business paper and confidential documents), MCP line 45 tons/day (produces pulp by use of paper cartons for beverages alone) and SP line 60 tons/day (produces pulp with high whiteness by using copy paper). Using this pulp, the member companies produce paper for home use (toilet rolls, tissue paper, etc.). Through these processes, papers return to our life again. They are practicing the cycle of "making papers from paper". The association has developed recycled pulp made from milk cartons alone (MCP) that have a level of quality comparable to natural pulp. MCP will be able to capture a certain portion of the market from the natural pulp. Thus, early establishment of the production system of such high-quality pulp is anticipated.



Collected paper cartons



A pile of MCP