

## Recycling status of retailers

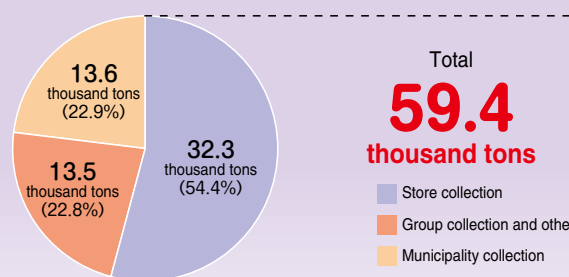
Storefront collection boxes such as at supermarkets collect a large volume of paper cartons.

Storefront collection boxes such as at supermarkets collect more than 50% of paper cartons collected from 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 volume of store-collected cartons in 2013 was 32.3 thousand tons. This was a dip of 0.4 thousand 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 on recycling!!

#### Bandai Co., Ltd.

(Head office in Higashi Osaka City, Osaka)

##### Activity examples

Bandai is a chain-store that operates 147 in Kansai area mainly in Osaka (as the end of November 2014). Under the corporate philosophy of "With an eye toward becoming the best place to shop in Japan", Bandai is implementing various reforms to make customers' lives "more affluent", "more enjoyable", and "more comfortable".

They installed the first collection box in 1992 as part of company-wide environmental measures, and the collected milk cartons were given to the welfare workplace recommended by Higashi Osaka City. With collection volumes increasing beyond the level that can be handled at the welfare workplace, Bandai now sells the cartons to a paper-making company. Profits from sales are used to fund the welfare organization.

The collection volume of milk cartons in fiscal 2013 was 234 tons. Bandai buys 22,000-35,000 boxes of recycled paper that they call "Welcome back tissue", and 270,000 toilet rolls a year that they call "Back-home rolls" for use in their stores and various company departments.

To prevent cartons containing foreign substances or left-over milk being inserted into the collection boxes, they monitor the collection boxes. This way, Bandai maintains and utilizes the quality of the resource.



A Bandai store



Milk carton collection boxes

## Collection status of welfare organizations

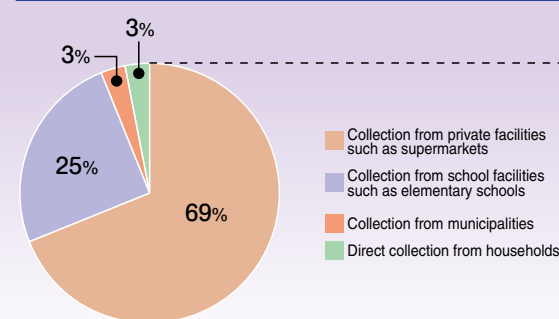
In addition to collecting paper cartons, they create products such as postcards from handmade paper produced from paper cartons.

Welfare organizations and citizen groups collect the largest volume of paper cartons from the storefront collection boxes of supermarkets and other types stores. This is followed by collection from homes, educational facilities such as elementary schools, and municipalities. They have a range of collection sources. According to the basic survey carried out in 2013, the collection volume was about 1,000 tons. This volume was almost the same as in the past.

In addition to collecting paper cartons, many welfare organizations create products such as postcards from recycled paper cartons.

The collection volume shown in the material flow also reflects the information obtained from JAMRA's fact-finding-survey on welfare organizations

The percentage by collection source of paper cartons collected by welfare organizations and citizens' groups



### We are working on recycling!!

#### Social welfare corporation Tohka Juku

(Location: Tondabayashi City, Osaka Prefecture)

##### Activity examples

The Tohka Juku welfare social corporation was established in 1916 with the basic concept of "Veneration of life." They have four operations: "Children's department", "Adults department", "Visit department", and "Care home" - to support the welfare of children and the lives of people with disabilities.

Their environmental activities include selling the collected and sorted resources such as paper cartons and waste cans to recycling business operators, and creating and selling writing materials and sundries created from paper carton pulp.

They use logistics centers of a nearby supermarket, schools and daycare centers as collection centers. Recently, they have been receiving support from the administrative board of a large-scale apartment complex. They collected 48 tons in 2013. The number of collaborating towns is gradually increasing thanks to the efforts of their friends and social welfare workers. Although there are problems with store collections at supermarkets due to commingling of foreign substances and uncleaned cartons, they have promoted this approach considering that separating foreign substances is part of their business. In order to enhance quality of the collected cartons, they are communicating their efforts and the basic rules of "rinse, open and dry" to the public through a growing number of collaborating companies and supporters.



Writing materials and sundries recycled from paper carton pulp



A scene of collection of resources

# Collection status of municipalities and citizens' groups



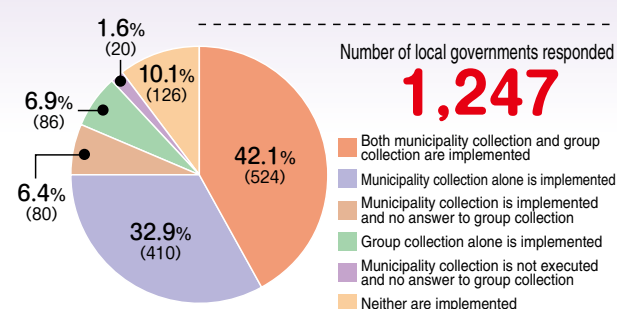
Collection of paper cartons is carried out in about 90% of local governments.

Among the 1,742 municipalities in the country, our 2013 survey was conducted in 1,735 of them excluding 7 areas that have been affected by the nuclear accident. We received responses from 1,247 municipalities. The total population of municipalities that responded to the survey made up 85.9% of the total population.

Used (consumed) paper carton collection by municipalities and unions is classified as "municipality collection," and collection carried out by citizens' 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 81%, and the group collection rate - excluding cases where no answers were received - was 49%. Either municipality collection or group collection was executed in 88% of the municipality. This means that almost 90% of local governments are collecting paper cartons.

Implementation rate of municipality collection and group collection



22.7 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 2013, the municipality collection volume was 13.6 thousand tons, and the group collection volume was 9.1 thousand tons. Total collection volume was 22.7 thousand tons.

As a whole, per capita collection volume (basic unit) of the group collection is slightly higher than that of municipality collection. Collection volumes in main cities, which contain 60% of the national population, have remained stable and high in recent years. In government-decreed cities, Tokyo special city wards and town/villages, group collection is becoming more widespread than municipality collection. The task now is how to promote collection in big cities because the basic unit in government-decreed cities and Tokyo special city wards is small.

Estimated municipality and group collection volumes by city type

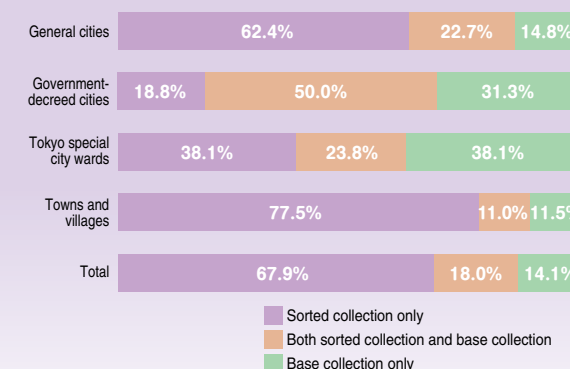
|                                                 | Total | General cities | Government-decreed cities | Tokyo special city wards | Towns and villages |
|-------------------------------------------------|-------|----------------|---------------------------|--------------------------|--------------------|
| Municipality collection                         |       |                |                           |                          |                    |
| Estimated volume (1,000 tons)                   | 13.6  | 9.7            | 1.4                       | 0.7                      | 1.5                |
| Estimated collection ratio by city type         | 100%  | 72%            | 10%                       | 5%                       | 11%                |
| Collection volume per person (grams per person) | 104   | 121            | 53                        | 76                       | 126                |
| Group collection                                |       |                |                           |                          |                    |
| Estimated volume (1,000 tons)                   | 9.1   | 6.0            | 2.2                       | 0.2                      | 0.6                |
| Estimated collection ratio by city type         | 100%  | 66%            | 25%                       | 2%                       | 7%                 |
| Collection volume per person (grams per person) | 71    | 75             | 83                        | 23                       | 55                 |
| Population by city type (millions)              | 128   | 81             | 27                        | 9                        | 12                 |

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

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 homes and stations, and the collection-center approach refers to collection from collection boxes at 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 on recycling!!

### Osaki West City Towers

(Shinagawa Ward, Tokyo)

#### Activity examples

An urban development targeted at housing and offices in the area around the west exit of JR Osaki station was carried out in 1987 to make the area adequate as a newly emerging city center in Tokyo. This is a good example of milk carton collection in a community covered by the condo association board and the residents' association of Osaki West City Towers, which contains 1,084 households.

Collection of milk cartons in this location started in November 2013 when the condo association board and residents' association installed trial collection boxes at six locations. Today, they collect milk cartons by posting "Milk carton collection rules" at common-use garbage and material yards (78 locations). Milk cartons collected on each floor are carried to the stock yard in the basement and collected on a regular basis. The rule of "Rinse, open and dry" is observed by the residents in a cooperative manner.

They hold a "Gratitude for Recycling Festa" every autumn, and the money earned from carton sales is returned to the residents in the form of toilet rolls, packs of low-pesticide vegetables, etc. With the cooperation of the Shinagawa refuse collection office, they display the catch-phrase, "Garbage if mixed, resource when separated".



"Milk carton collection rules"



Installed collection box



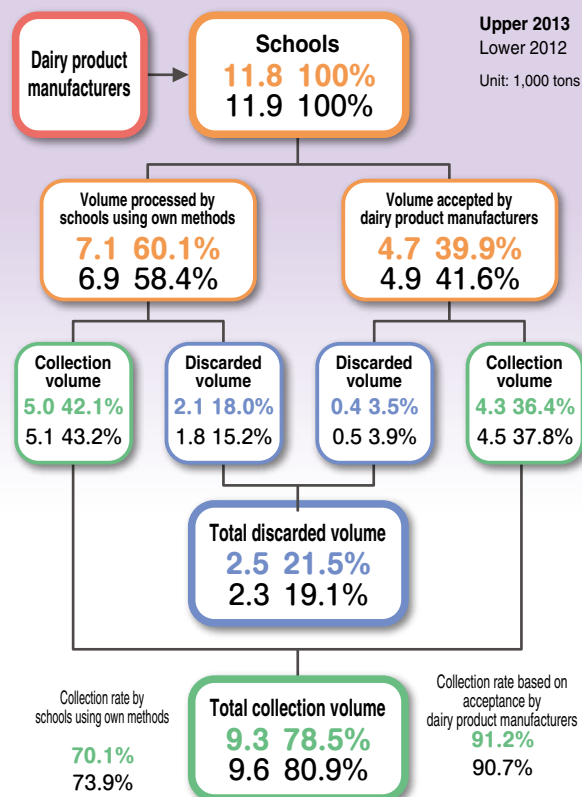
## Recycling status of schools

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

Approximately 11.8 thousand tons of paper milk cartons were supplied for school lunches in 2013, which was roughly the same amount as in the previous year. Out of the total supply, 9.3 thousand tons are collected for recycling. The figure remains high.

In addition to recycling of paper milk cartons 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 being implemented at elementary schools.

**Material flow of milk cartons for schools**  
(Estimated value)



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

### We are working on recycling!!

#### Kawaguchi City Tozukaminami Elementary School

(Kawaguchi City, Saitama)

##### Activity examples

Founded in April 2005, Kawaguchi City Tozukaminami Elementary School in Saitama Prefecture is the newest elementary school in Kawaguchi. This school conducts unique educational activities under the educational goal of "Rearing children to have a dream and who live with a rich spirit." Its "Eco-school" provides children with the opportunity to experience collecting used papers and milk cartons as well as conditioning soil using compost. The school is promoting a range of environmental efforts as seen in the roof greening, green curtains, solar power panels, and rainwater utilization panels. The amounts of energy collected from such panels are displayed at the school entrance. The paper carton collection initiative started from an approach made by the Kawaguchi Citizens' Environmental Conference NPO organization. Its members arranged, as an environmental coordinator, a meeting between the school and business operators. Milk carton collection in the "Eco-school" is planned along the lines of environmental activities in the integrated study. Collection and recycling of milk cartons for school lunches were started when the school was founded. Profits from sales are returned to children in the form of toilet rolls. The first to sixth graders collect the cartons during a lunch break on the fourth Friday of each month, which is called "Paper Day". Now 13 neighboring schools are participating in the activity, which is expanding the scope of the movement.

In 2013, 1,550 kg of milk cartons used for school lunches were collected, 550 kg were collected from home, a total of 2,100 kg.



Solar power panel



Milk carton collection recovery vehicle

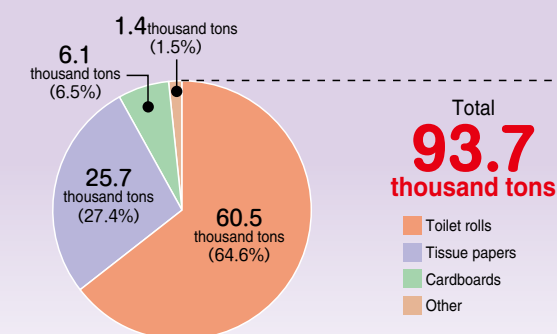
## Recycling status of recycled paper manufacturers

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

Among the 15 recycled paper manufacturers who answered the questionnaire, 12 manufacturers accept 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 2013 is 119.1 tons. About 80% (93.7 thousand tons) from this are recycled into toilet rolls and tissue paper. Paper cartons are used for these products as precious high-quality pulp fiber material.

**Use for recycled products**



### We are working on recycling!!

#### Marutomi Paper Manufacturing Company

(Fuji City, Shizuoka Prefecture)

##### Activity examples

Marutomi Paper Manufacturing Company started its business in 1955. The company makes a social contribution and contributes to environmental conservation through paper making. They have been taking a proactive stance to preserve resources and the environment since their business began, based on the slogan, "Working toward becoming an eco-friendly company." They focus a great deal of energy on improving the efficiency involved in using resources and energy by, for instance, establishing technology not to generate wastes (such as zero emissions).

From 1984, they started recycling used paper cartons at the request of the "Tanpopo" study group in Ohtsuki City, Yamanashi. Since then, they have been playing a leadership role in this activity.

They collect paper cartons from elementary schools, junior high schools, supermarkets and other associations by using recovery vehicles. They also cooperate with supermarkets' sales of products recycled from paper cartons. They secure stable collection volumes of paper cartons by collecting them at the delivery point. The total collection volume - including paper waste generated in the process - exceeds 13,000 tons.

They also place emphasis on environmental education, and about 7,000 plant visitors are accepted per year. Each visitor is requested to bring three paper cartons as the plant tour 'fee'. Visitors learn how milk cartons are recycled into toilet rolls.



Loading of used papers onto the truck



Paper cartons as the tour charge