

# Paper carton collection rate in fiscal 2014



The paper carton collection rate in fiscal 2014 was 44.7%.

The "Basic survey on the present status and trends of beverage paper carton recycling" has been carried out since 1995 to enable collection and provision of information about paper carton recycling to communities. This survey was also held in the period from June to October 2015, and the status of paper carton recycling in fiscal 2014 was revealed. The collection rate of all paper cartons in fiscal 2014 was 44.7% (0.1% increase over the previous year). The used paper carton collection rate was 35.7% (0.8% increase).

Taking into consideration the diversification in used paper carton collection routes in recent years, we have added direct collection by wholesalers of used paper materials and recycled paper manufacturers in the 2014 survey. The volume of the above direct collection is included in "group collection and others" in the material flow.

※In the fiscal 2014 survey, we conducted questionnaire-based surveys at nine paper carton manufacturers, 307 beverage manufacturers, 1,734 local authorities, 2,057 elementary schools, 1,032 supermarkets, 611 citizen's groups and welfare work places, and 31 recycled paper manufacturers. The interview survey took place at four facilities. Areas affected by the nuclear accident in Fukushima are excluded from the survey.

※Waste papers or industrial waste papers refer to faulty paper cartons and base paper (raw paper) that have been generated in the paper carton manufacturing processes or at beverage plants before being filled by beverages, including edge trims that are not used as a paper carton.

※Empty paper cartons generated at stores, business facilities, schools and households are called "used papers".

Transaction prices of paper cartons collected in municipality collection and group collection are growing.

As paper fibers are long and strong, used paper cartons are considered to be high-quality recycled paper materials and are traded at a relatively high price accordingly.

However, since the transaction price of paper cartons differs by local government, it is difficult to calculate a standard price. Based only on the price of paper cartons without taking any additional conditions into account, we have calculated the average price of municipality collection (including collection at Tokyo special wards) and group collection after dividing the transaction price into two types: the "delivery price" and the "carry-in price". The former is when the counterpart visits you to purchase the products, and the latter is when you bring the products to the counterpart.

Used paper recyclers and wholesalers of used paper materials are the main counterparts of the collection. The transaction prices of paper cartons collected in the municipality collection and group collection are higher than they were last year.

## Average transaction price of used paper cartons

Fiscal year		2011	2012	2013	2014	
Municipality collection	Used paper collectors	Delivery price	7.1	6.8	7.0	6.9
		Carry-in price	7.5	6.7	6.5	7.0
	Wholesalers of used paper materials	Delivery price	9.4	9.2	8.3	9.0
		Carry-in price	8.7	8.2	8.4	9.3
	Recycled paper manufacturers	Delivery price	10.8	9.4	6.4	8.6
		Carry-in price	10.3	10.9	9.0	12.0
Group collection (Unknown traders)	Delivery price	5.2	4.9	5.1	5.2	
	Carry-in price	5.9	5.3	5.7	6.0	

(Yen/kg)

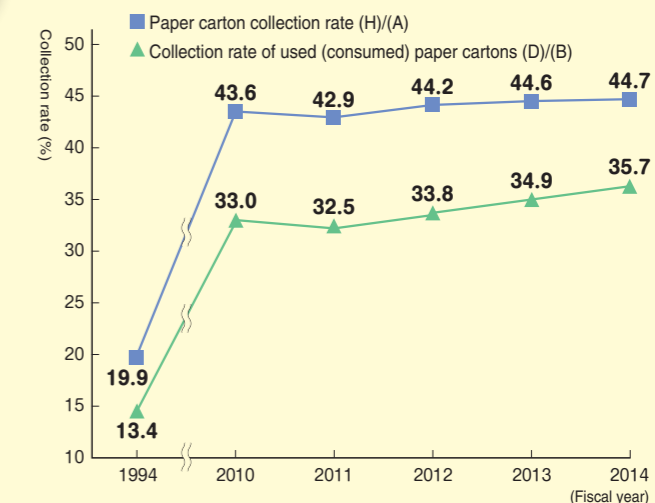
The paper carton collection volume in fiscal 2014 was 104.4 thousand tons.

The collection volume of domestic paper cartons in fiscal 2014 was 104.4 thousand tons due to a reduction in waste papers. This was a decrease of 1.9 thousand tons (1.8%) over the previous year. The collection volume of used paper cartons was 71.1 thousand tons. This is an increase of 0.5 thousand tons (0.7%) over the previous year.

Although the paper carton collection rate in 2011 dipped as shown in the figure to the right, the rate began to increase again in 2012. In particular, the collection rate of used paper cartons is increasing.

Trends in volumes of used paper cartons and their collection volume are summarized in "Trends shown by major data".

## Trends in paper carton collection rate



## Trend in major figures (thousand tons)

Category	Fiscal 1994	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Percent increase over previous year	
Usage volume of base paper (raw paper) for paper cartons for beverages (A)	216.0	246.8	246.6	242.9	238.2	233.7	-1.9%	
Industrial paper waste at paper carton manufacturers	16.5	37.3	35.1	36.2	33.5	31.4	-6.5%	
Industrial paper waste at beverage manufacturers	-	2.1	3.3	2.4	2.4	2.2	-8.3%	
Shipping volume of paper cartons used for beverages from beverage manufacturers (B)	197.9	207.3	208.3	204.3	202.1	199.3	-1.4%	
Household wastes (C)	168.7	184.6	184.8	180.3	178.5	176.2	-1.3%	
Shipping volume of business wastes	29.2	22.6	23.5	24.0	23.6	23.1	-2.2%	
School meals	10.7	11.8	11.8	11.9	11.8	11.7	-0.9%	
Restaurants and others	18.5	10.8	11.7	12.1	11.7	11.3	-3.5%	
Collection volume of used (consumed) paper cartons (D) = (E) + (F)	26.5	68.4	67.7	69.1	70.6	71.1	0.7%	
Household wastes (E)	25.9	56.6	56.2	57.2	59.4	60.4	1.7%	
Collection volume from stores	13.8	33.6	33.0	32.6	32.3	31.9	-1.3%	
Municipality collection volume	4.3	14.1	13.9	13.7	13.6	12.8	-5.9%	
Group collection volume	7.8	8.9	9.3	10.9	13.5	15.7	16.3%	
Business (F)	0.6	11.8	11.5	11.9	11.2	10.7	-4.4%	
School meals	0.6	9.4	9.2	9.6	9.3	8.8	-5.0%	
Restaurants and others	-	2.3	2.3	2.3	1.9	1.9	-1.4%	
Collection volume of industrial paper waste and used paper cartons (G)	16.5	39.3	38.1	38.4	35.7	33.3	-6.7%	
Paper carton manufacturers	16.5	37.3	35.1	36.2	33.5	31.4	-6.4%	
Beverage manufacturers	-	1.9	3.0	2.2	2.2	1.9	-10.1%	
Collection volume of domestic paper cartons (H) = (D) + (G)	43.0	107.6	105.7	107.5	106.3	104.4	-1.8%	
Import volume of used paper cartons	-	12.7	14.0	11.4	12.8	18.6	45.6%	
Total volume of accepted paper cartons	43.0	120.3	119.7	118.8	119.1	123.0	3.3%	
Recycling volume of paper cartons	30.1	96.3	95.7	95.2	93.7	95.4	1.8%	
Collection rate	Paper carton collection rate (H)/(A)	19.9%	43.6%	42.9%	44.2%	44.6%	44.7%	0.1 points
	Collection rate of used (consumed) paper cartons (D)/(B)	13.4%	33.0%	32.5%	33.8%	34.9%	35.7%	0.8 points
	Collection rate of used (consumed) paper cartons in residential homes (E)/(C)	15.4%	30.6%	30.4%	31.7%	33.3%	34.3%	1.0 points

※Recycling volume of paper cartons = Total volume of accepted paper cartons X Yield rate The yield rate after fiscal 2001 is computed based on the results of the questionnaire survey.

※Industrial paper wastes for fiscal 1994 include aluminum laminated paper cartons.

※Collection volume of paper cartons from business organizations is calculated from fiscal 2004 based on the results of the questionnaire survey.

※The revision conducted in 2005 on the milk cartons for schools has affected the values of some of the items.

※Some of the total values may include errors due to rounding to the nearest 100 tons. Also, due to the same reason, some figures may not add up if you calculate the collection rate and percentage over those of the previous year using the values in the table.

## Paper Carton Collection Rate in Fiscal 2014

### Paper carton collection rate

(Including industrial waste papers and used papers)

**44.7%**

(44.6% in fiscal 2013)

= Collection volume of domestic paper cartons

÷ Amount of base paper (raw paper) used

= 104.4 thousand tons/233.7 thousand tons

### Used paper carton collection rate

(Used paper cartons)

**35.7%**

(34.9% in fiscal 2013)

= Used paper carton collection volume

÷ Shipping volume of paper cartons from beverage manufacturers

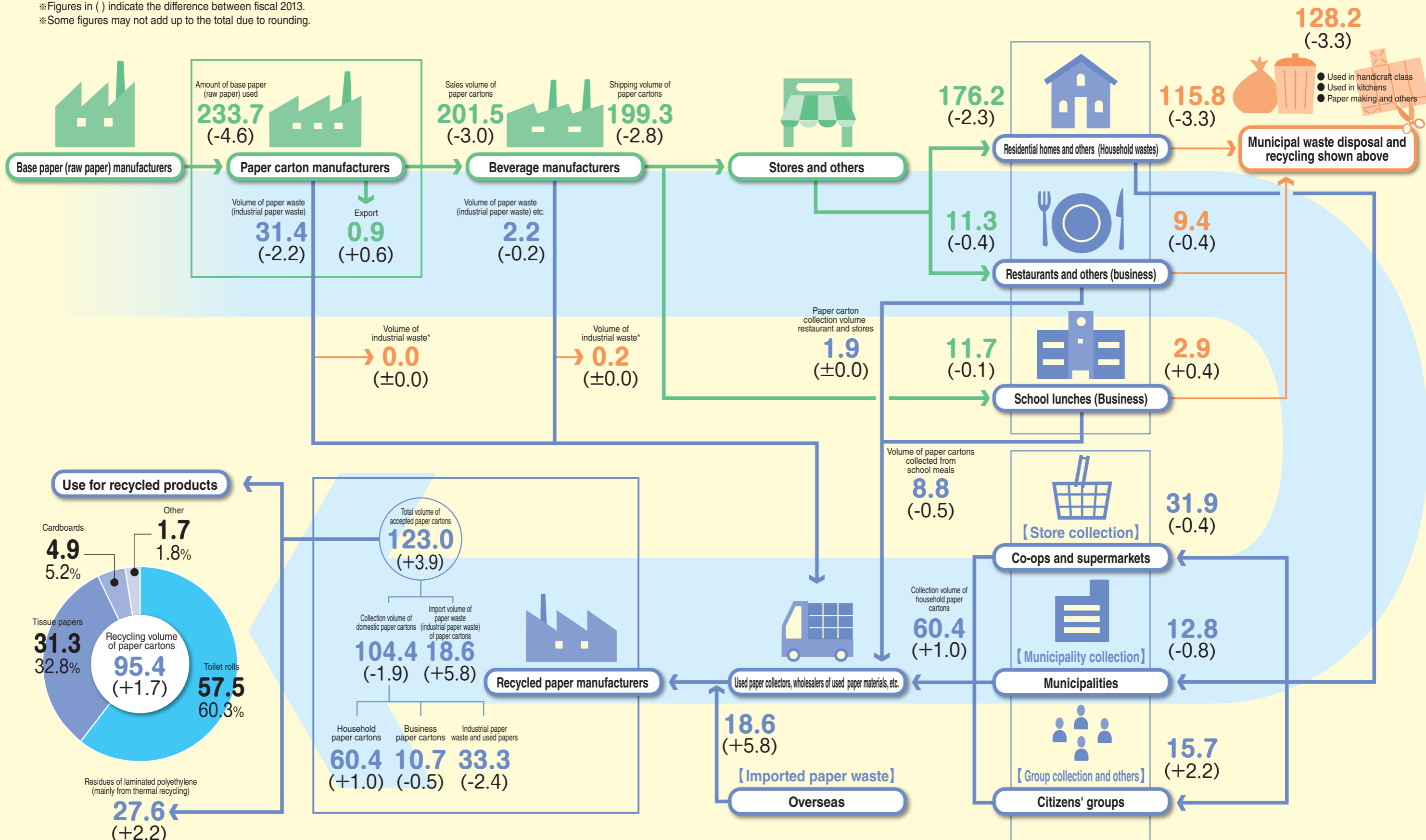
= 71.1 thousand tons/199.3 thousand tons

# Paper carton material flow in fiscal 2014



The following shows the overall state of paper carton recycling in fiscal 2014 in the form of material flow.

- ※Unit: 1,000 tons
- ※Figures in ( ) indicate the difference between fiscal 2013.
- ※Some figures may not add up to the total due to rounding.



\* The volume of industrial wastes includes that generated by thermal recycle.