

Paper carton collection rate in fiscal 2016



The paper carton collection rate in fiscal 2016 was 44.3%.

The "Basic Survey on the Current Status and Trends of Beverage Paper Carton Recycling" has been carried out since 1995 to enable collection and provision of data about paper carton recycling to communities. This survey was conducted from June to October 2017, and the status of paper carton recycling in fiscal 2016 was subsequently revealed. The overall paper carton collection rate in fiscal 2016 was 44.3% (an increase of 1.2 points over the previous fiscal year). The collection rate of used paper cartons was 35.6% (an increase of 1.4 points over the previous year).

※In fiscal 2016, we conducted questionnaire-based surveys at nine paper carton manufacturers, 304 beverage manufacturers, 1,736 local authorities, 2,008 elementary schools, 1,043 supermarkets, 22 citizen's groups and welfare work places. The interview survey took place at four facilities. Areas affected by the nuclear accident in Fukushima are excluded from the survey.
 ※"Industrial waste paper and used paper" refers to waste paper and used paper generated in paper carton manufacturing plants or beverage manufacturing plants.
 ※"Industrial waste paper" refers to edge trims generated in paper carton manufacturing processes or at beverage manufacturing plants before paper cartons are filled with beverages. "Used paper" refers to waste paper cartons after filling beverage product. "Used paper cartons" refers to paper cartons consumed at home, schools, stores, and offices.

Paper Carton Collection Rate in Fiscal 2016

Collection rate of paper carton
(Including industrial waste paper and used paper)

44.3%
(43.1% in fiscal 2015)

= Collection volume of domestic paper cartons
 ÷ Amount of base paperboard used
 = 99,900 tons / 225,400 tons

Collection rate of used paper carton
(Used paper cartons)

35.6%
(34.2% in fiscal 2015)

= Volume of collected used paper cartons
 ÷ Shipping volume of paper cartons from beverage manufacturers
 = 68,500 tons / 192,600 tons

Note: Collection rate that reflects paper cartons reused or disposed of as other miscellaneous used paper

Some of the used paper cartons are reused as cutting boards before being disposed of. Some are not counted in the collection volume even if they are collected as they are mixed in the other miscellaneous used paper. Subtracting the former from the denominator and adding the latter to the numerator, we calculate each collection rate as follows:
 Collection rate of paper carton = 46.8%, Collection rate of used paper carton = 38.1%

Trade prices of paper cartons collected via municipality collection and group collection are growing.

As paper fibers of paper cartons are long and stiff, used paper cartons are considered to be high-quality materials for recycled papers and are subsequently traded at a relatively high price.

However, since the trade 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 trade price into two types: the "pick-up 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 average trade prices of all paper cartons collected in the municipality collection and group collection are higher than they were in the previous fiscal year.

Average trade price of used paper cartons

Fiscal year		2013	2014	2015	2016	
Municipality collection	Used paper recyclers	Pick-up price	7.0	6.9	8.0	7.8
		Carry-in price	6.5	7.0	7.7	8.1
	Wholesalers of used paper materials	Pick-up price	8.3	9.0	8.4	10.3
		Carry-in price	8.4	9.3	9.4	9.4
	Paper manufacturers	Pick-up price	6.4	8.6	6.8	7.6
		Carry-in price	9.0	12.0	7.8	9.4
Average price		7.4	7.9	8.3	8.6	
Group collection	(Unknown traders)	Pick-up price	5.1	5.2	5.5	5.7
		Carry-in price	5.7	6.0	5.7	6.7
	Average price		5.2	5.4	5.6	6.0

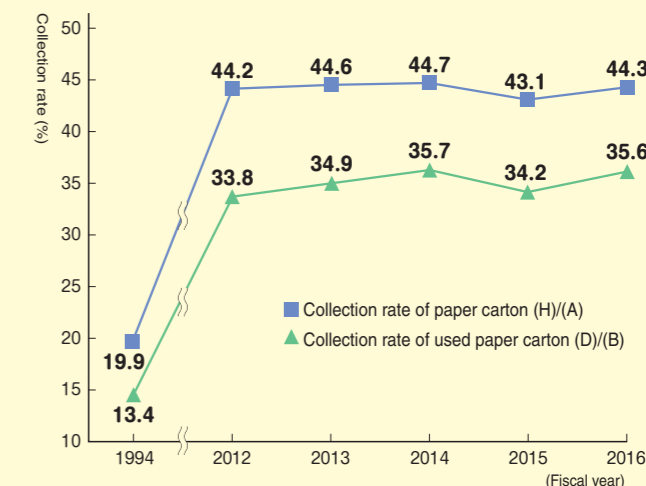
(Yen/kg)

The paper carton collection volume in fiscal 2016 was 99,900 tons.

The collection rate of domestic paper carton is evolving as shown in the graph on the right. The following table presents details of the collection volume and rate.

The collection volume of domestic paper cartons in fiscal 2016 was 99,900 tons. This was an increase of 1,600 tons (1.6%) over the previous fiscal year. Industrial waste paper and used paper remained on the same level. The collection volume of paper cartons in the country increased primarily because of the increase in the collection volume of used paper cartons. The collection volume of used paper cartons was 68,500 tons. This was an increase of 1,500 tons (2.2%) over the previous year. The increase in the independent collection by wholesalers of used paper materials compensated for the decreased collection volume from store collection and municipality collection.

Trends in paper carton collection rate



Trend in major figures (thousand tons)

Category	Fiscal 1994	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016	Over previous year	
Amount of base paperboard used for paper cartons for beverages (A)	216.0	242.9	238.2	233.7	228.3	225.4	-1.3%	
Industrial paper waste at paper carton manufacturers	16.5	36.2	33.5	31.4	29.7	29.8	0.5%	
Industrial paper waste at beverage manufacturers	-	2.4	2.4	2.2	1.9	1.9	-0.5%	
Shipping volume of paper cartons for beverages from beverage manufacturers (B)	197.9	204.3	202.1	199.3	196.0	192.6	-1.8%	
Household (C)	168.7	180.3	178.5	176.2	176.2	169.8	-3.7%	
Shipping volume of business	29.2	24.0	23.6	23.1	19.8	22.8	15.2%	
School meals	10.7	11.9	11.8	11.7	11.6	11.6	0.1%	
Restaurants and others	18.5	12.1	11.7	11.3	8.3	11.2	36.2%	
Collection volume of used paper cartons (D) = (E) + (F)	26.5	69.1	70.6	71.1	67.0	68.5	2.2%	
Household (E)	25.9	57.2	59.4	60.4	56.3	57.8	2.8%	
Store collection	13.8	32.6	32.3	31.9	30.4	29.3	-3.5%	
Municipality collection	4.3	13.7	13.6	12.8	12.2	11.6	-4.7%	
Group collection and others	7.8	10.9	13.5	15.7	13.7	16.9	23.2%	
Municipalities' acknowledged volume	7.8	8.7	9.1	8.4	8.8	8.6	-2.5%	
Independent collection by wholesalers of used paper materials	-	2.2	4.4	7.3	4.9	8.3	69.9%	
Business (F)	0.6	11.9	11.2	10.7	10.7	10.6	-0.7%	
School meals	0.6	9.6	9.3	8.8	8.8	8.7	-0.3%	
Restaurants and others	-	2.3	1.9	1.9	2.0	1.9	-2.7%	
Collection volume of industrial paper waste and used paper cartons (G)	16.5	38.4	35.7	33.3	31.3	31.4	0.3%	
Paper carton manufacturers	16.5	36.2	33.5	31.4	29.7	29.8	0.5%	
Beverage manufacturers	-	2.2	2.2	1.9	1.7	1.6	-2.9%	
Collection volume of domestic paper cartons (H) = (D) + (G)	43.0	107.5	106.3	104.4	98.3	99.9	1.6%	
Import volume of used paper cartons	-	11.4	12.8	18.6	19.8	19.8	±0.0%	
Total volume of accepted paper cartons	43.0	118.8	119.1	123.0	118.1	119.6	1.3%	
Recycling volume of paper cartons	30.1	95.2	93.7	95.4	95.1	96.4	1.3%	
Collection rate	Collection rate of paper carton (H)/(A)	19.9%	44.2%	44.6%	44.7%	43.1%	44.3%	1.2points
	Collection rate of used paper cartons (D)/(B)	13.4%	33.8%	34.9%	35.7%	34.2%	35.6%	1.4points
	Collection rate of used paper cartons in households (E)/(C)	15.4%	31.7%	33.3%	34.3%	31.9%	34.1%	2.2points

※Recycling volume of paper cartons = Total volume of accepted paper cartons X Yield rate
 The yield rate since fiscal 2001 is computed based on the results of the questionnaire survey.
 ※Industrial paper waste for fiscal 1994 included aluminum laminated paper cartons.
 ※Some of the total values may include errors due to values being rounded 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 fiscal year using the values in the table.

Paper carton material flow in fiscal 2016

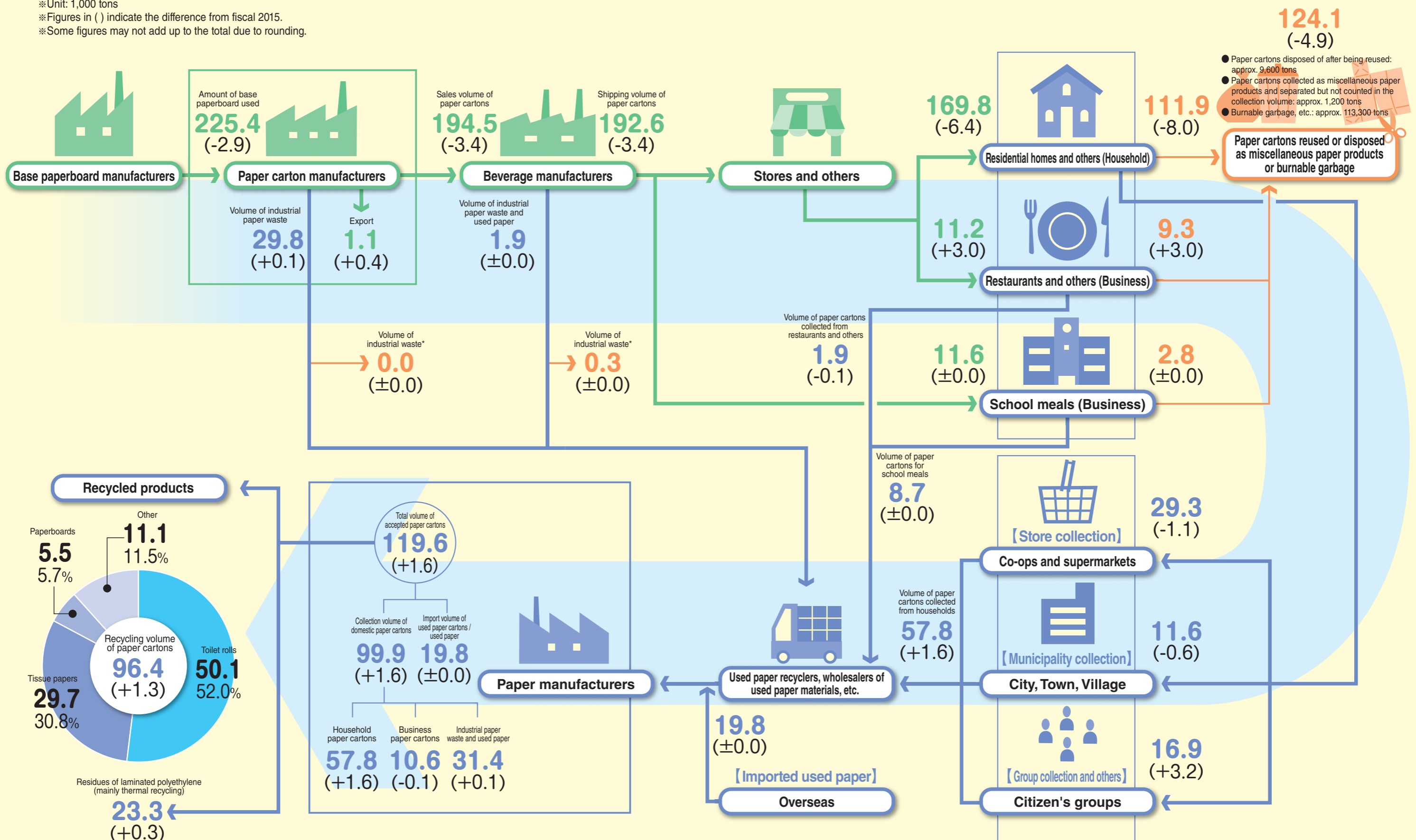


The following shows the overall state of paper carton recycling in fiscal 2016 in the form of material flow.

※Unit: 1,000 tons

※Figures in () indicate the difference from fiscal 2015.

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



* The volume of industrial waste includes that for thermal recycling.