



III The Method of Sorted Collection of Steel Cans

1. How Many Municipalities Sort Out Steel Cans?

The Implementation of "the Questionnaires on the Recycling of Steel Cans" in FY2012

We carried out a questionnaire survey annually to figure out the present condition of sorted collection practices by municipalities, such as collection methods and conditions of recycling facilities focusing on the recycling of steel cans.

Subjected research period : From April 2012 to March 2013
 Research period : From June to July 2013
 Research subject : The cities all over Japan and the 23 wards
 in Tokyo (808 Wards and cities)
 The number of returned questionnaires : 736 Wards/ Cities
 The return rate : 91. 1%
 The population coverage rate : 85. 6%

Note. Total population (estimated) is 127,515,000 as of October 1st, 2012 (data from the Statistics Bureau).



People sorted out recyclables as "Cans"

The Rate of Municipalities Practicing Sorted Collection

As the Act on the Promotion of Sorted Garbage Collection and Recycling of Containers and Packaging has been fully enforced since FY2000, the percentages have been improving yearly. Also, the municipalities answered "not practiced" are developed group collection/site collection in recycle route of recycles.

	FY2012		FY2009		FY2006	
	# of wards and cities	rate (%)	# of wards and cities	rate (%)	# of wards and cities	rate (%)
Total	808	—	809	—	802	—
The number of returned questionnaires(The return rate)	736	91.1	710	87.8	726	90.5
Practiced throughout the Municipal District	724	98.4	701	98.7	710	97.8
Practiced in parts of the Municipal District	10	1.4	7	1.0	15	2.1
Not practiced	2	0.3	2	0.3	1	0.1

The Rate of Municipalities Collecting Resource Waste by Items (included collection in model regions)

Steel cans for beverages, aluminum cans and bottles have been designated to be collected separately at more than 90% of the municipalities from FY2006. However, the number of municipalities designated recycled waste-paper, cartons, cardboard, PET bottles has been increasing. Especially, the percentages of PET bottles increased sharply from 38.8% in FY2006 to 95.9% in FY2012.

	FY2012		FY2009		FY2006	
	# of wards and cities	rate (%)	# of wards and cities	rate (%)	# of wards and cities	rate (%)
Steel cans	705	96.0	683	96.5	690	95.0
Aluminum cans	707	96.3	686	96.9	693	95.5
Glass bottles	723	98.5	697	98.4	705	97.1
PET bottles	704	95.9	675	95.3	282	38.8
Cartons	572	77.9	541	76.4	651	89.7
Cardboard	624	85.0	595	84.0	350	48.2
Paper container	320	43.6	292	41.2	350	48.2
Plastic container	473	64.4	435	61.4	229	31.5
Metals	312	42.5	292	41.2	568	78.2
Waste paper	619	84.3	591	83.5	576	79.3
Fabric	397	54.1	362	51.1	504	69.4
Others	340	46.3	316	44.6	260	35.8
Total	734	100.0	708	100.0	726	100.0

Note 1. [Others] represents food trays, used cooking oil, kitchen waste, pruned branches, used batteries, fluorescents, etc.

Note 2. [Plastic container and packaging] and [Paper container and packaging] etc. include collection in model regions.



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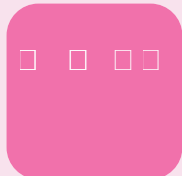
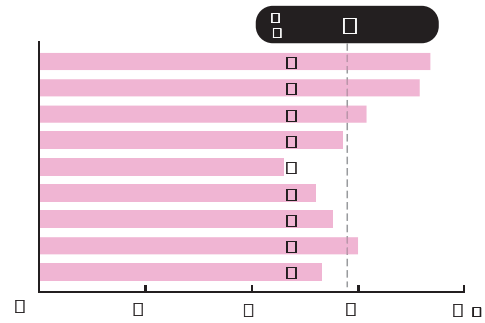
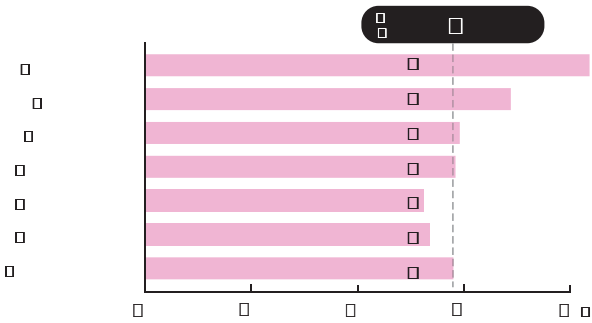
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5. How Are Steel Cans Collected from Noncombustible Waste?

■ The Amount of Steel Cans Collected from Noncombustible Waste is Estimated to be 22,000 tons totally

According to the research data collected from 568 municipalities, the amount of iron collected is 271,761 tons in FY2012 (including 13,454 tons of steel can). This translates into the recycling of 435,115 tons nationwide (including 21,541 tons of steel can).

The Amount of Steel Cans Collected from Noncombustible Waste (estimated based on the record in FY2012)

(Unit: tons)

	# of wards and cities	The amount of iron collected(t)	The amount of steel can collected(t)
Shredding only	5	1,955	48
Magnetic separation after Shredding	249	127,235	7,230
Magnetic separation and press after shredding	145	82,247	3,290
Press after magnetic separation	12	4,063	357
Delivery to recycling manufacture	78	20,006	960
Others	66	34,547	1,373
Unknown	13	1,708	196
Total	568	271,761	13,454

Note. In the 23 wards, Tokyo, the recycling amount of ferrous metal from noncombustible waste is calculated from data of the clean association of Tokyo 23.

○ Form of Processing Ferrous Metals at Noncombustible Waste Disposal Facilities

Magnetic separation after shredding is the highest ratio of 40.4%, followed by magnetic separation and press after shredding (20.2%). Comparing to the condition in FY2006, 2009, the overall trend is the same, but the ratio of dumped directly and magnetic separation and press after shredding decreased, and delivery to the recycling manufactures has increased.

	FY2012		FY2009		FY2006	
	# of wards and cities	rate (%)	# of wards and cities	rate (%)	# of wards and cities	rate (%)
Shredding only	7	1.0	7	1.0	12	1.7
Magnetic separation after shredding	297	40.4	278	39.2	283	39.0
Magnetic separation and press after shredding	149	20.2	164	23.1	180	24.8
Press after magnetic separation	21	2.9	21	3.0	28	3.7
Dumped directly	24	3.3	25	3.5	36	5.0
Delivery to recycling manufactures	107	14.5	99	13.9	71	9.8
Others	83	11.3	70	9.9	58	8.0
Unknown	48	6.5	46	6.5	59	8.1
Total	736	100.0	710	100.0	726	100.0

○ Sales Condition According to the Form of Processing Ferrous Metals in FY2012

Most of the scrap can are sold with charge regardless of how they were processed (71.4%), however, once there is extraneous material admixed except iron, there is a case of inverse onerous contract since it takes more time efforts to separate and there are some municipalities that do inverse onerous.

	With charge	Inverse onerous contract	Without charge	Unknown	Total
Shredding only	2	1	0	4	7
	28.6	14.3	0.0	57.1	100.0
Magnetic separation after shredding	230	8	7	52	297
	77.4	2.7	2.4	17.5	100.0
Magnetic separation and press after shredding	113	1	4	31	149
	75.8	0.7	2.7	20.8	100.0
Press after magnetic separation	17	0	0	4	21
	81.0	0.0	0.0	19.0	100.0
Delivery to recycling manufactures	63	9	5	30	107
	58.9	8.4	4.7	28.0	100.0
Others	49	3	3	28	83
	59.0	3.6	3.6	33.7	100.0
Total	474	22	19	149	664
	71.4	3.3	2.9	22.4	100

Note. [Others] represents taking multiple ways, press after hand separation etc.

○ Average Sales Price According to the Form of Processing Ferrous Metals (only in items with charge)

The average price of iron steel increases comparing to year 2008 and decreases year 2010. The highest price is ¥19,243/t for the magnetic separation and press after shredding, while the lowest price is ¥10,375/t for the shredding only.

(Unit: ¥/t)

	2013	2010	2008
Shredding only	10,375	15,967	7,164
Magnetic separation after Shredding	18,292	20,688	9,958
Magnetic separation and press after shredding	19,243	21,278	11,495
Press after magnetic separation	18,328	15,035	7,917
Delivery to recycling manufacture	16,390	15,404	11,290
Others	15,947	21,039	11,367
Annual average	17,982	19,949	10,535

Note. Prices show the latest price in each year



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6. How Much Pressed Steel from Cans Do Municipalities Sell?

Pricing Conditions of Steel Cans according to the Forms of Selling in FY2012

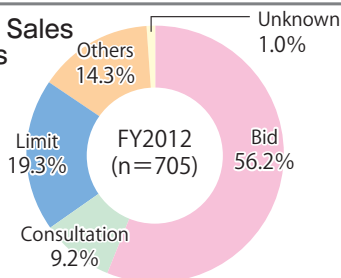
Most of the steel cans are sold with charge regardless of how they are sold, but the pressed cans are inverse onerous contract in some municipalities. The reason of inverse onerous contract is such as having no right to decide the price or consignment fee for processing.

		Press	Shredder	Pressing individual cans	Round cans	Mixed round cans (aluminum & steel)	Others
With charge	# of wards and cities	440	8	2	50	24	13
	rate(%)	97.8	100.0	66.7	94.3	85.7	100.0
Without charge	# of wards and cities	7	0	0	1	2	0
	rate(%)	1.6	0.0	0.0	1.9	7.1	0.0
Inverse onerous contract	# of wards and cities	3	0	1	2	2	0
	rate(%)	0.7	0.0	33.3	3.8	7.1	0.0
Total	# of wards and cities	450	8	3	53	28	13
	rate(%)	100.0	100.0	100.0	100.0	100.0	100.0

Note1. Quoted prices apply to the pressed steel from cans sold by the municipalities for delivery to recycling manufacturers (not to the final processed form output from the recycling facilities).
Note2. The chart excludes answers that include both pressed steel from cans and scrap iron collected from noncombustible wastes as commodities sold.

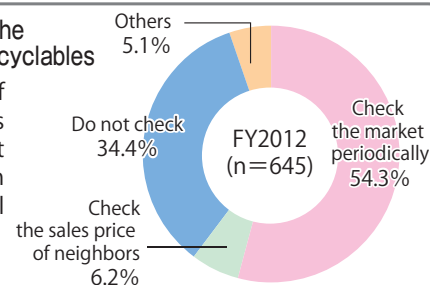
Methods to Decide Sales Price of Steel Cans

More than half of the municipalities decide the selling price by bidding.



Research on the Market for Recyclables

More than half of municipalities check the market periodically, then contract or sell recyclables.



Average Sales Price according to the Forms of Sales

The average price stays flat comparing to the year 2010, and decreases comparing to the year 2008.

(Unit: ¥/t)

	June-July, 2013		June-July, 2012		June-July, 2011	
	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)
Press	431	21,513	445	22,179	472	33,214
Shredder	18	21,553	11	29,834	9	31,331
Pressing individual cans	4	15,075	4	22,038	4	47,355
Steel round cans	53	14,515	52	13,625	57	17,134
Mixed round cans (aluminum & steel)	52	20,616	48	26,767	57	24,713
Others	24	21,762	22	21,503	29	24,384
Unknown	1	11,000	1	19,700	19	1,695
Total	583	20,746	583	21,908	647	29,788

Average Sales Price of Pressed Steel Cans by Region

The domestic average price of pressed steel can is ¥21,513/t and about ¥6,536 /t higher than year 2008 which was ¥28,049/t. The prices in most of the region are around ¥20,000/t, but in Kinki, it is ¥25,559/t which is the highest price.

(Unit: ¥/t)

	June-July, 2013		June-July, 2012		June-July, 2011	
	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)
Hokkaido	30	19,958	31	18,426	27	26,247
Tohoku	34	21,074	52	21,708	49	27,432
Kanto	125	20,384	117	21,043	116	25,242
Hokuriku	22	22,023	22	22,641	19	31,622
Chubu	45	17,857	53	18,437	46	25,598
Kinki	58	25,559	48	27,474	54	31,541
Chugoku	34	20,457	32	22,498	31	25,279
Shikoku	23	20,302	24	25,091	25	23,126
Kyushu/Okinawa	60	24,594	66	24,117	65	35,276
Total	431	21,513	445	22,179	432	28,049

Price Distribution of Pressed Steel from Cans

The price is falling comparing to the same time of year 2008 & 2010, and the ratio of municipalities selling pressed steel from ¥10,000/t to 30,000/t is increasing gradually.

(Unit: ¥/t)

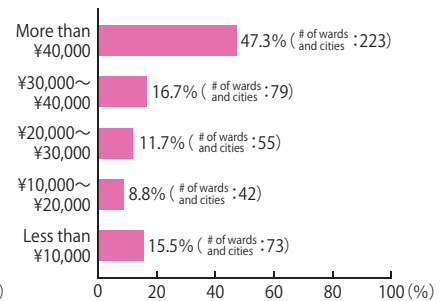
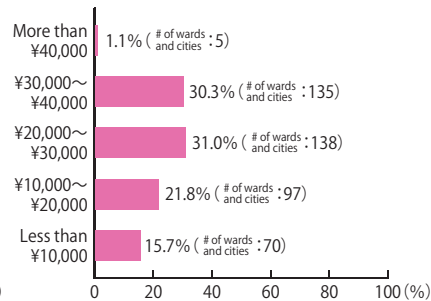
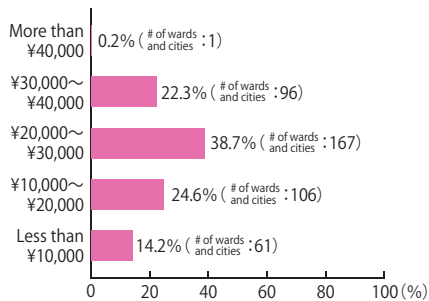
	June-July, 2013		June-July, 2010		June-July, 2008	
	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)
Less than ¥10,000	61	12.8	45	14.2	70	15.7
¥10,000~¥15,000	44	9.4	42	10.2	50	11.2
¥15,000~¥20,000	62	13.8	48	14.4	47	10.6
¥20,000~¥25,000	80	15.6	45	18.6	63	14.2
¥25,000~¥30,000	87	28.7	79	20.2	75	16.9
¥30,000~¥35,000	93	18.3	97	21.6	106	23.8
¥35,000~¥40,000	3	1.4	57	0.7	29	6.5
¥40,000~¥45,000	0	0.0	9	0.0	4	0.9
¥45,000~¥50,000	0	0.0	0	0.0	0	0.0
More than ¥50,000	1	0.0	0	0.2	1	0.2
Total	431	100.0	422	100.0	445	100.0

Price Distribution of Pressed Steel Cans in 2008~2013

June-July, 2013 (# of ward and cities: 431)

June-July, 2010 (# of ward and cities: 445)

June-July, 2008 (# of ward and cities: 472)



Average Price of Pressed Steel Cans according to the Methods to Decide Sales Price

The highest price is ¥32,700/t for the price of steel cans and iron collected from noncombustible waste, and total price fell from 2008.

(Unit: ¥/t)

	June-July, 2013		June-July, 2010		June-July, 2008	
	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)
Price of steel cans collected by municipalities	397	21,700	413	22,219	415	35,148
Price of steel cans and iron collected from noncombustible waste	19	17,853	22	19,850	23	31,620
Price of steel cans and metals collected from noncombustible waste	1	32,700	1	7,200	4	30,175
Others	8	20,348	7	26,284	8	29,944
Unknown	6	20,414	2	32,850	22	136
Total	431	21,513	445	22,179	472	33,214

Average Sales Price of Pressed Steel from Cans by the Fiscal Year

The average selling price of pressed steel can is ¥18,709/t and about ¥9,340/t lower than year 2008. The lowest price of pressed steel can by region is ¥16,309/t in Chubu. The extreme price fluctuation is occurred in Kyushu-Okinawa Area which is ¥13,348/t lower than 2008.

(Unit: ¥/t)

	FY2013		FY2010		FY2008	
	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)	# of wards and cities	Price (¥/t)
Hokkaido	29	17,861	29	18,319	27	26,247
Tohoku	34	18,743	30	21,602	49	27,432
Kanto	123	16,979	114	20,701	116	25,242
Hokuriku	23	19,028	21	20,333	19	31,622
Chubu	46	16,309	50	20,690	46	25,598
Kinki	55	22,304	52	25,427	54	31,541
Chugoku	34	17,965	30	22,580	31	25,279
Shikoku	21	17,604	19	21,040	25	23,126
Kyushu/Okinawa	59	21,928	64	25,626	65	35,276
Total	424	18,709	409	22,103	432	28,049