



I Present Conditions for Recycling Steel Cans

1. What are Steel Cans? How Many Steel Cans are Produced?

- Steel cans are used for beverages such as juice and coffee (beverage cans), foods such as canned fish and orange (food cans), dried seaweed, Japanese tea and cookies (general-purpose cans), and foods and other products (18-liter cans).
- The production of beverage and food cans together amounted to 467,000 tons in 2010. This was for approximately 80% of all steel cans produced.
- In 2010, 11.8 billion beverage steel cans were produced in Japan and the per capita annual consumption was 92 cans.



Beverage and food cans together amounted to 467,000 tons



General-purpose cans 81,000 tons



18-liter cans 28,000 tons

The data were from the Iron and Steel Statistics of 2010 published by the Ministry of Economy, Trade and Industry, and the National Federation of 18 Liter Cans Manufacturers Corporative Union.

The number of total beverage and food steel cans (Estimated values: The research conducted by Steel Can Recycling Association)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Beverage cans	17,660	15,824	14,489	13,759	13,438	12,685	12,781	12,596	12,110	11,837
Food cans	1,793	1,317	1,288	1,232	1,155	1,075	1,114	1,042	1,007	993
Total	19,453	17,140	15,776	14,991	14,593	13,760	13,895	13,638	13,117	12,830

(million cans)

Marks of Steel Can

"Law for Promotion of the Utilization of Recyclable Resources" requires putting a mark on beverage cans to indicate their materials. And for general cans (i.e., cans for tea or confectioneries), the All Japan Federation of General Can Industries Association established a mark for their cans to indicate the can material. For 18 liter cans, The National Federation of 18 Liter Cans Manufacturers Corporative Union established a mark so that consumers can easily identify "steel cans" when sorting waste.



(Beverage Cans' Mark)



(General Cans' Mark)



(18 Liter Cans' Mark)

The Steel Cans are Recycled into Cans Again!

The components of steels used in cans, cars, reinforcing bars and household electric appliances are almost identical, so that they are mixed and melted without problems.

There are six steelworks manufacturing steels for cans in Japan. All of them use steel can scrap.

The manufactured steel is delivered to can manufacturing factories where steel can scrap is returned to steel cans. Reinforcing bars are also melted to produce steel sheets for cans.

Steel cans are recycled in various forms such as in the production of cars, rails, household electric appliances, reinforcing bars, and recycled steel cans.

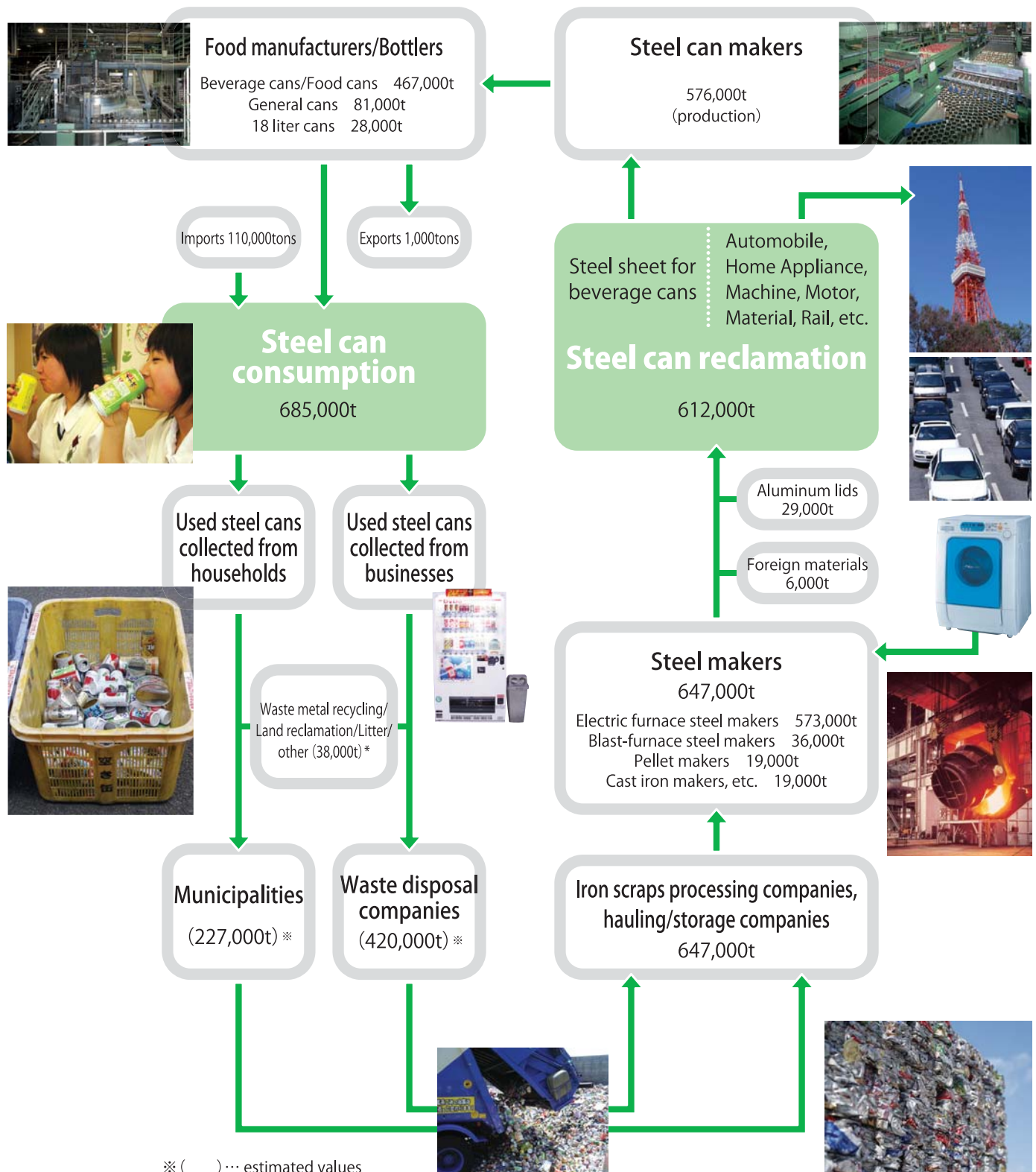
Material () : reference number	Ratio of major and alloy components (%)	Major alloy components (%)
Steel sheets for beverage cans (SPTE T-4 CA)	Fe 99.9 + Carbon 0.02 to 0.06	Aluminum 0.005 Manganese 0.03
Steel plates for cars (SPCE)	Fe 99.99 + Carbon 0.005 to 0.01	Titanium 0.0001
Steel plates for construction (SPCC)	Fe 99.8 + Carbon 0.1	Manganese 0.5 max
Steel wire for construction (SWRM)	Fe 98 + Carbon 0.1 to 0.4	Manganese 0.3 to 1.5
H-type steel (SG415H)	Fe 98 + Carbon 0.1 to 0.4	Manganese 0.4 to 1.7 Chromium 0.85 to 1.25



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2. What Routes are Used to Recycle Steel Cans?

- Used steel cans are collected using separate collection systems or noncombustible collection routes operated by municipalities as well as through business-operated recovery routes for collecting from automatic vending machines, offices and plants. In both cases, steel cans are separated by magnetic separators at recycling facilities and processed into pressed blocks state for easy transportation.
- This iron scrap is purchased by iron and steel makers (mostly electric furnace steel makers) from scrap processors. The iron scrap is used as raw material for producing steel materials for construction, and steel plates for automobiles, refrigerators, washing machines, and new steel cans, etc.





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3. How Much Steel Can is Recycled in Japan ?

The recycling rate for steel cans in FY2010 was 89.4% (the highest on record)

The steel can recycling rate in FY2010 achieved the target of 85% or more set by the Industrial Structure Council of the Ministry of Economy, Trade and Industry for the 10th consecutive year.

Factors of high recycling rate

- ① After the demand dropped due to Lehman's fall, the necessity for steel recovered and the need for steel scrap also recovered.
- ② The quality of raw materials in steel can scraps has improved year by year, since separate collection has well promoted through citizens' cooperation, separate collection system from municipalities as well as business activities has been fully equipped, and the accuracy of separation and processing at the recycling facilities and scrap processors have improved.
- ③ Since FY2008, we have known parts of the amounts which were shredded because a part of the can scraps shredded were distributed as standard except the can scraps.

Steel Can Recycling Rate of FY2010

Amount of steel can scrap collection

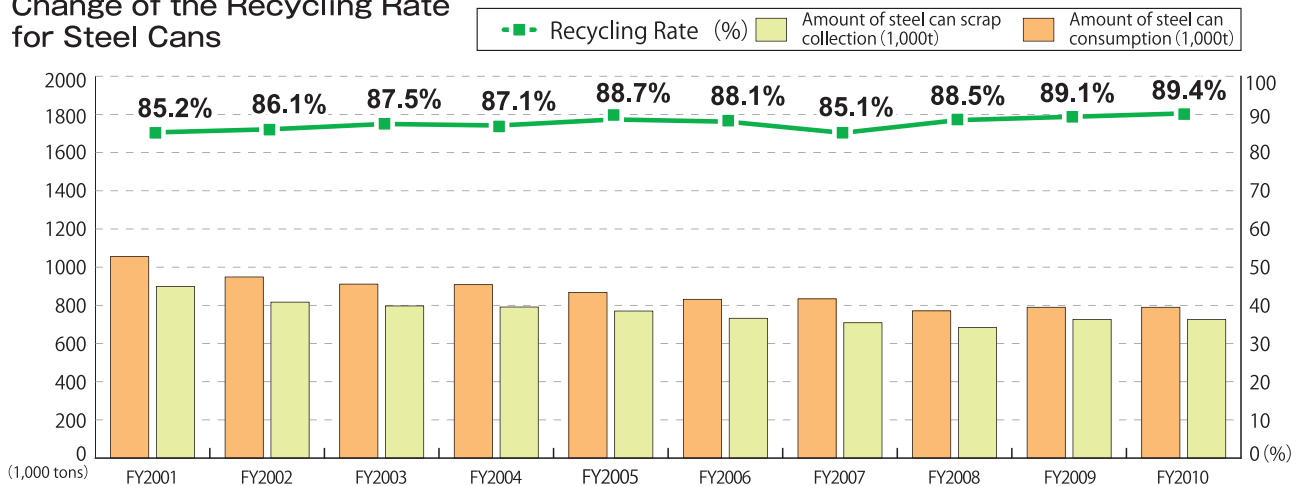
612,163 tons

= **89.4%**

Amount of steel can consumption

684,598 tons

Change of the Recycling Rate for Steel Cans



The Recycling Rate by Items

Items	Recycling rate (%)	Method of calculation (Note)
Steel cans	89.4 (FY2010)	Amount of steel can scrap collection / Amount of steel can consumption (Steel cans=Beverage cans+Food cans+General cans+Some 18-liter cans)
Glass bottles	68.0 (2009)	Amount of glass bottles recycled / Amount of domestic glass bottles consumption
PET bottles	77.5 (FY2009)	Amount of collection by municipalities + Amount of business use PET bottles collection / Amount of designated PET bottles sold
Paper containers/packaging	19.1 (FY2009)	Amount of collection / Amount of discharge by households (Collection rate)
Plastic containers	61.3 (FY2009)	Amount of collection by municipalities / (Prospective amounts of discharge / The rate of responsibility of the designated manufacturer/user) (Collection rate)
Aluminum cans	92.6 (FY2010)	Amount of recycling of aluminum cans / Amount of sales of aluminum cans (Aluminum cans = beverage cans)
Cartons	43.5 (FY2009)	Amount of domestic collection / Amount of cartons used (Included loss paper and old paper)
Cardboard	99.3 (2010)	Amount of used cardboard (Amount of collections received domestically + [Exports - Imports]) × (Amount of consumption of cardboard / Shipping amount of cardboard produced by paper makers × 0.988) / (Amount of cardboard consumed by carton factories + Balance of amount of cardboard accompanied with exported goods and those with imported goods)