



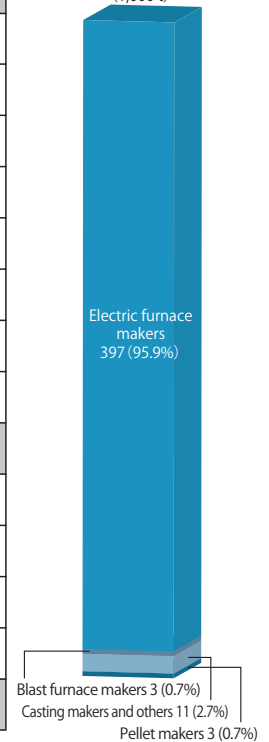
## II Present Conditions for Steel Can Scraps

### 1. Types and Amount of Steel Can Scraps

Steel Can Scrap Purchase Amount According to Area and Type of Business (Unit: 1,000 tons)

	FY2018 (B)					FY2019 (A)					(A - B)
	Press	Shredder	Others	Total	%	Press	Shredder	Others	Total	%	
Hokkaido	11	2	0	13	3.1	10	1	0	11	2.7	-2
Tohoku	27	10	0	37	8.8	28	10	0	38	9.2	1
Kanto	100	35	1	136	32.3	109	31	0	140	33.8	4
Hokuriku	2	7	0	9	2.1	1	16	0	17	4.1	8
Tokai	45	13	0	58	13.8	43	19	0	62	15.0	4
Kinki	90	7	0	97	23.1	72	8	0	80	19.4	-17
Chugoku/Shikoku	22	5	1	28	6.7	16	4	1	21	5.1	-7
Kyushu/Okinawa	26	14	3	43	10.2	25	17	3	45	10.9	2
<b>Total</b>	<b>323</b>	<b>93</b>	<b>5</b>	<b>421</b>	<b>100.0</b>	<b>304</b>	<b>106</b>	<b>4</b>	<b>414</b>	<b>100.0</b>	<b>-7</b>
Electric furnace makers	314	90	1	405	96.2	294	103	0	397	95.9	-8
Blast furnace makers	0	0	3	3	0.7	0	0	3	3	0.7	0
Casting makers and others	6	3	0	9	2.1	7	4	0	11	2.7	2
Pellet makers	3	0	1	4	1.0	3	0	0	3	0.7	-1
<b>Total</b>	<b>323</b>	<b>93</b>	<b>5</b>	<b>421</b>	<b>100.0</b>	<b>304</b>	<b>107</b>	<b>3</b>	<b>414</b>	<b>100.0</b>	<b>-7</b>

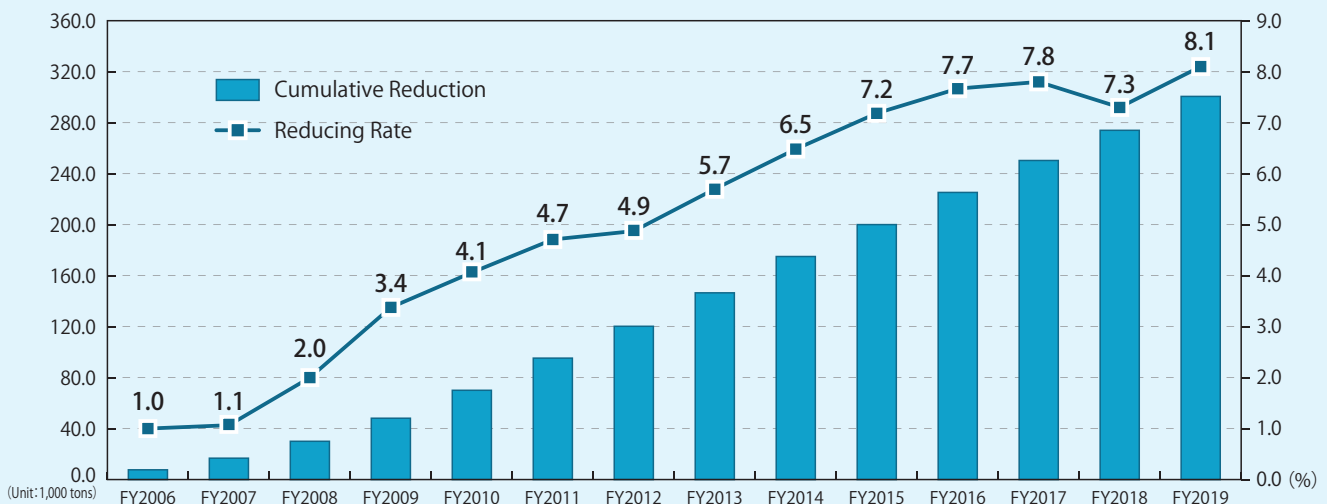
The amount of steel can scrap purchased according to the type of business (1,000 t)



### Concerning the Reducing of Steel Cans

In the "Committee to Reduce the Weight of Steel Cans" launched by the can manufacturing industry in June 2006, we formulated our voluntary action plans and worked on technology development as an industry. The target in the 1st and 2nd Voluntary Action Plan was achieved. In the 3rd voluntary action plan, we aim to achieve "a weight saving of 8% on average weight per can in 2020 fiscal year as compared with 2004 fiscal year".

The reduction rate in FY2019 was 8.1%, which was a turnaround from the previous year. Weight reduction progressed to achieve the target one year ahead of schedule.



Written by: Japan Steel Can Recycling Association

## Uniform Standards of Ferrous Scraps

“Uniform Standards” are the criteria used for a distribution of iron scraps, and set up according to types and grades etc. The standard listed below is used as a national standard. Iron scraps which meet the requirement mean they are a product, however, some manufacturers use their own standard since a production capacity and goods vary at each work.

Classification	Category	Grade	Dimensions (mm)		Unit Weight (kg)	Remarks
			Thickness	Width or Height × Length		
Carbon Steel Scrap	Heavy	Being sized by guillotine shear, gas cutting, heavy construction machines, or others, to be divided, according to thickness, size, and unit weight, into the following:				
		H5	$6 \leq$	$\leq 500 \times \leq 700$	$\leq 600$	
		H1	$6 \leq$	$\leq 500 \times \leq 1,200$	$\leq 1,000$	
		H2	$3 \leq t < 6$	$\leq 500 \times \leq 1,200$	$\leq 1,000$	
		H3	$1 \leq t < 3$	$\leq 500 \times \leq 1,200$	$\leq 1,000$	
		H4	$< 1$	$\leq 500 \times \leq 1,200$	$\leq 1,000$	
	Press	The basic material being chiefly steel-sheet-fabricated products and being compression-formed and rectangular parallelepiped by a press machine, to be divided, according to basic materials, into the following:				
		A	$W + H + L \leq 1,800$ , with the max dimension $\leq 800$			Automobiles (mainly from End of Life Vehicles)
		B	$W + H + L \leq 1,800$ , with the max dimension $\leq 800$			Except for Press A and C
		C	$600 \leq W + H + L \leq 1,800$			Cans for food/drink
	Shredded	The basic material being chiefly steel-sheet-fabricated products and being crushed by shredder and then sorted by magnetic classifier, to be divided, according to basic materials, into the following:				
		A				Automobiles (mainly from End of Life Vehicles)
		B				Except for Shredded A
	New Scrap (Shindachi)	Consisting of cutting and blanking chips produced during the manufacture of steel-sheet-fabricated products, to be divided, according to shape and degree of oxidation, into the following:				
		Shredded				Shredded
		Press A	$W + H + L \leq 1,800$ , with the max dimension $\leq 800$			Hot or cold Sheet with no rust excluding coated sheet
		Press B	$W + H + L \leq 1,800$ , with the max dimension $\leq 800$			Hot or cold Sheet with some rust, incl Coated sheet without harm for steel making
		Busheling A	$W \text{ or } H \leq 500 \times L \leq 1,200$			Hot or cold Sheet with no rust excluding coated sheet
		Busheling B	$W \text{ or } H \leq 500 \times L \leq 1,200$			Hot or cold Sheet with some rust, incl Coated sheet without harm for steel making
	Turning	Consisting of cutting chips, produced during the manufacture of screws, machine parts, and the like, to be divided, according to shape and degree of oxidation, into the following:				
		A				Turning of mild steel with no rust, in fine forms
		B				Turning of mild steel with some rust, in various forms
		Press	$W + H + L \leq 1,800$ , with the max dimension $\leq 800$			Press of Turning of mild steel with no rust, in fine forms
Pig Iron Scrap	Cast Iron	Consisting of used castings finely crushed into blocks, to be divided, according to basic materials, into the following:				
		A			$\leq 1,000$	Machinery parts, Clean Auto Blocks etc.
	B			$\leq 1,000$	Charging box cast, unstripped auto blocks	
	Iron Boring	Consisting of cutting chips produced during the production of castings, to be divided, according to the degree of oxidation, into the following:				
		A				Iron boring of mild casting with no rust
B				Iron boring of mild casting with some rust		

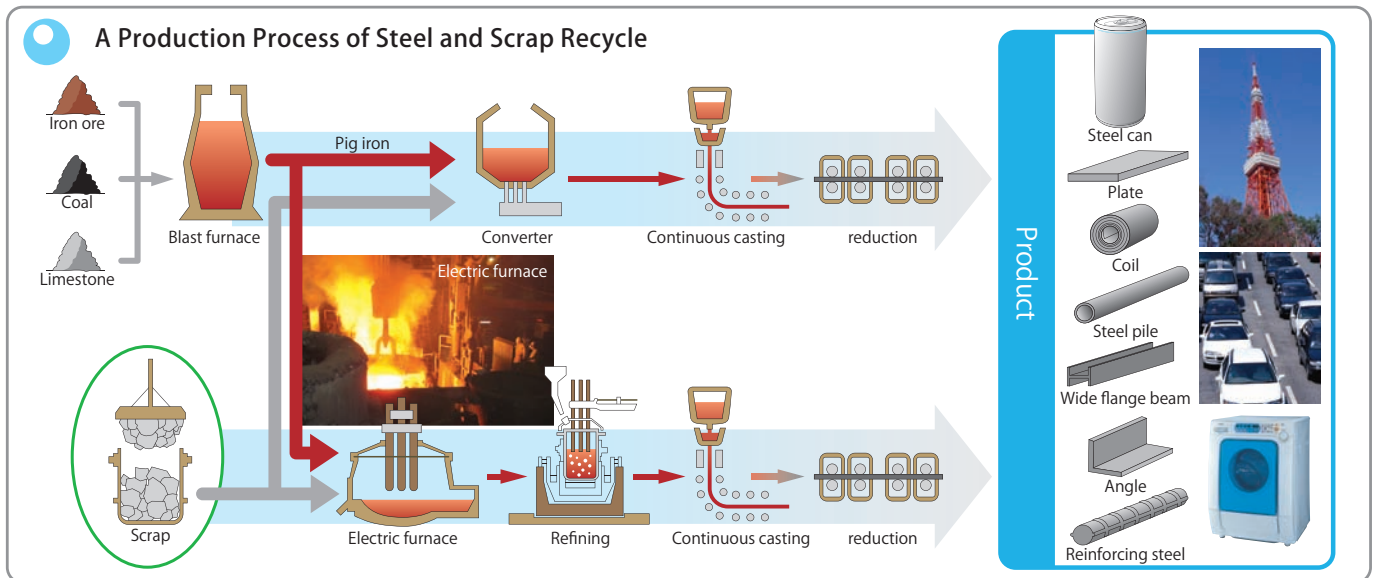


## II Present Conditions for Steel Can Scraps

### 2. How is Scrap Iron Recycled?

- The annual production of iron in Japan is approximately 98,430,000 tons in FY2019. Blast furnace and electric furnace methods are available to manufacture iron and steel. In Japan, 76.1% of Iron and steel is manufactured by blast furnaces and 23.9% by electric furnaces.
- Iron that remains from use in construction, automobiles, machines, can containers, etc. are recycled at iron and steel manufacturers (blast furnaces, electric furnaces, casting makers, etc.) as iron scrap.
- Iron scrap that is traded in the Japanese market (commercial scrap) amounts to 25,670,000 tons (decreasing 326,000 tons from the previous year). And 8,290,000 tons were exported in FY2019 (increasing 930,000 tons from the previous year).

	Production Method	Number of makers and plants
<b>Electric furnace maker</b>	Iron scrap is melted in electric furnaces (by discharge heat from electrodes) to manufacture steel.	44 makers with 63 works
<b>Blast furnace maker</b>	Iron scrap is inserted when pig iron reduced from iron ore in a blast furnace is supplied to a converter to manufacture steel.	3 makers with 16 works



#### Domestic Iron Scrap Supply and Demand (FY 2019)

Export 8,290,000 tons

Industrial scrap by the steel makers 13,320,000 tons

Domestic purchased scrap 25,190,000 tons

Factory scrap 7,810,000 tons

End-of-life scrap 17,380,000 tons

of which, Steel can scrap 410,000 tons

(Unit: tons/year)

Source: The Japan Ferrous Raw Materials Association

Note: The amount of domestic purchased scrap (for domestic iron makers) is the value added the past correction value to the sum of the factory scrap and the end-of-life scrap

#### Technical Terms

##### [Electric furnace]

A heating chamber with a discharge heat to melt scrap iron

##### [Blast furnace]

A furnace used to produce pig iron from iron ore, coal and limestone

##### [Converter]

A furnace used to produce steel from melting pig iron and blowing oxygen into it. It is able to rotate 360 degree.

##### [Steel]

An iron contains less than 2% of carbon

##### [Pig iron]

An iron contains more than 2% of carbon

##### [Industrial scrap]

Scrap generated in rolling process, and consumed inside of factories

##### [Purchased scrap]

Scrap transacted in the scrap market

##### [Factory scrap]

Scrap generated in processes using steel as a material (e.g. cars, machines and shipbuilding)

##### [End-of-life scrap]

Scrap from dismantled buildings, disused cars, disused domestic electric equipments, and steel can scrap.

### Information on Steel Works in Japan

The questionnaire results for annual report on steel can recycling 2019 show many of municipalities made a request about for information on recycling facilities that have tour inside.

The Japan Iron and Steel Federation provides excursion across the country. If you want to access, detail is given below.

#### Information on Steel Works in Japan

Web Site Information <https://www.jisf.or.jp/kids/iku/map.html>



## II Present Conditions for Steel Can Scraps

### 3. Trends in Price of Domestic Steel Can Scraps

#### Factors Determining the Price of Iron Scrap

- ① Changes in the supply-demand balance in each region
- ② Comparative values internationally (e.g., overseas market conditions resulting from the international availability of commodities, etc.)
- ③ Costs of scrap collection from the market, scrap collection by scrap processors, and scrap-processing.
- ④ Costs of material price variance (iron ore and others), and an iron dissolution by blast furnace makers.

#### Relation between the Price of Steel Scrap and the Price of H2 (Heavy and Other General Scrap)

The price of steel can scrap moves almost in parallel with that of H2 (see the next page). The difference in price between the scrap steel cans (C press) and H2 is anywhere from JPY2,000 to 9,000 depending on supply and demand, overseas market trends, and its region. C press with good quality could sell at higher price than H2.

#### The Sale Price of Pressed Steel from Cans vs. the Base Price of Steel Can Scrap in Municipalities

The pressed steel from cans separated and processed in municipalities is delivered to steel makers via scrap processors, hauling/storage companies, and others. Thus, the sale price for the steel press in the municipalities is equivalent to the scrap purchase price by the steel manufacturers minus the amount spent on delivery via the intermediate routes.

#### The Trend of Iron Scrap Price (2019–2020)

##### The spread of COVID-19 has led to a decrease in demand, while a sense of shortage is also felt due to the reduction of scrap iron generation.

The global economy slowed down against the backdrop of the "trade war" between the U.S. and China, which led to a decline in demand for steel products and a downward trend in crude steel production in major countries since last year. Furthermore, in 2020, the demand for steel products will decrease due to the spread of COVID-19, and crude steel production in all countries except China will drop sharply. The demand for scrap iron has also declined significantly. As a result, the scrap iron market has been on a downward trend, with H2 (special grade) prices in the domestic market falling below JPY20,000 between March and May 2020. However, measures implemented against COVID-19 and the economic downturn in many countries have led to a decrease in the generation of scrap throughout the market and a stagnation in recovery, resulting in a significant supply reduction. While demand for scrap iron continued to decline, supply and demand for scrap iron were tight at times, and prices in the domestic market rose sharply by about JPY6,000 (up to JPY8,000) from late May to mid-June. However, the decline in demand did not change, and the price dropped about JPY2,500 (up to JPY6,000) in reaction to the sharp increase in demand from late June. Due to the sluggish generation of scrap iron, the small gap between supply and demand caused large price fluctuations.

#### The Trend in Steel Can Press Price (2019–2020)

##### Steel Can Press Prices Fluctuate Significantly

Steel can press prices are also showing signs of fluctuating significantly along with trends in the domestic scrap iron market. The monthly average price of steel can presses in the Kanto area in 2020 (purchase price of electric furnace manufacturers) shows that the highest price was JPY20,100 per ton in June, and the lowest price was JPY14,400 in April. It was JPY19,700 (preliminary figure) in August. The evaluation of the steel can scrap, with a clear and defined quality and component, is high and has increased its presence as a steelmaking raw material. Some domestic steel manufactures using electric arc have set a price exceeding the price for H2 (special grade), a representative variety of iron scrap. Also, high-quality steel cans are traded at high prices, partly due to the spread of COVID-19. However, due to the decrease in demand, the average price of steel can presses through August 2020 was JPY17,000, which is JPY5,200 below the 2019 average of JPY22,200.

(JPY/t)

	Average in 2010	Average in 2011	Average in 2012	Average in 2013	Average in 2014	Average in 2015	Average in 2016	Average in 2017	Average in 2018	Average in 2019	Average in 2020 (Jan–Aug)
Kanto region	23,700	25,900	19,400	26,200	25,600	16,200	14,500	23,800	29,400	22,200	17,000
Osaka region	27,700	31,100	23,400	29,000	27,300	16,700	15,100	23,900	29,600	22,700	17,600
Representative factory in West Japan	29,900	32,100	25,100	31,600	30,200	19,100	18,100	27,200	32,200	24,600	19,600

#### For more information about the price trend of pressed steel from cans

Nikkan Shikyo Tsushinsha Co., Ltd. publishes "MRM (Metal Recycle Monthly)" that carries international and domestic scrap market trends, topics, hot issues, and explanation of recycling laws. TEL: +81-3-3864-6021

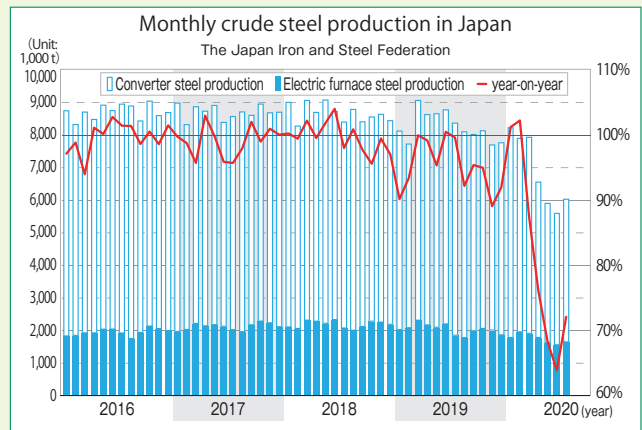
The spread of COVID-19 has significantly reduced global crude steel production and reduced raw scrap iron demand. This was due to a slowdown in economic activity and a sharp drop in demand for steel products due to the increased number of infected people and anti-infection measures in many countries. Japan's crude steel production temporarily dropped to about 60% of the previous year's level. Production cuts have been intensified around the world. Simultaneously, however, the volume of scrap iron generated decreased due to the slowdown in economic activity. Also, the collection of scrap iron was hindered due to infection prevention measures implemented in various countries. This has resulted in a tightening of the supply and demand for scrap iron, with prices moving up through the summer after a sharp drop following the infection's spread.

## 1. Crude Steel Production Plummeted due to a Decrease in Steel Demand, and Scrap Iron Demand also Declined

Global demand for steel products declined due to the economic stagnation caused by the COVID-19 disaster, and steel manufacturers stepped up production cuts. Blast furnace manufacturers have significantly reduced production due to the suspension of blast furnace operations. Electric furnace manufacturers have also reduced production. Global crude steel production decreased by about 15% year-on-year in April and by about 30% when excluding China. In Japan, this was a decrease of about 40% as of June. This is a more considerable decline than during the Lehman Shock. Demand for raw scrap iron also shrank, and the scrap iron market continued to decline globally after the spread of the infection until April. In the domestic market, the price of H2, a representative variety of scrap iron, fell by as much as JPY6,500 (25%).

### Effects of the Spread of COVID-19

1. Crude Steel Production Plummeted due to a Decrease in Steel Demand, and Scrap Iron Demand also Declined
2. Decreased Scrap Iron Generation due to the Suspension of Manufacturing Operations and the Suspension or Delay of Construction Work
3. Exports to Southeast Asia and South Asia Surged due to a Decline in Supply from Europe and the United States
4. China's Crude Steel Production Reaches a Record High of Over 1 billion Tons

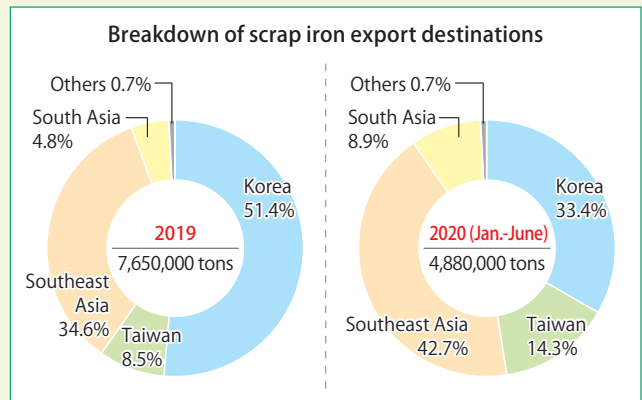


## 2. Decreased Scrap Iron Generation due to the Suspension of Manufacturing Operations and the Suspension or Delay of Construction Work

Due to the stagnation of economic activity associated with COVID-19, the volume of scrap iron generated has decreased significantly due to the suspension of operations in the automotive and other manufacturing industries and suspension or delay of construction work. As a result, the supply and demand for scrap iron have tightened despite reduced crude steel production, and a sense of the shortage of goods emerged. The scrap iron market rebounded in May and June and continued to grow. Domestic H2 prices increased by up to JPY8,000 (40%). This phenomenon is the same overseas, and in particular, the decline in scrap iron generation in Western countries has led to a tighter supply and demand worldwide.

## 3. Exports to Southeast Asia and South Asia Surged due to a Decline in Supply from Europe and the United States

Western countries have implemented more robust COVID-19 measures than Japan, resulting in a sharp decline in scrap iron supply. In the United States, the world's largest scrap iron supplier, exports in the April-June period were about 20% less than the previous year. Importing countries raised prices to strengthen inquiries and shifted their suppliers to other supplier countries. For example, Southeast Asian and South Asian countries, which are expanding their steel production facilities, have increased their allowance for scrap iron from Japan, which is easy to secure because Japan has less COVID-19 measures than Western countries. Japan's exports for the January-June period totaled approximately 4.88 million tons, nearly 40% higher than the previous year, partly due to a decline in domestic demand. Looking at the breakdown of destinations, sales to Southeast Asia increased from around 35% as of 2019 to more than 40%, while sales to South Asia increased from just under 5% in the previous year to just under 9%. On the other hand, exports to South Korea, which is the largest export destination by country, decreased from more than 50% to more than 30%, partly due to a decrease in crude steel production in South Korea.



## 4. China's Crude Steel Production Reaches a Record High of Over 1 billion Tons

China's crude steel production continues to rise, while many of the world's major countries are implementing significant production cuts. It is believed that anti-COVID-19 measures have curbed the spread of the infection in China. Since then, public investment in economic measures has become active, and the demand for steel products has increased sharply. Monthly crude steel production in July reached a record high of over 93 million tons. Annual crude steel production is on pace to exceed 1 billion tons for the first time. Still, there is a shortage, and steel imports are increasing. As production increased, imports of iron ore, the primary raw material for steelmaking, increased. Iron ore prices reached their highest level since 2014 in August. This is an unusual situation where the iron ore price exceeds coking coal, which is also a primary raw material. The rise in iron ore prices is one of the factors pushing up the price of steel products worldwide and supply shortages due to a decrease in the generation of scrap iron, which is one of the factors pushing up the price of scrap iron.

