

IRON AND STEEL SCRAP¹

(Data in million metric tons of metal unless otherwise noted)

Domestic Production and Use: In 2019, the total value of domestic purchases of iron and steel scrap (receipts of ferrous scrap by all domestic consumers from brokers, dealers, and other outside sources) and exports was estimated to be \$17.6 billion, approximately 17% less than the \$21.1 billion in 2018 and 4% more than the \$16.8 billion in 2017. U.S. apparent steel consumption, an indicator of economic growth, was estimated to have decreased slightly to 100 million tons in 2019 from 101 million tons in 2018. Manufacturers of pig iron, raw steel, and steel castings accounted for about 92% of scrap consumption by the domestic steel industry, using scrap together with pig iron and direct-reduced iron to produce steel products for the appliance, construction, container, machinery, oil and gas, transportation, and various other consumer industries. The ferrous castings industry consumed most of the remaining scrap to produce cast iron and steel products. Relatively small quantities of steel scrap were used for producing ferroalloys, for the precipitation of copper, and by the chemical industry; these uses collectively totaled less than 1 million tons.

During 2019, raw steel production was an estimated 87 million tons, up slightly from 86.6 million tons in 2018. Net shipments of steel mill products were an estimated 87 million tons, up slightly from 86.4 million tons in 2018.

Salient Statistics—United States:

	2015	2016	2017	2018	2019^e
Production:					
Home scrap	6.3	5.9	5.6	5.8	5.8
Purchased scrap ²	54	53	55	59	59
Imports for consumption ³	3.5	3.9	4.6	5.0	4.5
Exports ³	13	13	15	17	18
Consumption, reported	51	50	50	52	53
Consumption, apparent ⁴	51	50	51	52	52
Price, average, dollars per metric ton delivered,					
No. 1 Heavy Melting composite price	213	196	266	323	266
Stocks, consumer, yearend	4.2	4.3	4.5	5.1	5.2
Employment, dealers, brokers, processors, number ^e	30,000	27,000	27,000	27,000	28,000
Net import reliance ⁵ as a percentage of reported consumption	E	E	E	E	E

Recycling: Recycled iron and steel scrap is a vital raw material for the production of new steel and cast iron products. The steel and foundry industries in the United States have been structured to recycle scrap, and, as a result, are highly dependent upon scrap. One ton of steel that is recycled conserves 1.1 tons of iron ore, 0.6 ton of coking coal, and 0.05 ton of limestone.

Overall, the scrap recycling rate in the United States has averaged between 80% and 90% during the past decade, with automobiles making up the primary source of old steel scrap. Recycling of automobiles is nearly 100% each year, with rates fluctuating slightly owing to the rate of new vehicle production and general economic trends. More than 15 million tons of steel is recycled from automobiles annually, the equivalent of approximately 12 million cars, from more than 7,000 vehicle dismantlers and 350 car shredders in North America. The recycling of steel from automobiles is estimated to save the equivalent energy necessary to power 18 million homes every year.

Recycling rates, which fluctuate annually, were estimated to be 98% for structural steel from construction, 88% for appliances, 71% for rebar and reinforcement steel, and 70% for steel packaging. The recycling rates for appliance, can, and construction steel are expected to increase in the United States and in emerging industrial countries at an even greater rate. Public interest in recycling continues, and recycling is becoming more profitable and convenient as environmental regulations for primary production increase.

Recycling of scrap plays an important role in the conservation of energy because the remelting of scrap requires much less energy than the production of iron or steel products from iron ore. Also, consumption of iron and steel scrap by remelting reduces the burden on landfill disposal facilities and prevents the accumulation of abandoned steel products in the environment. Recycled scrap consists of approximately 58% post-consumer (old, obsolete) scrap, 24% prompt scrap (produced in steel-product manufacturing plants), and 18% home scrap (recirculating scrap from current operations).

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Import Sources (2015–18): Canada, 72%; Mexico, 9%; United Kingdom, 8%; Sweden, 5%; and other, 6%.

Tariff: Item	Number	Normal Trade Relations 12–31–19
Ferrous waste and scrap:		
Stainless steel	7204.21.0000	Free.
Turnings, shavings, chips, milling waste, sawdust, filings, trimmings, and stampings:		
No. 1 bundles	7204.41.0020	Free.
No. 2 bundles	7204.41.0040	Free.
Borings, shoveling, and turnings	7204.41.0060	Free.
Other	7204.41.0080	Free.
Other:		
No. 1 heavy melting	7204.49.0020	Free.
No. 2 heavy melting	7204.49.0040	Free.
Cut plate and structural	7204.49.0060	Free.
Shredded	7204.49.0070	Free.
Remelting scrap ingots	7204.50.0000	Free.
Powders, of pig iron, spiegelisen, iron, or steel:		
Alloy steel	7205.21.0000	Free.
Other	7205.29.0000	Free.

Depletion Allowance: Not applicable.

Government Stockpile: None.

Events, Trends, and Issues: In 2019, steel mill production capacity utilization peaked to the highest rates since April 2012, reaching 82.4% in February 2019, with rates remaining over 80% between January and June. Composite prices published for No. 1 Heavy Melting steel scrap delivered averaged about \$271 per ton during the first 8 months of 2019, a decrease from \$323 per ton in 2018. The average monthly prices during this time fluctuated between a high of \$309.87 per ton in March and a low of \$225.91 per ton in July. In the first 8 months of 2019, Turkey was the primary destination for exports of ferrous scrap, by tonnage, accounting for 20% of total exports, followed by Canada (11%), Taiwan (10%), Vietnam (9%), and Mexico (7%). The value of exported scrap decreased to an estimated \$5.3 billion in 2019 from \$5.9 billion in 2018.

The World Steel Association⁶ forecast global finished steel demand to increase by 3.9% in 2019 and 1.7% in 2020, as a result of real estate investment in China and 4.1% growth in emerging and developing economies in 2020. Steel demand among developed economies, except for China, was expected to remain the same or decrease slightly in 2019 despite growth in consumer and construction applications as potential and enacted trade policies affected investments and exports within the manufacturing sector. Growth of the construction sectors in 2019 and 2020 was expected to decrease slightly in the United States, as well as the European Union, Japan, Latin America, and the Republic of Korea. In other countries in Asia, including India, Government stimulus was expected to increase demand in the construction sector. Automotive production growth was also expected to decrease in 2019 in China, Germany, the Republic of Korea, and Turkey.

World Mine Production and Reserves: Not applicable.

World Resources: Not applicable.

Substitutes: An estimated 2.8 million tons of direct-reduced iron was used in the United States in 2019 as a substitute for iron and steel scrap, up from 2.4 million tons in 2018.

⁰Estimated. E Net exporter.

¹See also Iron and Steel and Iron Ore.

²Defined as net receipts + exports – imports.

³Excludes used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping.

⁴Defined as home scrap + purchased scrap + imports – exports + adjustments for industry stock changes.

⁵Defined as imports – exports + adjustments for industry stock changes.

⁶World Steel Association, 2019, Short range outlook October 2019: Brussels, Belgium, World Steel Association press release, October 14, 6 p.