

# IRON AND STEEL SCRAP<sup>1</sup>

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

**Domestic Production and Use:** In 2020, 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 \$13 billion, approximately 20% less than the \$16.3 billion in 2019 and 38% less than the \$21.1 billion in 2018. U.S. apparent steel consumption, the leading end use for iron and steel scrap was estimated to have decreased by 18% to 82 million tons in 2020 from 100 million tons in 2019. Manufacturers of pig iron, raw steel, and steel castings accounted for about 93% 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 2020, raw steel production was an estimated 72 million tons, down 18% from 87.8 million tons in 2019. Net shipments of steel mill products were an estimated 71 million tons, down 19% from 87.3 million tons in 2019.

<b>Salient Statistics—United States:</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020<sup>e</sup></b>
Production:					
Home scrap	5.9	5.6	5.8	5.7	4.4
Purchased scrap <sup>2</sup>	53	55	59	57	54
Imports for consumption <sup>3</sup>	3.9	4.6	5.0	4.3	4.0
Exports <sup>3</sup>	13	15	17	18	17
Consumption:					
Reported	50	51	51	50	46
Apparent <sup>4</sup>	50	50	52	51	46
Price, average, delivered, No. 1 Heavy Melting composite price, dollars per ton	196	265	3	249	213
Stocks, consumer, yearend	4.3	4.5	5.1	3.9	3.2
Employment, dealers, brokers, processors, number <sup>e</sup>	27,000	27,000	27,000	26,000	22,000
Net import reliance <sup>5</sup> 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 (2016–19):** Canada, 70%; Mexico, 10%; the United Kingdom, 7%; Sweden, 5%; and other, 8%.

<b>Tariff:</b>	<b>Item</b>	<b>Number</b>	<b>Normal Trade Relations <u>12–31–20</u></b>
	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 2020, steel mill production capacity utilization reached its lowest monthly rate since July 2009, reaching 54.6% in May 2020, with the rate declining during the year from 81.7% in January to its lowest point in May before rebounding to 68.6% in September 2020. Composite prices published for No. 1 Heavy Melting steel scrap delivered averaged about \$214 per ton during the first 8 months of 2020, a 14% decrease from \$249 per ton in 2019. The average monthly prices during this time fluctuated between a high of \$249.61 per ton in January and a low of \$194.01 per ton in July. In the first 8 months of 2020, Turkey was the primary destination for exports of ferrous scrap, by tonnage, accounting for 26% of total exports, followed by Malaysia, Mexico, and Taiwan (10% each). The value of exported scrap decreased to an estimated \$4.4 billion in 2020 from \$5.3 billion in 2019.

The World Steel Association<sup>6</sup> forecast global finished steel consumption to decrease by 2.4% in 2020 as a result of the impacts related to reduced consumption and demand of manufactured products, new construction, and other consumable goods owing to the global COVID-19 pandemic. On a monthly basis, global steel demand reached its lowest point in April; however, the rate of economic recovery in various countries has been variable owing to differences in containment strategies, the domestic industry structure, and economic measures to combat slowing economic growth. A rebound in steel demand later in the year following easing of restrictions was not enough to offset early losses in consumption.

**World Mine Production and Reserves:** Not applicable. See Iron and Steel and Iron Ore.

**World Resources:** Not applicable. See Iron and Steel and Iron Ore.

**Substitutes:** An estimated 2.2 million tons of direct-reduced iron was consumed in the United States in 2020 as a substitute for iron and steel scrap, down from 2.5 million tons in 2019.

<sup>6</sup>Estimated. E Net exporter.

<sup>1</sup>See also Iron and Steel and Iron Ore.

<sup>2</sup>Defined as net receipts + exports – imports.

<sup>3</sup>Excludes used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping.

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

<sup>5</sup>Defined as imports – exports + adjustments for industry stock changes.

<sup>6</sup>World Steel Association, 2020, Short range outlook October 2020: Brussels, Belgium, World Steel Association press release, October 15, 7 p.