IRON AND STEEL SCRAP[1]

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

Domestic Production and Use: In 2017, the total value of domestic purchases (receipts of ferrous scrap by all domestic consumers from brokers, dealers, and other outside sources) and exports was estimated to be $15.9 billion, approximately 28% more than that of 2016. U.S. apparent steel consumption, an indicator of economic growth, increased to about 100 million tons in 2017. Manufacturers of pig iron, raw steel, and steel castings accounted for about 85% 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 15% to produce cast iron and steel products, such as machinery parts, motor blocks, and pipe. 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 2017, raw steel production was an estimated 82 million tons, up by 4% from 78.5 million tons in 2016; annual steel mill capacity utilization was about 75% compared with 71% for 2016. Net shipments of steel mill products were an estimated 83 million tons, about 6% higher than those in 2016.

Salient Statistics—United States:	2013	2014	2015	2016	2017[e]
Production:					
Home scrap	8.5	7.1	6.3	7.8	7
Purchased scrap[2]	77	62	67	53	66
Imports for consumption[3]	3.9	4.2	3.5	3.9	3
Exports[3]	18	15	13	13	14
Consumption, reported	59	59	53	53	44
Consumption, apparent[4]	71	58	64	52	62
Price, average, dollars per metric ton delivered, No. 1 Heavy Melting composite price, Iron Age Average, Pittsburgh, Philadelphia, Chicago	365	351	213	196	265
Stocks, consumer, yearend	4.2	4.3	4.4	4.7	4.0
Employment, dealers, brokers, processors, number[5]	30,000	30,000	30,000	30,000	30,000
Net import reliance[6] 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.

In the United States, the primary source of old steel scrap was automobiles. The recycling rate for automobiles in 2014, the latest year for which statistics were available, was about 106%. A recycling rate greater than 100% is a result of the steel industry recycling more steel from automobiles than was used in the domestic production of new vehicles. The automotive recycling industry recycled about 14 million tons of steel from end-of-life vehicles using more than 350 car shredders, the equivalent of nearly 12 million automobiles. More than 7,000 vehicle dismantlers throughout North America resell parts.

The recycling rates for appliances and steel cans in 2014 were 90% and 67%, respectively; this was the latest year for which statistics were available. Recycling rates for construction materials in 2014 were about 98% for plates and beams and 70% for rebar and other materials. 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.

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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).

Import Sources (2013–16): Canada, 79%; Mexico, 7%; United Kingdom, 5%; Sweden, 5%; and other, 4%.

Tariff: Item	Number	Normal Trade Relations 12–31–17
Iron and steel waste and scrap:		
No. 1 Bundles	7204.41.0020	Free.
No. 1 Heavy Melting	7204.49.0020	Free.
No. 2 Heavy Melting	7204.49.0040	Free.
Shredded	7204.49.0070	Free.

Depletion Allowance: Not applicable.

Government Stockpile: None.

Events, Trends, and Issues: Steel mill production capacity utilization peaked at 80.9% in April 2012 and reached 75.2% in February 2017. Scrap prices fluctuated during the first 7 months of 2017, between about $218 and $291 per ton. Composite prices published by Scrap Price Bulletin for No. 1 Heavy Melting steel scrap delivered to purchasers in Chicago, IL, Philadelphia, PA, and Pittsburgh, PA, averaged about $261 per ton during the first 7 months of 2017. Exports of ferrous scrap increased in 2017 to an estimated 14 million tons from nearly13 million tons during 2016, primarily to Turkey, Mexico, and Taiwan, in descending order of export tonnage. The value of exported scrap increased from $3.6 billion in 2016 to an estimated $4.4 billion in 2017. World steel demand was expected to increase slightly from 1.54 billion tons in 2017 to 1.58 billion tons in 2018.

In early September 2017, Hurricane Harvey brought unprecedented rainfall and flooding to southeast Texas and southwest Louisiana, destroying or damaging an estimated 500,000 to one million vehicles. Damage of large appliances—washers, dryers, refrigerators, and air conditioners—was also expected to be very high. If 500,000 vehicles are shredded, that would be double the number shredded after Superstorm Sandy in the eastern United States in 2012. Both Harvey and then Hurricane Irma, which hit Florida about 10 days later, were expected to cause scrap prices to increase significantly. However, by October, scrap appeared to be so plentiful that domestic and export prices began to decline.

World Mine Production and Reserves: Not applicable.

World Resources: Not applicable.

Substitutes: About 2.0 million tons of direct-reduced iron was used in the United States in 2017 as a substitute for iron and steel scrap, down from 4.8 million tons in 2016.

[e]Estimated. E Net exporter.

[1]See also Iron and Steel and Iron Ore.

[2]Receipts – shipments by consumers + exports – imports.

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

[4]Defined as secondary (old) scrap + imports – exports + adjustments for industry stock changes.

[5]Estimated, based on 2002 Census of Wholesale Trade for 2010 through 2014.

[6]Defined as imports – exports + adjustments for industry stock changes.