

IRON AND STEEL SCRAP¹

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

Domestic Production and Use: 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 \$26.1 billion in 2014, slightly less than that of 2013. U.S. apparent steel consumption, an indicator of economic growth, increased to about 108 million tons in 2014. Manufacturers of pig iron, raw steel, and steel castings accounted for about 88% 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 12% to produce cast iron and steel products, such as motor blocks, pipe, and machinery parts. Relatively small quantities of 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 2014, raw steel production was about 88 million tons, up slightly from that of 2013; annual steel mill capability utilization was about 78% compared with 77% for 2013. Net shipments of steel mill products were about 90 million tons, up 4.0% from those in 2013.

Salient Statistics—United States:	2010	2011	2012	2013	2014^e
Production:					
Home scrap	10	10	10	8	8
Purchased scrap ²	66	72	70	77	73
Imports for consumption ³	4	4	4	4	4
Exports ³	21	24	21	18	15
Consumption, reported	60	63	63	59	52
Price, average, dollars per metric ton delivered, No. 1 Heavy Melting composite price, Iron Age					
Average, Pittsburgh, Philadelphia, Chicago	319	392	360	341	352
Stocks, consumer, yearend	3.3	4.0	4.2	4.2	4.2
Employment, dealers, brokers, processors, number ⁴	30,000	30,000	30,000	30,000	30,000
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.

In the United States, the primary source of old steel scrap was the automobile. The recycling rate for automobiles in 2013, the latest year for which statistics were available, was about 85%. In 2013, the automotive recycling industry recycled more than 14 million tons of steel from end-of-life vehicles through more than 300 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 2013 were 82% and 70%, respectively; this was the latest year for which statistics were available. Recycling rates for construction materials in 2013 were, as in 2012, about 98% for plates and beams and 72% for rebar and other materials. The recycling rates for appliance, can, and construction steel are expected to increase not only in the United States, but also 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 59% post-consumer (old, obsolete) scrap, 23% prompt scrap (produced in steel-product manufacturing plants), and 18% home scrap (recirculating scrap from current operations).

Import Sources (2010–13): Canada, 79%; Mexico, 9%; United Kingdom, 4%; Sweden, 3%; and other, 5%.

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Tariff: Item	Number	Normal Trade Relations <u>12-31-14</u>
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: During 2014, hot-rolled steel prices decreased from \$765 per ton in January to a low of \$621 per ton in March and then increased to \$628 per ton in November. Prices of hot-rolled steel ended the year slightly lower than those in 2013. The producer price index for steel mill products increased to 222 in May 2011 from 153 in May 2009 and then reached an estimated high of 202 in August 2014. Steel mill production capability utilization peaked at 80.9% in April 2012 from 40.8% in April 2009, decreased to a low for the year of 68% in October 2012, and then rose to 79.6% in July 2014. World steel consumption was expected to increase by 2.0% to 1.6 billion tons in 2014 and by 2.0% to 1.6 billion tons in 2015.

Scrap prices fluctuated during the first 9 months of 2014, between about \$352 and \$389 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 \$370 per ton during the first 9 months of 2014. As reported by Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$1,732 per ton during the first 11 months of 2014, which was about 15% higher than the 2013 average price of \$1,511 per ton. Exports of ferrous scrap decreased in 2014 to an estimated 15 million tons from 18 million tons during 2013, mainly to Turkey, Taiwan, the Republic of Korea, and China, in descending order of export tonnage. The value of exported scrap decreased from \$7.6 billion in 2013 to an estimated \$6.3 billion in 2014.

During 2014, the U.S. ferrous scrap industry was adversely affected by the continuing global economic slow down, which began in December 2007; the devaluation of foreign currencies relative to the U.S. dollar; unusually harsh winter weather in the eastern half of the United States; and logistical restraints related to the development of new shale oil reserves in the United States. Countries that have been significant consumers of U.S. ferrous scrap continued to experience financial difficulties, showing no signs of recovering from the recession. Thus, demand for U.S. scrap was weak throughout 2014. Scrap exports during 2011 were at a high of about 24 million tons, whereas 2014 exports may be only an estimated 15 million tons. Policies of the U.S. Federal Reserve Bank, designed to improve the U.S. economy, caused devaluation of the currencies of many nations, such as Turkey, which has been the largest consumer of U.S. ferrous scrap exports in recent years. The strengthening of the U.S. dollar made sales of exported U.S. scrap difficult at other than discount prices. An early winter and unusually harsh winter conditions caused scrap dealers to experience slower than normal delivery of rail cars for their scrap. Also, the need to ship oil east from North Dakota because of the lack of pipelines diverted hundreds of locomotives that normally would have been used to haul scrap for export. The United States will likely continue exporting valuable ferrous scrap for at least another decade, and Turkey and the Republic of Korea will likely remain large importers of scrap at least through 2020.

World Mine Production and Reserves: Not applicable.

World Resources: Not applicable.

Substitutes: About 4.8 million tons of direct-reduced iron was used in the United States in 2014 as a substitute for iron and steel scrap, up from 4.5 million tons in 2013.

⁶Estimated. E Net exporter.

¹See also Iron and Steel and Iron Ore.

²Receipts – shipments by consumers + exports – imports.

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

⁴Estimated, based on 2002 Census of Wholesale Trade for 2007 through 2012.

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