

IRON AND STEEL SCRAP¹

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

Domestic Production and Use: Total value of 1997 domestic purchases (receipts of ferrous scrap by all domestic consumers from brokers, dealers, and other outside sources) and exports was estimated at \$7 billion, compared with \$8.5 billion in 1995. Manufacturers of pig iron, raw steel, and steel castings accounted for about three-fourths of the domestic steel industry, using scrap together with pig iron to produce steel products for the construction, transportation, oil and gas, machinery, container, appliance, and various other consumer industries. The ferrous castings industry consumed most of the remainder to produce cast iron and steel products, such as motor blocks, pipe, and machinery parts. Relatively small quantities were used for producing ferroalloys, for the precipitation of copper, and by the chemical industry; these uses totaled less than 1 million tons.

Salient Statistics—United States:	1992	1993	1994	1995	1996^e
Production: Home scrap	21	21	20	20	14
Purchased scrap ²	50	54	57	59	52
Imports for consumption ³	1.4	1.6	1.9	2.2	2.3
Exports ³	9.4	10.0	9.0	10.5	9.1
Consumption, reported	63	68	70	72	70
Price, average, dollars per metric ton delivered:					
No. 1 Heavy Melting composite price, Iron Age					
Average: Pittsburgh, Philadelphia, Chicago	83.88	109.98	126.81	135.03	130
Stocks, consumer, yearend	3.7	3.7	4.1	4.2	4.0
Employment, dealers, brokers, processors, ⁴ number	37,000	37,000	37,000	37,000	37,000
Net import reliance ⁵ as a percent of apparent consumption	E	E	E	E	E

Recycling: All iron and steel scrap is recycled material that 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. The steel industry in North America has been recycling steel scrap for over 150 years through about 16,000 car dismantlers and 2,000 scrap processors. In the United States alone, nearly 70 million tons of steel apparently were recycled in steel mills and foundries in 1996. 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 31% home scrap (new recirculating scrap from current operations), 23% prompt scrap (produced in steel-product manufacturing plants), and 46% obsolete (old) scrap.

Import Sources (1992-95): Canada, 77%; Mexico, 7%; Venezuela, 6%; Japan, 4%; and other, 6%.

Tariff: Item	Number	Most favored nation (MFN) 12/31/96	Non-MFN⁶ 12/31/96
Iron and steel waste and scrap:			
No. 1 bundles	7204.41.0020	Free	74¢/mt.
No. 1 Heavy Melting	7204.49.0020	Free	74¢/mt.
No. 2 Heavy Melting	7204.49.0040	Free	74¢/mt.
Shredded	7204.49.0070	Free	74¢/mt.

Depletion Allowance: Not applicable.

Government Stockpile: None.

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Events, Trends, and Issues: Raw steel production in 1996 was an estimated 95.4 million tons, only slightly more than that produced in 1995. Net shipments of steel mill products were estimated at nearly 91.5 million tons compared with 88.4 million tons for 1995.

The domestic ferrous castings industry shipped an estimated 13 million tons of all types of iron castings in 1996, and an estimated 0.9 million ton of steel castings, including investment castings.

Scrap prices in the United States continued at fairly high levels throughout 1996 as a result of strong demand, and were comparable to 1995 prices. Composite prices published by *Iron Age Scrap Price Bulletin* for No. 1 Heavy Melting steel scrap delivered to purchasers in Chicago, Philadelphia, and Pittsburgh averaged about \$130 per metric ton.

As reported by *Iron Age Scrap Price Bulletin*, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$712 per metric ton in 1996, significantly lower than the 1995 average price of \$827 per metric ton.

Total exports of ferrous scrap decreased to about 9.1 million metric tons, having an estimated value of about \$1.5 billion, down from the 1995 figure of 10.4 million tons.

The problem of accidental meltings of radioactive sources contained in scrap, primarily lost or discarded shielded radioactive gauges, continues to be a concern. Twenty-five accidental radioactive material smeltings have occurred in the United States since 1981, and hundreds more have been prevented because radioactive materials were discovered before they were melted. The costs associated with melting a radioactive source, including decontaminating a facility, disposing and storing radioactive electric furnace dust, and shutdown of steel production, can be as high as \$24 million per melt. The U.S. Nuclear Regulatory Commission (NRC) created, in 1995, the NRC-State Working Group on Regulation of Radioactive Materials to evaluate regulations concerning the control of and accountability for licensed devices and to develop recommendations for alternative regulatory approaches. The working group submitted its recommendations to the NRC in 1996, including increased regulatory oversight and penalties.

World Mine Production, Reserves, and Reserve Base: Not applicable.

World Resources: Not applicable.

Substitutes: About 1.6 million tons of direct-reduced iron was used in the United States in 1996 as a substitute for iron and steel scrap.

^eEstimated. E Net exporter.

¹See also Iron Ore and Iron and Steel.

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 1992 Census of Wholesale Trade.

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

⁶See Appendix B.