# IRON AND STEEL SCRAP[1]

(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 at $6.6 billion in 2000, up about 23% from that of 1999. Manufacturers of pig iron, raw steel, and steel castings accounted for nearly 80% of scrap consumption by the domestic steel industry, using scrap together with pig iron and direct-reduced 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 remaining 20% 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 totaled less than 1 million tons.

Raw steel production in 2000 was an estimated 106 million tons, up nearly 8% from that of 1999. Net shipments of steel mill products were estimated at about 105 million tons compared with 93 million tons for 1999. The domestic ferrous castings industry shipped an estimated 11 million tons of all types of iron castings in 2000 and an estimated 1.4 million tons of steel castings, including investment castings.

| **Salient Statistics—United States:** | **1996** | **1997** | **1998** | **1999** | **2000[e]** |
|---|---|---|---|---|---|
| Production: Home scrap | 20 | 20 | 20 | 19 | 22 |
| Purchased scrap[2] | 57 | 59 | 56 | 53 | 40 |
| Imports for consumption[3] | 2.9 | 3 | 3 | 4 | 5 |
| Exports[3] | 9.1 | 9 | 6 | 6 | 6 |
| Consumption, reported | 71 | 73 | 73 | 71 | 68 |
| Price, average, dollars per metric ton delivered: | | | | | |
| No. 1 Heavy Melting composite price, Iron Age | | | | | |
| Average: Pittsburgh, Philadelphia, Chicago | 126.02 | 125.80 | 104.07 | 90.98 | 95 |
| Stocks, consumer, yearend | 5.2 | 5.5 | 5.2 | 4.8 | 4.7 |
| Employment, dealers, brokers, processors, number[4] | 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 200 years. The automotive recycling industry alone recycles nearly 13 million vehicles annually through more than 200 car shredders to supply more than 14 million tons of shredded steel scrap to the steel industry for recycling. More than 12,000 vehicle dismantlers throughout North America resell parts. In the United States alone, an estimated 68 million tons of steel was recycled in steel mills and foundries in 2000. 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 (recirculating scrap from current operations), 25% prompt scrap (produced in steel-product manufacturing plants), and 44% obsolete (old) scrap.

**Import Sources (1996-99):** Canada, 65%; United Kingdom, 14%; Netherlands, 4%; Mexico, 3%; and other, 14%.

| **Tariff: Item** | **Number** | **Normal Trade Relations 12/31/00** |
|---|---|---|
| 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.

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**Events, Trends, and Issues:** The domestic scrap market, particularly obsolete scrap, recovered in early 2000. Generally, prices increased as much as 14% for No. 1 Heavy Melting scrap, and then declined slightly as the year progressed. The recovery was attributed to the decline of alleged unfair dumping of foreign steel products to the detriment of the domestic steel industry, the continuing robust domestic economy and its demand for steel products and ferrous scrap, and the recovery of the Asian steel industry. As scrap demand and prices increased during the year, supplies of scrap as well as other raw materials, such as imported pig iron and direct-reduced and hot-briquetted iron, increased to satisfy demand. Eventually, prices began to decline and by September had stabilized, suggesting that supply and demand may have reached balance. The industry expected little, if any, additional price decline during the remainder of the year. A softening of prices was reflected in an overall decline of 25% in purchased scrap production for the year. Foreign demand for scrap increased, especially in Asia, where it reached levels as high as those that preceded the financial crisis of 1998. Competing in the foreign scrap market was difficult because Ukraine and Russia shipped relatively low-priced steel to Asia and because of the strong U.S. dollar.

Ferrous scrap prices were lower, on average, during 2000 than in 1999. 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 $95 per metric ton in 2000. As reported by Iron Age Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about $761 per metric ton in 2000, which was significantly higher than the 1999 average price of $609 per metric ton. Exports of ferrous scrap increased slightly from 5.5 million tons during 1999 to about 6.2 million tons in 2000. Export scrap value increased from $738 million in 1999 to an estimated $1.07 billion in 2000.

In the United States, the primary source of obsolete steel scrap is the automobile. The recycling rate for automobiles for the 5-year period 1995-99 was about 95%. The recycling rates for appliances and steel cans for the past 5 years overall were about 76% and 58%, respectively. Recycling rates for construction materials for 1999 were about 95% for plates and beams and 45% 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. As environmental regulations increase, recycling becomes more profitable and convenient, and public interest in recycling continues to increase.

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

**World Resources:** Not applicable.

**Substitutes:** About 2.1 million tons of direct-reduced iron was used in the United States in 2000 as a substitute for iron and steel scrap.

[e]Estimated. E Net exporter.

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

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

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

[4]Estimated, based on 1992 Census of Wholesale Trade.

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