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 to be $32.8 billion in 2008, up by about 60% from that of 2007. U.S. apparent steel consumption, an indicator of economic growth, decreased to about 106 million metric tons in 2008. Manufacturers of pig iron, raw steel, and steel castings accounted for about 86% 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 14% to produce cast iron and steel products, such as machinery parts, motor blocks, and pipe. 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 2008, raw steel production was an estimated 99 million tons, slightly more than that of 2007; annual steel mill capability utilization was about the same as that of 2007. Net shipments of steel mill products were estimated to have been about 98 million tons compared with 96 million tons for 2007. The domestic ferrous castings industry shipped less than 11 million tons of all types of iron castings in 2008 and less than 1.0 million tons of steel castings.

Salient Statistics—United States:	**2004**	**2005**	**2006**	**2007**	**2008[e]**
Production:					
Home scrap	14	15	13	12	12
Purchased scrap[2]	59	58	58	65	65
Imports for consumption[3]	5	4	5	4	4
Exports[3]	12	13	15	17	17
Consumption, reported	67	66	65	65	65
Price, average, dollars per metric ton delivered, No. 1 Heavy Melting composite price, Iron Age Average, Pittsburgh, Philadelphia, Chicago	210	192	219	253	235
Stocks, consumer, yearend	5.4	5.0	4.6	4.4	4.4
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 alone, an estimated 65 million tons of steel was recycled in steel mills and foundries in 2008.

In the United States, the primary source of old steel scrap was the automobile. The recycling rate for automobiles in 2007, the latest year for which statistics were available, was about 110%. 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 through more than 200 car shredders more than 14 million tons of steel from end-of-life vehicles, the equivalent of nearly 13.5 million automobiles. More than 12,000 vehicle dismantlers throughout North America resell parts.

The recycling rates for appliances and steel cans in 2007 were 90% and 63%, respectively. Recycling rates for construction materials in 2007 were about 98% for plates and beams and 65% 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 to increase as the number of environmental regulations increase, and recycling is becoming more profitable and convenient.

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 avoids the accumulation of abandoned steel products in the environment. Recycled scrap consists of approximately 48% post-consumer (old, obsolete) scrap, 29% prompt scrap (produced in steel-product manufacturing plants), and 23% home scrap (recirculating scrap within current operations).

Import Sources (2004-07): Canada, 67%; United Kingdom, 13%; Sweden, 5%; Netherlands, 5%; and other, 10%.

Prepared by **Michael D. Fenton [(703) 648-4972, mfenton@usgs.gov, fax: (703) 648-7757]**

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Tariff: Item	Number	Normal Trade Relations 12-31-08
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: Hot-rolled steel prices increased steadily during 2008 to a peak in July, after which they decreased to early 2008 levels. Prices during 2008 were higher than those in 2007. The producer price index for steel mill products increased to 258.3 in August 2008 from 98.3 in February 2002. Steel mill capability utilization peaked at 97.3% in September 2004, decreased to 75% in December 2006, fluctuated between 81% and 91% during June to August 2008, and then decreased dramatically to 71% in October 2008.

Scrap prices fluctuated widely between about $217 and $285 per metric ton in 2007. Composite prices published by Iron Age Scrap Price Bulletin for No. 1 Heavy Melting steel scrap delivered to purchasers in Chicago, IL, and Philadelphia and Pittsburgh, PA, averaged about $402 per metric ton during the first 10 months of 2008. As reported by Iron Age Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about $2,522 per ton in 2008, which was lower than the 2007 average price of $2,913 per ton. The prices fluctuated widely between $3,388 per ton in March and April 2008 and a low of $638 before yearend. Exports of ferrous scrap decreased in 2008 to an estimated 12.8 million tons from 16.7 million tons during 2007, mainly to Turkey, China, Canada, and Taiwan, in descending order. Export scrap value increased from $6.9 billion in 2007 to an estimated $9.4 billion in 2008.

Worldwide annual production of ferrous scrap is about 300 million metric tons per year. Until mid-2008, global steel production and prices were at historic highs, after which demand and prices for steel products began to decline, followed by declining demand for scrap. As the global economy retracted, scrap steel buyers in Asia and Europe began cancelling orders, which may lead to a steel scrap oversupply of more than 5 million tons in ports, ships, and yards. Profit margins have dropped in the steel scrap industry from $200 to $20 per ton. Steel production and scrap consumption are not expected to revive until at least late 2009.

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

World Resources: Not applicable.

Substitutes: About 1.8 million tons of direct-reduced iron was used in the United States in 2008 as a substitute for iron and steel scrap, down from 2.1 million tons in 2007.

[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 2002 Census of Wholesale Trade.

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