

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 \$22.5 billion in 2010, up by 40% from that of 2009. U.S. apparent steel consumption, an indicator of economic growth, increased to about 82 million tons in 2010. Manufacturers of pig iron, raw steel, and steel castings accounted for about 90% 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 10% 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 2010, raw steel production was an estimated 81.0 million tons, up about 36% from that of 2009; annual steel mill capability utilization was about 72% compared with 51% for 2009. Net shipments of steel mill products were estimated to have been about 76 million tons compared with 56 million tons for 2009.

Salient Statistics—United States:	2006	2007	2008	2009	2010^e
Production:					
Home scrap	12	12	12	10	9
Purchased scrap ²	60	64	73	70	74
Imports for consumption ³	5	4	4	3	4
Exports ³	15	17	22	22	19
Consumption, reported	64	64	67	53	51
Price, average, dollars per metric ton delivered,					
No. 1 Heavy Melting composite price, Iron Age					
Average, Pittsburgh, Philadelphia, Chicago	214	249	349	208	335
Stocks, consumer, yearend	4.4	4.4	4.6	3.4	4.0
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 2009, the latest year for which statistics were available, was about 140%, indicating a significant shrinking of the country's car and light car fleet from a high of 250 million vehicles down to 246 million vehicles. 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 more than 14 million tons of steel from end-of-life vehicles through more than 220 car shredders, the equivalent of more than 14 million automobiles. More than 12,000 vehicle dismantlers throughout North America resell parts.

The recycling rates for appliances and steel cans in 2009 were 90% and more than 66%, respectively. Recycling rates for construction materials in 2009 were, as in 2008, 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 not only in the United States, but also in emerging industrial countries at an even greater rate. Public interest in recycling continues to increase, 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 58% post-consumer (old, obsolete) scrap, 18% prompt scrap (produced in steel-product manufacturing plants), and 24% home scrap (recirculating scrap from current operations).

Import Sources (2006–09): Canada, 75%; United Kingdom, 8%; Mexico, 7%; Sweden, 4%; and other, 6%.

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<u>Tariff: Item</u>	<u>Number</u>	<u>Normal Trade Relations 12-31-10</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: Hot-rolled steel prices increased steadily during 2010 to a high in April of about \$754 per metric ton, after which they decreased to \$626 per ton in August 2010. During the first 9 months of 2010, prices of hot-rolled steel were higher than those in 2009. The producer price index for steel mill products increased to 203 in May 2010 from 153 in May 2009. Steel mill production capability utilization peaked at 75.4% in June 2010 from a low of 40.8% in April 2009.

Scrap prices fluctuated widely between about \$290 and \$367 per ton in 2010. 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 \$320 per ton during the first 8 months of 2010. As reported by Iron Age Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$2,273 per ton during the first 10 months of 2010, which was 45% higher than the 2009 average price of \$1,502 per ton. The prices fluctuated widely between a low of \$1,711 per ton in January 2010 and a high of \$2,724 per ton in April and May 2010. Exports of ferrous scrap decreased in 2010 to an estimated 19 million tons from 22 million tons during 2009, mainly to China, the Republic of Korea, Taiwan, Malaysia, Turkey, and Canada, in descending order of export tonnage. Export scrap value increased from \$7.1 billion in 2009 to an estimated \$8.0 billion in 2010.

North America has been experiencing a shortage of iron and steel scrap, owing to increased export demand, primarily from China, Turkey, and Canada. Even significantly increased prices for scrap have not led to an increase in scrap availability, because almost all old scrap had been collected from farms, ranches, and other sources, and recession-hit consumers have been keeping and repairing old appliances rather than disposing of them. Also, manufacturers were decreasing production, thus producing little new scrap for the scrap market.

World Mine Production and Reserves: Not applicable.

World Resources: Not applicable.

Substitutes: About 1.4 million tons of direct-reduced iron was used in the United States in 2009 as a substitute for iron and steel scrap, down from 2.0 million tons in 2008.

⁶Estimated. 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 2002 Census of Wholesale Trade for 2006 through 2010.

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