

## IRON AND STEEL SCRAP<sup>1</sup>

(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 \$13.7 billion in 2009, down by 54% from that of 2008. U.S. apparent steel consumption, an indicator of economic growth, decreased to about 57 million metric tons in 2009. Manufacturers of pig iron, raw steel, and steel castings accounted for about 85% 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 15% 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 2009, raw steel production was an estimated 55.9 million tons, down about 39% from that of 2008; annual steel mill capability utilization was about 50% compared with 81% for 2007. Net shipments of steel mill products were estimated to have been about 52 million tons compared with 89 million tons for 2008.

<b>Salient Statistics—United States:</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009<sup>e</sup></b>
Production:					
Home scrap	15	13	12	12	11
Purchased scrap <sup>2</sup>	58	58	65	72	67
Imports for consumption <sup>3</sup>	4	5	4	4	3
Exports <sup>3</sup>	13	15	17	22	22
Consumption, reported	66	64	64	66	48
Price, average, dollars per metric ton delivered,					
No. 1 Heavy Melting composite price, Iron Age					
Average, Pittsburgh, Philadelphia, Chicago	189	214	249	349	195
Stocks, consumer, yearend	5.0	4.4	4.4	4.6	4.6
Employment, dealers, brokers, processors, number <sup>4</sup>	30,000	30,000	30,000	30,000	30,000
Net import reliance <sup>5</sup> 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 2008, the latest year for which statistics were available, was about 106%. 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 220 car shredders more than 15 million tons of steel from end-of-life vehicles, the equivalent of nearly 14.5 million automobiles. More than 12,000 vehicle dismantlers throughout North America resell parts.

The recycling rates for appliances and steel cans in 2008 were 90% and 65%, respectively. Recycling rates for construction materials in 2008 were 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 55% post-consumer (old, obsolete) scrap, 23% prompt scrap (produced in steel-product manufacturing plants), and 22% home scrap (recirculating scrap from current operations).

**Import Sources (2005-08):** Canada, 73%; United Kingdom, 9%; Mexico, 6%, Sweden, 4%; and other, 8%.

## IRON AND STEEL SCRAP

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations <u>12-31-09</u></b>
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 decreased steadily during 2009 to a low in June, after which they increased to December 2008 through January 2009 levels. During 2009, prices of hot-rolled steel were lower than those in 2008. The producer price index for steel mill products decreased to 153 in May 2009 from 258 in August 2008. Steel mill production capability utilization peaked at 97.3% in September 2004, and decreased dramatically to a low of 40.8% in April 2009. During the first 8 months of 2009, the capability utilization was 46.2%, compared with 90.3% during the same period in 2008.

Scrap prices fluctuated widely between about \$141 and \$199 per metric ton in 2009. 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 \$194 per metric ton during the first 9 months of 2009. As reported by Iron Age Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$1,526 per ton in 2009, which was lower than the 2008 average price of \$2,522 per ton. The prices fluctuated widely between \$2,108 per ton in August and September 2009 and a low of \$863 in January 2009. Exports of ferrous scrap increased in 2009 to an estimated 22.0 million tons from 21.5 million tons during 2008, mainly to China, Turkey, the Republic of Korea, Taiwan, and Canada, in descending order of export tonnage. Export scrap value decreased from \$10.4 billion in 2008 to an estimated \$7.2 billion in 2009.

Following record-high global steel product production and prices in mid-2008, demand and prices began to decline. As of yearend 2009, significant recovery in the industry did not seem likely until well into 2010, if not later, because the major steel-consuming industries were continuing to experience low demand as a result of cancellation of State and local infrastructure projects, declining housing construction, weak consumer confidence, and weak demand for durable goods and automotive products.

**World Mine Production and Reserves:** 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, up from 2.1 million tons in 2007.

<sup>6</sup>Estimated. E Net exporter.

<sup>1</sup>See also Iron Ore and Iron and Steel.

<sup>2</sup>Receipts – shipments by consumers + exports – imports.

<sup>3</sup>Includes used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping.

<sup>4</sup>Estimated, based on 1992 Census of Wholesale Trade for 2001, and 2002 Census of Wholesale Trade for 2002 through 2005.

<sup>5</sup>Defined as imports – exports + adjustments for Government and industry stock changes.