

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 \$39.4 billion in 2012, 22% less than that of 2011. U.S. apparent steel consumption, an indicator of economic growth, increased to about 101 million tons in 2012. Manufacturers of pig iron, raw steel, and steel castings accounted for about 32% 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 68% 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 2012, raw steel production was about 91 million tons, up about 5.3% from that of 2011; annual steel mill capability utilization was about 78% compared with 74% for 2011. Net shipments of steel mill products were about 89 million tons compared with 87.0 million tons for 2011.

Salient Statistics—United States:	2008	2009	2010	2011	2012^e
Production:					
Home scrap	12	10	10	76	76
Purchased scrap ²	73	70	66	121	121
Imports for consumption ³	4	3	4	4	4
Exports ³	22	22	21	24	23
Consumption, reported	68	54	60	177	57
Price, average, dollars per metric ton delivered, No. 1 Heavy Melting composite price, Iron Age					
Average, Pittsburgh, Philadelphia, Chicago	349	208	319	392	375
Stocks, consumer, yearend	4.3	3.1	3.3	6.0	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 2011, the latest year for which statistics were available, was about 95%. In 2011, the automotive recycling industry recycled more than 15.5 million tons of steel from end-of-life vehicles through more than 300 car shredders, the equivalent of nearly 11.9 million automobiles. More than 12,500 vehicle dismantlers throughout North America resell parts.

The recycling rates for appliances and steel cans in 2011 were 90% and nearly 71%, respectively; this is the latest year for which statistics were available. Recycling rates for construction materials in 2011 were, as in 2010, 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, 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 47% post-consumer (old, obsolete) scrap, 8% prompt scrap (produced in steel-product manufacturing plants), and 45% home scrap (recirculating scrap from current operations).

Import Sources (2008–11): Canada, 79%; Mexico, 10%; United Kingdom, 5%; Sweden, 3%; and other, 3%.

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Tariff: Item	Number	Normal Trade Relations <u>12-31-12</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 decreased steadily during 2012 from a high in January of about \$820 per ton to about \$650 per ton in October 2012. During the first 11 months of 2012, prices of hot-rolled steel were lower than those in 2011. The producer price index for steel mill products increased to 222 in May 2011 from 153 in May 2009 and then decreased steadily to an estimated low of 199 in October 2012. Steel mill production capability utilization peaked at 80.9% in April 2012 from a low of 40.8% in April 2009.

Scrap prices fluctuated during the first 8 months of 2012, between about \$311 and \$421 per ton. Composite prices published by Scrap Price Bulletin for No. 1 Heavy Melting steel scrap delivered to purchasers in Chicago, IL, and Philadelphia and Pittsburgh, PA, averaged about \$376 per ton during the first 8 months of 2012. As reported by Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$1,762 per ton during the first 10 months of 2012, which was 19% lower than the 2011 average price of \$2,182 per ton. Exports of ferrous scrap decreased in 2012 to an estimated 23 million tons from 24.3 million tons during 2011, mainly to Turkey, the Republic of Korea, Taiwan, Canada, and, China, in descending order of export tonnage. Export scrap value increased from \$11.4 billion in 2011 to an estimated \$10.1 billion in 2012.

Continuing and growing concern about the European Union sovereign-debt and banking crisis have adversely affected steel consumer confidence; depressed steel demand, production, and prices; and, thus, caused ferrous scrap prices to fluctuate considerably. World steel consumption was expected to increase by 2.1% in 2012 and 3.2% in 2013, following 15% annual growth in 2010 and 5.6% in 2011, according to the World Steel Association.

The 2008–12 global economic recession, which began in December 2007, adversely affected the entire world economy, including substantial slowing of the economic growth in developed and underdeveloped countries, including the United States, Europe, and Asia-Pacific countries. Purchases of new steel products by consumers have been delayed while recycling activity has declined, which has led to a steep decline in the global supply of scrap steel. The anticipated recovery of the global economy is expected to cause increased demand for, and the availability of, steel scrap. Global scrap steel consumption may reach 570 million tons by 2015.

World Mine Production and Reserves: Not applicable.

World Resources: Not applicable.

Substitutes: About 2.6 million tons of direct-reduced iron was used in the United States in 2012 as a substitute for iron and steel scrap, up from 1.6 million tons in 2011.

^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 2002 Census of Wholesale Trade for 2007 through 2011.

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