

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 \$12.6 billion in 2005, up about 32% from that of 2004. U.S. apparent steel consumption, an indicator of economic growth, rose to about 122 million tons in 2005. Manufacturers of pig iron, raw steel, and steel castings accounted for 87% 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 13% 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 2005, raw steel production was an estimated 92.4 million tons, about 7% less than that of 2004; capability utilization was down by 8% from that of 2004. Net shipments of steelmill products were estimated to have been about 102 million tons compared with 101 million tons (revised) for 2004. The domestic ferrous castings industry shipped an estimated 7.4 million tons of all types of iron castings in 2005 and an estimated 0.7 million tons of steel castings.

Salient Statistics—United States:	2001	2002	2003	2004	2005^e
Production:					
Home scrap	18	17	17	14	14
Purchased scrap ²	55	56	53	60	62
Imports for consumption ³	3	3	4	5	4
Exports ³	7	9	11	12	14
Consumption, reported	71	69	61	67	67
Price, average, dollars per metric ton delivered,					
No. 1 Heavy Melting composite price, Iron Age					
Average, Pittsburgh, Philadelphia, Chicago	73.84	88.21	108.00	205.00	175
Stocks, consumer, yearend	4.9	5.1	4.4	5.4	4.5
Employment, dealers, brokers, processors, number ⁴	37,000	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. The steel industry in North America has been recycling steel scrap for more than 200 years. The automotive recycling industry alone recycled an estimated 17 million vehicles in 2005 through more than 200 car shredders to supply an estimated 13 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 67 million tons of steel was recycled in steel mills and foundries in 2005. 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 49% post-consumer (old, obsolete) scrap, 26% prompt scrap (produced in steel-product manufacturing plants), and 25% home scrap (recirculating scrap from current operations).

Import Sources (2001-04): Canada, 60%; United Kingdom, 20%; Sweden, 7%; Russia, 3%; and other, 10%.

Tariff: Item	Number	Normal Trade Relations 12-31-05
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: Scrap prices fluctuated widely between about \$159 per ton and about \$247 per ton through 2004 and the first half of 2005. Hot-rolled steel prices increased until late 2004 and then decreased steadily during the next 11 months. The producer price index for steel mill products continued to rise from 101.3 in 2001 to and estimated 161 in 2005. Steelmill capability utilization increased steadily during 2003 and 2004 to a peak of 97.3% in September 2004, before decreasing to 88.4% for the first 5 months of 2005.

Ferrous scrap prices were significantly lower, on average, during the first half of 2005 than in 2004. 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 \$173 per metric ton during the first half of 2005. As reported by Iron Age Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$1,555 per ton in 2005, which was higher than the 2004 average price of \$1,450 per ton. Exports of ferrous scrap increased from 11.8 million tons during 2004, mainly to China, Canada, and Turkey, in descending order. Export scrap value increased from \$2.9 billion in 2004 to an estimated \$3.5 billion in 2005.

In the United States, the primary source of old steel scrap is the automobile. The recycling rate for automobiles in 2004, the latest year for which statistics were available, was 102%. 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 recycling rates for appliances and steel cans in 2004 were 81% and 62%, respectively. Recycling rates for construction materials in 2004 were about 98% for plates and beams and 63% 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 grow.

On August 29, 2005, Hurricane Katrina caused the closure of the Port of New Orleans and adversely affected steel production and transportation of finished steel products on the Mississippi River. Hydrogen, critical for some steelmaking processes, was in short supply, and barge transportation was disrupted. Steel product imports and exports began passing through the port 2 weeks after closing. New Orleans imports and exports about one-third of steel products passing through Gulf of Mexico ports. The overall long-term impact of the storm was difficult to assess, but the devastation was expected to produce a glut of scrap from demolished buildings and from crippled scrap yards emptying inventories for repair work.

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

World Resources: Not applicable.

Substitutes: About 1.7 million tons of direct-reduced iron was used in the United States in 2005 as a substitute for iron and steel scrap, down from 2.5 million tons in 2004.

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 1992 Census of Wholesale Trade for 2001, and 2002 Census of Wholesale Trade for 2002 through 2005.

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