

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 \$18.7 billion in 2006, up about 42% from that of 2005. U.S. apparent steel consumption, an indicator of economic growth, rose to about 130 million tons in 2006. Manufacturers of pig iron, raw steel, and steel castings accounted for 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 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 2006, raw steel production was an estimated 96 million tons, about 2% more than that of 2005; annual steel mill capability utilization was about the same as that of 2005. Net shipments of steel mill products were estimated to have been about 102 million tons compared with 95 million tons for 2005. The domestic ferrous castings industry shipped an estimated 11.7 million tons of all types of iron castings in 2006 and an estimated 1.1 million tons of steel castings.

| Salient Statistics—United States: | 2002 | 2003 | 2004 | 2005 | 2006^e |
|--------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------------------|
| Production: | | | | | |
| Home scrap | 17 | 17 | 14 | 14 | 19 |
| Purchased scrap ² | 56 | 56 | 59 | 58 | 57 |
| Imports for consumption ³ | 3 | 4 | 5 | 4 | 5 |
| Exports ³ | 9 | 11 | 12 | 13 | 11 |
| Consumption, reported | 69 | 65 | 67 | 65 | 55 |
| Price, average, dollars per metric ton delivered, | | | | | |
| No. 1 Heavy Melting composite price, Iron Age | | | | | |
| Average, Pittsburgh, Philadelphia, Chicago | 88.21 | 108.00 | 205.00 | 188.51 | 275 |
| Stocks, consumer, yearend | 4.9 | 4.4 | 5.4 | 5.1 | 5.1 |
| 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. 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 2006 through more than 200 car shredders to supply an estimated 14 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 55 million tons of steel was recycled in steel mills and foundries in 2006. 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 50% post-consumer (old, obsolete) scrap, 29% prompt scrap (produced in steel-product manufacturing plants), and 21% home scrap (recirculating scrap from current operations).

Import Sources (2002-05): Canada, 62%; United Kingdom, 18%; Sweden, 7%; Netherlands, 3%; and other, 10%.

| Tariff: Item | Number | Normal Trade Relations 12-31-06 |
|---------------------------------|---------------|--------------------------------------------|
| 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: Hot-rolled steel prices decreased steadily until mid-2005, and then increased steadily until August 2006, at which time they began to decline for the rest of the year. The producer price index for steel mill products continued to rise from 101.3 in 2001 to 187.00 in September 2005. Steel mill capability utilization peaked at 97.3% in September 2004, before decreasing to 77.1% in July 2005, and then rebounding to 90.5% in June 2006.

Scrap prices fluctuated widely between about \$125 per ton and about \$240 per ton through 2005 and the first half of 2006. 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 \$225 per metric ton during the first 5 months of 2006. As reported by Iron Age Scrap Price Bulletin, the average price for nickel-bearing stainless steel scrap delivered to purchasers in Pittsburgh was about \$2,009 per ton in 2006, which was higher than the 2005 average price of \$1,555 per ton. Exports of ferrous scrap decreased to an estimated 11.3 million tons from 13 million tons during 2005, mainly to China, the Republic of Korea, Canada, and Mexico, in descending order. Export scrap value increased from \$3.4 billion in 2005 to an estimated \$3.6 billion in 2006.

In the United States, the primary source of old steel scrap is the automobile. The recycling rate for automobiles in 2005, 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 2006 were 90% and 63%, respectively. Recycling rates for construction materials in 2006 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 briefly adversely affected steel production and transportation of finished steel products on the Mississippi River. The devastation produced a glut of scrap from demolished buildings and from crippled scrap yards emptying inventories for repair work. Seizing the opportunity, 12 North American steel companies committed \$1.1 million in a Gulf Coast Steel Initiative to help rebuild the U.S. Gulf Coast region, especially by converting from traditional construction materials to steel framing and roofing. The storm destroyed an estimated 205,000 wood-frame homes. The Initiative would also provide business owners and consumers with information on where they can take their steel products for recycling.

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

World Resources: Not applicable.

Substitutes: About 1.6 million tons of direct-reduced iron was used in the United States in 2006 as a substitute for iron and steel scrap, down from 1.8 million tons in 2005.

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.