

IRON AND STEEL SCRAP¹

(Data in million metric tons of metal unless otherwise noted)

Domestic Production and Use: In 2016, the 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 \$14.2 billion, approximately 15% less than that of 2015. U.S. apparent steel consumption, an indicator of economic growth, increased to about 105 million tons in 2016. Manufacturers of pig iron, raw steel, and steel castings accounted for about 88% 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 12% to produce cast iron and steel products, such as machinery parts, motor blocks, and pipe. Relatively small quantities of steel 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 2016, raw steel production was 80 million tons, up slightly from 78.8 million tons in 2015; annual steel mill capacity utilization was about 72% compared with 70% for 2015. Net shipments of steel mill products were 78 million tons, about the same as those in 2015.

| Salient Statistics—United States: | 2012 | 2013 | 2014 | 2015 | 2016^e |
|--|-------------|-------------|-------------|-------------|-------------------------|
| Production: | | | | | |
| Home scrap | 10 | 8.5 | 7.1 | 6.3 | 6 |
| Purchased scrap ² | 70 | 77 | 62 | 67 | 65 |
| Imports for consumption ³ | 3.7 | 3.9 | 4.2 | 3.5 | 4.1 |
| Exports ³ | 21 | 18 | 15 | 13 | 12 |
| Consumption, reported | 63 | 59 | 59 | 53 | 47 |
| Consumption, apparent | 63 | 71 | 59 | 64 | 63 |
| Price, average, dollars per metric ton delivered, | | | | | |
| No. 1 Heavy Melting composite price, Iron Age | | | | | |
| Average, Pittsburgh, Philadelphia, Chicago | 367 | 365 | 351 | 213 | 192 |
| Stocks, consumer, yearend | 4.2 | 4.2 | 4.3 | 4.4 | 4.4 |
| 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 automobiles. The recycling rate for automobiles in 2013, the latest year for which statistics were available, was about 85%. In 2013, the last year that data were available, the automotive recycling industry recycled more than 14 million tons of steel from end-of-life vehicles through nearly 300 car shredders, the equivalent of nearly 12 million automobiles. More than 7,000 vehicle dismantlers throughout North America resell parts.

The recycling rates for appliances and steel cans in 2014 were 89% and 70%, respectively; this was the latest year for which statistics were available. Recycling rates for construction materials in 2014 were about 98% for plates and beams and 71% 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.

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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 61% post-consumer (old, obsolete) scrap, 23% prompt scrap (produced in steel-product manufacturing plants), and 16% home scrap (recirculating scrap from current operations).

Import Sources (2012–15): Canada, 70%; United Kingdom, 10%; Sweden, 7%; Netherlands, 6%; and other, 7%.

| Tariff: Item | Number | Normal Trade Relations <u>12–31–16</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: Steel mill production capacity utilization peaked at 80.9% in April 2012 and reached 75.1% in June 2016. Scrap prices fluctuated during the first 8 months of 2016, between about \$152 and \$237 per ton. Composite prices published by Scrap Price Bulletin for No. 1 Heavy Melting steel scrap delivered to purchasers in Chicago, IL, Philadelphia, PA, and Pittsburgh, PA, averaged about \$196 per ton during the first 8 months of 2016. Exports of ferrous scrap decreased in 2016 to an estimated 12 million tons from 13 million tons during 2015, primarily to Turkey, Mexico, and Taiwan, in descending order of export tonnage. The value of exported scrap decreased from \$6.1 billion in 2015 to an estimated \$3.3 billion in 2016. World steel consumption was expected to increase slightly from 1.48 billion tons in 2016 to 1.49 billion tons in 2017.

World Mine Production and Reserves: Not applicable.

World Resources: Not applicable.

Substitutes: About 4.8 million tons of direct-reduced iron was used in the United States in 2016 as a substitute for iron and steel scrap, up from 4.1 million tons in 2015.

^eEstimated. E Net exporter.

¹See also Iron and Steel and Iron Ore.

²Receipts – shipments by consumers + exports – imports.

³Excludes used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping.

⁴Estimated, based on 2002 Census of Wholesale Trade for 2010 through 2014.

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