

The Scrap Recycling Industry: Nonferrous Scrap Metal

Nonferrous scrap refers to scrap metal other than iron and steel, and includes **aluminum, copper, lead, zinc, nickel, titanium, cobalt, chromium, and precious metals**. Millions of tons of nonferrous scrap metals are recovered annually by scrap recyclers and consumed by secondary smelters, refiners, ingot makers, fabricators, foundries, and other industrial consumers in the U.S. and in more than 110 countries throughout the world.

Nonferrous scrap is recovered from a wide range of obsolete consumer, commercial, and industrial sources—everything from soft-drink containers to automobile radiators to electronics and airplanes. The aluminum skeleton left after can lids are punched out of aluminum sheets, brass punchings from a screen manufacturer, copper scrap from manufacturing, and aluminum turnings generated in machine shops—all of these scrap materials are **processed by the scrap recycling industry into specification grade commodities** for manufacture into new products.

The U.S. nonferrous scrap industry was a **\$38 billion-dollar industry** in 2007.

INDUSTRY STATS

COPPER

Copper is the best non-precious metal conductor of electricity.

The U.S. annually recycles enough copper to provide the copper content for 30,645 Statues of Liberty.

Copper alloy scrap provides about half of the copper consumed in the U.S. each year.

The U.S. provides 21% of the world supply of recovered copper.

ALUMINUM

If all aluminum scrap processed in the U.S. were used solely to produce standard soda cans, the lined-up cans would stretch 29,847,965 miles—more than $\frac{3}{4}$ of the way to Mars.

In 2005, recycled aluminum cans saved the energy equivalent of 15 million barrels of crude oil—America's entire gas consumption for one day.

Energy saved using Al scrap vs. virgin ore is 95%.

An estimated 85-90% of all automotive Al is recovered and recycled.

Approximately 60% of the Al used in North American cars is recycled content.

Of an estimated total 700 million tons of aluminum produced in the world since commercial manufacturing began, about $\frac{3}{4}$ is still in productive use.

Lead-acid batteries, a primary use for lead, have a 97% recycling rate.

NONFERROUS SCRAP

In 2007, the U.S. scrap industry processed (exports plus domestic recycled) more than:

- 5 million metric tons of aluminum
- 1.8 million metric tons of copper
- 1.3 million metric tons of lead
- 420,000 metric tons of zinc
- 2 million tons of nickel/stainless steel

The U.S. exported the following amounts of nonferrous scrap in 2007:

- 907,000 metric tons of copper
- 1,546,000 metric tons of aluminum
- 129,000 metric tons of lead
- 102,000 metric tons of zinc
- 955,000 metric tons of nickel/stainless steel

The U.S. exported \$13 billion worth of nonferrous scrap to 113 countries in 2007, including China, Canada, South Korea, India, and Taiwan.



According to the USGS, in 2006 the U.S. recovered approximately 6.1 million metric tons of nonferrous scrap. ISRI estimates that **in 2007, that number increased 8.1% to 6.6 million tons.**



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Voice of the Recycling Industry



Sources: USGS, USITC, ISRI, other industry sources