

# The Scrap Recycling Industry: Aluminum, Copper, and Other Nonferrous Metals

Nonferrous metals, such as aluminum, copper, lead, nickel, tin and zinc are among the few materials that do not degrade or lose their chemical or physical properties in the recycling process. As a result, nonferrous metals have the capacity to be recycled an infinite number of times. As society's awareness of the economic, environmental, and energy savings associated with using recycling materials improves, along with the rapid growth in consumer demand for nonferrous metal-bearing products, the critical role of the reservoir of nonferrous metals in use becomes increasingly apparent. In the United States alone, the value of the nonferrous metal scrap industry, including precious and rare metal scrap, exceeds \$30 billion in 2017.

While in terms of volume, nonferrous scrap makes up five percent of the total quantity of material recycled in the United States. By value, nonferrous metal scrap — including precious metal scrap — accounts for more than half of the total U.S. scrap recycling industry earnings. More than 8.5 million metric tons of nonferrous scrap was processed in the United States last year from a wide array of consumer, commercial, and industrial sources: everything from copper and precious metal circuitry in electronic devices, to soft-drink containers, automobile batteries and radiators, aluminum siding, airplane parts, and more. Nonferrous scrap is then consumed by secondary smelters, refiners, ingot makers, fabricators, foundries, and other industrial consumers in the United States and more than 70 countries worldwide. These consumers rely on nonferrous scrap as a competitive, environmentally-preferable, and energy-efficient input to manufacture brand new products, continuing the nonferrous metals lifecycle.



According to data from USGS and the Commerce Department, in 2017 the United States recovered more than 8.5 million metric tons of nonferrous scrap. ISRI estimates that this nonferrous scrap was worth more than \$30 billion.



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## INDUSTRY STATS

### COPPER

- Copper is the best non-precious metal conductor of electricity.
- The United States annually recycles enough copper to provide the copper content for nearly 25,000 Statues of Liberty.
- Copper and copper alloy scrap provides one-third of the U.S. copper supply.
- The U.S. provides more than 20 percent of the world supply of recovered copper.

- In recent years, recycled content has provided 50-60 percent of apparent aluminum consumption.
- Lead-acid batteries, a primary use for lead, have a nearly 100 percent recycling rate.
- A used aluminum can is recycled and back on the grocery shelf in as little as 60 days.
- An estimated 85 to 95 percent of all automotive aluminum is recovered and recycled.

### ALUMINUM

- The recycling rate for aluminum cans was 64 percent in 2016 as more than 56 billion cans were recycled in the U.S.
- The energy saved from recycling aluminum beverage cans in the U.S. could fuel more than 1 million cars on the road for a full year.
- Energy saved using aluminum scrap vs. virgin materials is up to 95 percent.

### NONFERROUS SCRAP

In 2017, the U.S. scrap industry processed (exports plus domestic recycled):

- 5.2 million metric tons of aluminum;
- 1.9 million metric tons of copper;
- 1.1 million metric tons of lead;
- 67,000 metric tons of zinc; and
- 120,000 metric tons of nickel.

The United States exported \$9 billion worth of nonferrous scrap to 85 countries in 2017, including China, Canada, Mexico, South Korea, Japan, Taiwan, Belgium, India, and Germany.

