

## **Steel scrap: a world traded commodity**

To most, the word 'scrap' evokes visions of unwanted, discarded leftovers. However, to the steel industry, scrap represents a vital resource that enhances all aspects of steelmaking.

The recycling of scrap metal is an integral part of modern steelmaking, improving the industry's economic viability and reducing environmental impact. The recycling of steel scrap reduces the need for iron ore extraction, significantly reducing CO<sub>2</sub> emissions, energy and water consumption and air pollution.

As a result of these efficiencies, steel scrap is increasingly being regarded as a raw material for manufacturing new products worldwide. As a result ferrous scrap—iron and steel—has become a globally-traded commodity. The increased demand for steel scrap is reflected in recent trade statistics.

The United Nations Commodity Trade Statistics Database shows that the volume of global scrap exports increased from 9.3 million metric tons in 1990 to 106 million metric tons in 2011. Figures from the Bureau of International Recycling show that total world steel scrap use increased 7.6 percent in 2011 to reach 570 million metric tons.

The globalization of the ferrous scrap market, however, also places stresses on the system. The long lifespan of steel products means the amount of steel available for recycling cannot keep up with the current world demand for new steel products. With steel structures can last longer than 60 years and automobiles often lasting longer than 12 years, steel products can be seen as scrap-in-inventory—meaning the steel will not be ready for recycling until the long life of the product comes to an end.

A positive aspect of steel is the ease of recycling when steel products finally do reach the end of their life. The ability to recover and collect old steel products for subsequent recycling is greatly enhanced by the inherent magnetic properties of steel; consequently a large tonnage of steel becomes available for recycling every year.

Figures from the U.S. Census Bureau and the U.S. International Trade Commission, the U.S. is the world's largest exporter of ferrous scrap—exporting nearly 23 million metric tons of iron and steel scrap in 2011. Globally, China, Taiwan, South Korea, India, Canada, and Turkey are the largest markets for exports of U.S. steel scrap in that same period.

North America is also one of the largest consumers of its own steel scrap—recycling more than 70 percent of that scrap domestically.

“This high level of scrap consumption is a reflection of the steel industry’s commitment to conserving energy and natural resources,” said Gregory Crawford, executive director of the Steel Recycling Institute in North America. “Scrap steel is used in everyday products, including packaging, appliances, automobiles and construction. Each year, more steel is recycled in North America than paper, aluminum, plastic and glass combined.”

This flow of scrap also faces challenges in the form of trade restrictions. The Organization for Economic Cooperation and Development (OECD) reported in 2012 that North American and European ferrous scrap is traded openly, but that about 19 percent of the scrap trade is burdened by various trade restrictions.

The 2012 OECD report noted that “waste and scrap exports are restricted in many parts of the world. Waste and scrap trade involving iron and steel and non-ferrous base metals (copper, aluminum, lead and zinc) tends to be more regulated than trade involving other metals.”

The OECD found that in 2009, at least 19 percent of scrap of iron and steel, exported by a total of 34 countries, was subject to export restrictions. “Export restrictions dampen trade flows,” said the report. “In fact, some exports actually will not take place due to the very fact that export restrictions are in place. Export activity would be higher if restrictions did not exist.”

The rationales which governments cite most frequently as motivating their use of the restrictions include safeguarding domestic supplies, controlling illegal exports, and protecting local industry. Non-automatic export licensing, export taxes, and other export prohibitions were among the measures used to regulate the export of iron and steel scrap, according to the OECD.