The Global Ferrous Scrap Metal Markets

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The Institute of Scrap Recycling Industries, Inc. (ISRI) represents more than 1,700 members that process, broker & consume scrap metals, paper, plastics, glass, textiles, tires and rubber, and electronics.

With headquarters in Washington, D.C., the Institute provides education, advocacy, and compliance training, and promotes public awareness of the vital role recycling plays in the U.S. economy, global trade, the environment and sustainable development. For more information about ISRI, please visit www.isri.org.
Over 100 Years of Recycling Experience

- Industry directly and indirectly employs more than 450,000 people in the United States and has been creating “green jobs” for decades.

- Processed over 130 million metric tons of material in the U.S. valued at $100 billion in 2011.

- Shipped over 50 million metric tons of commodity grade scrap to approx. 160 countries around the globe in 2011.

- Many ISRI members have been in business for three generations or more.
Key Features in the Evolution of the U.S. Scrap Industry

- Increasingly Capital Intensive
- Industry Integration & Consolidation
- Expanding Range of Commercially Recyclable Commodities
- Competitiveness & Constant Need to Innovate
- Regulatory Challenges
- Globalized Marketplace
Competition for Supply Continues to Rise...

Number of Shredders in the United States, 1977 vs. 2011

Source: Scrap Magazine
Increasingly Global Marketplace: Ferrous Scrap

According to trade data from the U.N. Comtrade Database, the volume of global ferrous scrap exports rose from 65 million metric tons valued at US$7.3 billion in 2001 to more than 108 million metric tons valued at US$54 billion in 2011.

*Includes stainless steel and alloy steel scrap
And the U.S. is a key global source of scrap metal...

### Main Steel Scrap Exporters (Million Tonnes)

<table>
<thead>
<tr>
<th>Country</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>6.449</td>
<td>5.344</td>
<td>9.398</td>
<td>6.472</td>
<td>5.442</td>
</tr>
<tr>
<td>Canada</td>
<td>4.100</td>
<td>4.084</td>
<td>4.792</td>
<td>5.154</td>
<td>4.832</td>
</tr>
<tr>
<td>Russia</td>
<td>7.855</td>
<td>5.128</td>
<td>1.202</td>
<td>2.390</td>
<td>4.042</td>
</tr>
<tr>
<td>Australia</td>
<td>1.501</td>
<td>1.708</td>
<td>1.925</td>
<td>1.636</td>
<td>1.745</td>
</tr>
<tr>
<td>South Africa</td>
<td>0.752</td>
<td>1.271</td>
<td>1.144</td>
<td>1.224</td>
<td>1.436</td>
</tr>
</tbody>
</table>

Source: Bureau of International Recycling
Overseas Demand for Ferrous Scrap Slowed in 2012 due in Part to Diminished Chinese Demand…

Change in Annual U.S. Ferrous Scrap Exports to China by Grade, 2011 and 2012 (metric tons)
(Source: U.S. Census Bureau/U.S. International Trade Commission)
But Overseas Demand is Off to a Decent Start in 2013...

U.S. Monthly Ferrous Scrap* Exports to Turkey, January 2012 - January 2013 (metric tons)
Sources: U.S. Census Bureau/U.S. International Trade Commission

Ferrous scrap exports, excluding stainless and alloy scrap, actually got off to a decent start to the year, increasing 7% by volume year-on-year in January (but down 4% as compared to Dec 2012) to 1.4 million mt as improved demand from Turkey, Mexico and Vietnam more than offset reduced shipments to China, Canada and South Korea. As compared to January 2012, ferrous scrap exports to Turkey were up some 30% by volume to 483,000 this January.
### Overseas Demand off to a Decent Start in 2013 (cont.)

**U.S. Ferrous Scrap Export by Grade**

<table>
<thead>
<tr>
<th>Grade</th>
<th>JAN 2013</th>
<th>% CHG from JAN 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAST IRON</td>
<td>34,681</td>
<td>-5%</td>
</tr>
<tr>
<td>TINNED IRON OR STEEL</td>
<td>10,150</td>
<td>19%</td>
</tr>
<tr>
<td>NO 1 BUNDLES STEEL SCRAP</td>
<td>14,340</td>
<td>-74%</td>
</tr>
<tr>
<td>NO 2 BUNDLES STEEL SCRAP</td>
<td>1,186</td>
<td>93%</td>
</tr>
<tr>
<td>BORINGS, SHOVELINGS AND TURNINGS</td>
<td>17,219</td>
<td>326%</td>
</tr>
<tr>
<td>SHAVINGS, CHIPS, etc.</td>
<td>17,669</td>
<td>16%</td>
</tr>
<tr>
<td>NO 1 HEAVY MELTING STEEL SCRAP</td>
<td>519,232</td>
<td>11%</td>
</tr>
<tr>
<td>NO 2 HEAVY MELTING STEEL SCRAP</td>
<td>73,533</td>
<td>9%</td>
</tr>
<tr>
<td>CUT PLATE AND STRUCTURAL STEEL SCRAP</td>
<td>78,850</td>
<td>31%</td>
</tr>
<tr>
<td>SHREDDED STEEL SCRAP</td>
<td>401,188</td>
<td>-5%</td>
</tr>
<tr>
<td>OTHER FERROUS SCRAP</td>
<td>253,072</td>
<td>32%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau/U.S. ITC
As Domestic Capacity Utilization is Improving...

Weekly Estimated U.S. Steel Mill Capacity Utilization Rates, Jan 2012-Feb 2013 (%)

Source: American Iron and Steel Institute
As Overseas Demand Improves, Proposed Barriers to Trade Often Resurface. But Trade Barriers Often Have Unintended Consequences...

- Artificial barriers to the free trade of commodities have a detrimental effect on economic growth. Worse yet, studies suggest that efforts to control scrap prices through export controls can result in further increases in prices.

- The imposition of scrap export controls can cause what is known as “control reverse,” whereby scrap prices actually rise in response to export controls.

- When scrap export controls are established, important raw material supply sources are artificially removed from the global marketplace. As a result, global market prices for scrap metals can increase significantly.

- Foreign and domestic end-users can see significant price increases for finished metal products in the face of commodity export controls.
And the Benefits of Scrap Trade are Undeniable...

- Scrap exports help to create jobs, boost growth and also help reduce worldwide energy demand and the need to mine and harvest virgin materials.
- In 2011, research conducted by Dunham and Associates indicated that 51,768 jobs in the United States were directly supported by the export activities associated with the processing and brokerage operations of scrap recyclers.
- An additional 110,163 U.S. jobs were provided by supplier operations and through the indirect effects of scrap recycling exports.
- All of this activity generated $30.7 billion in economic benefits in the United States and contributed $2.1 billion in tax revenues for the federal government and $1.5 billion in state and local taxes.
Estimated Impacts of Removing “Supply Chain” Trade Barriers...


GDP increase
- 2-3%
- 4-5%
- 6-8%
- ≥9%

Trade increase
- Exports
- Imports
Outlook for Global Trade

% Change in Volume of World Exports of Goods and Services, 2011 - 2014
Source: International Monetary Fund

- Advanced Economies
- Emerging Market and Developing Economies
Market Conditions Improving in Early 2013

- China appears to have averted a “hard landing”
- Sentiment improving in many if not all European countries
- Fiscal cliff and debt ceiling crises put off for now
- Improving U.S. labor and housing markets
- Rising equity and commodity markets
- Positive outlook for manufacturing

China Real Quarterly GDP Growth Y-o-Y, Q1 2009 - Q4 2012 (%) 
Source: National Bureau of Statistics
Lower average year-on-year prices for ferrous scrap, growing competition for available supply and generally weaker export demand put pressure on the scrap industry and profit margins in 2012.

Significant domestic and global risks remain, but positive features today include accommodative monetary policies, gradually improving US housing and labor markets (and US labor productivity), signs of expanding industrial output in the US and China, rising demand from the transportation and construction sectors, and a booming domestic oil and gas industry.

As for longer term macro trends, scrap becomes an increasingly attractive source of supply as virgin material prices increase in response to rising demand.

As societal concerns about sustainable supply become more pronounced, a greater emphasis is placed on the benefits of scrap recycling.

As expanding developing economies and ongoing urban migration prompt higher infrastructure investment and consumption levels, scrap becomes essential to meeting the growing global demand for raw materials.

Industry with positive externalities.
Thank you.

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