The Scrap Metal Recycling Industry: Evolution and Regulation

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Overview

- Brief Introduction to ISRI
- Evolution of the Scrap Industry
- Global Marketplace
- Regulatory Overview
- Trends and Opportunities
About ISRI

1,600 Member companies

3,000+ Recycling facilities worldwide

34 Countries
Industry Snapshot: $87 Billion Economic Impact

130,000,000+
Tons processed annually

2013 U.S. Scrap Exports

42.8
Total exported (million metric tons)

$24B
Value of materials exported

160
Number of destinations exported to
Evolution of an Industry

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
• Globalized Marketplace
• Regulatory Challenges
Between 2000 and 2012, data from the United Nations Comtrade database show that global copper and aluminum scrap exports more than doubled to reach nearly 14 million mt.
In nominal RMB terms, IMF/NBS data show the Chinese economy was 15 times larger in 2013 than in 1993.
And the U.S. is China’s Dominant Overseas Supplier of Scrap Metal

Top 10 Suppliers of Metal Scrap to Mainland China by $ Value in 2013

<table>
<thead>
<tr>
<th>Ferrous Scrap</th>
<th>Copper Scrap</th>
<th>Aluminum Scrap</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Japan</td>
<td>1. USA</td>
<td>1. USA</td>
</tr>
<tr>
<td>2. USA</td>
<td>2. Hong Kong SAR</td>
<td>2. Hong Kong SAR</td>
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<td>3. Hong Kong SAR</td>
<td>3. Malaysia</td>
<td>3. Malaysia</td>
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<tr>
<td>5. Korea</td>
<td>5. Australia</td>
<td>5. Germany</td>
</tr>
<tr>
<td>7. Canada</td>
<td>7. United Kingdom</td>
<td>7. Canada</td>
</tr>
<tr>
<td>10. Taiwan (China)</td>
<td>10. Spain</td>
<td>10. Macao SAR</td>
</tr>
</tbody>
</table>

Source: UN Comtrade Database.
In Turn, China is the Most Important Overseas Market for U.S. Scrap Metal

Leading Export Destinations for U.S. Metal Scrap* in 2013 by Dollar Value
Sources: US Census Bureau/US International Trade Commission

*Includes ferrous, nonferrous and precious metal scrap.

The U.S. exported more than $6.3 billion of ferrous, nonferrous and precious metal scrap to China last year.
Taken Together, China + Hong Kong Accounted for 78% of U.S. Copper Scrap Exports in 2013

In 2013, the U.S. exported almost 900,000 metric tons of copper scrap to China + Hong Kong valued at nearly $2.9 billion.
A Host of Factors Have Had an Impact on Scrap Trade Flows into China

- China’s Efforts to Balance Economic Growth with Environmental Protection
- Relative Prices of Primary Inputs and Metals (Iron Ore, Copper Concentrate, Refined Metals) vs. Scrap Prices
- Signs of Slower Chinese Manufacturing Output
- Higher Domestic Scrap Generation in China
- LME-SHFE Price Differentials and Arbitrage Opportunities
- USD/RMB Exchange Rate
- Shipping and Storage Costs
- Regulatory Response to Financing Deals
- But China Will Continue to Play a Key Role in Commodity and Scrap Markets Going Forward
From the scrap recycling industry perspective, a number of issues have made for more challenging market conditions recently, including:

- Heightened competition for available feedstock domestically
- Margin compression
- Uneven manufacturing growth
- Excess Capacity
- Dollar and commodity price volatility
- Volatile overseas demand and freight rates
- Shifting regulatory landscape
Regulatory Overview

- Highly regulated industry (RCRA, OSHA, CAA, CWA, transportation, CRTs)

Example: OSHA-Related Standards

- 29 CFR 1910.19 – Special provisions for air contaminants
- 29 CFR 1910.94 – Ventilation
- 29 CFR 1910.95 – Occupational Noise Exposure
- 29 CFR 1910.106 – Flammable and combustible liquids
- 29 CFR 1910.132 – General requirements
- 29 CFR 1910.133 – Eye and face protection
- 29 CFR 1910.135 – Head protection
- 29 CFR 1910.137 – Electrical protective devices
- 29 CFR 1910.138 – Hand protection
- 29 CFR 1910.147 – The control of hazardous energy (lockout/tagout)
- 29 CFR 1910.179 – Overhead and gantry cranes
- 29 CFR 1910.180 – Crawler locomotive and truck cranes
- 29 CFR 1910.184 – Slings
- 29 CFR 1910.212 – General requirements for all machines
- 29 CFR 1910.242 – Hand and portable powered tools and equipment (general)
- 29 CFR 1910.244 – Other portable tools and equipment
- 29 CFR 1910.252 – General requirements (Welding, Cutting, and Brazing)
- 29 CFR 1910.1000 – Air Contaminants
- 29 CFR 1910.1000, Table Z-1 – Limits for Air Contaminants
- 29 CFR 1910.1000, Table Z-2
- 29 CFR 1910.1018 – Arsenic
- 29 CFR 1910.1025 – Lead
- 29 CFR 1910.1026 – Hexavalent Chromium
- 29 CFR 1910.1027 – Cadmium
- 29 CFR 1910 Subpart H – Hazardous Materials
- 29 CFR 1910 Subpart I – Personal Protective Equipment
- 29 CFR 1910 Subpart L – Fire protection
- 29 CFR 1910 Subpart Q – Welding, Cutting and Brazing
- 29 CFR 1910 Subpart S – Electrical
- 29 CFR 1926.62 – Lead in Construction
- 29 CFR 1926.55 – App. A, Gases, fumes, vapors, dusts, and musts

Source: Guidelines for the Identification and Control of Safety and Health Hazards in Metal Scrap Recycling, OSHA.
Key Policies and Legislation

▪ Free and Fair Trade
▪ Scrap is Not Waste
▪ Metal Theft
▪ Producer Responsibility
▪ Controlling Flow Control of scrap
▪ Other Issues
Free and Fair Trade

- **Export Controls**
  - The next South Africa?

- **Disguised Trade Barriers**
  - Critical Metals, Rare Earth Metals, Strategic Metals, Conflict Metals…

- **Barriers to Trade**
  - AQSIQ and beyond…video surveillance?
  - Metal/Container Theft

- **Reducing import/export tariffs**
  - Listing specification good commodities as an *Environmental Good*

- **What is fair?**
CRT Exports

The U.S. Environmental Protection Agency (EPA) has released its revised export provisions for cathode ray tubes (CRT). The original rule was finalized July 28, 2006 (71 FR 42928), which conditionally excluded CRTs from solid waste so long as conditions were met. This conditional exclusion remains intact since the streamlining of RCRA management standards is intended to encourage recycling and reuse rather than landfilling or incineration. In November 2010, President Obama established the Interagency Task Force on Electronics Stewardship, co-chaired by EPA and the General Services Administration (GSA) (executive order 13514). As part of EPA’s commitment to this effort, the agency committed to proposing changes to the existing CRT rule in order to better track CRT exports (76 FR 11243, March 1, 2011). This new rule finalizes revisions to the export provisions that allow for the conditional exclusion of solid waste for used CRT exports.

Key provisions of the revised rule include:

(1) A new definition of “CRT Exporter”
(2) Additional Annual Reports for Used CRTs Sent for Recycling
(3) Revised Notification Required for Used CRTs Sent for Recycling
(4) Revised Notification Required for Used, Intact CRTs Exported for Reuse

This final rule is effective on December 26, 2014 and affects all persons who export used CRTs for reuse and recycling. The rule does not affect households or conditionally exempt small quantity generators.
Scrap is not Waste

If Scrap is not Waste, then what is it?

- Since 1985, U.S. EPA has **exempted** scrap metals that enter recycling facilities for processing from the definition of hazardous waste (40 CFR Part 261.6)

- In 1997, EPA **excluded** processed scrap metal and shredded circuit boards going from recycling facilities to mills, foundries and smelters from the definition of solid waste (40 CFR Part 261.4)

- ISRI Supports Regulating as a Product Manufacturer, not Waste
  - Scrap ceases to be waste

- Basel Convention creep into products?
  - Definition of WEEE
Material Theft

Value of copper fluctuating

50 U.S. state laws exist

- All require record keeping for scrap dealers

- 27 states also limit amount of cash

No need for federal legislation, further market confusion

ISRI supports a federal bill that criminalizes theft from critical/national infrastructure
**ISRI Comprehensive Approach**

- Hired *new* Law Enforcement Outreach Director

- Law Enforcement Advisory Council
  - Police officers, prosecutors, security people

- *Upgraded* ScrapTheftAlert.com
  - Online tracking system
    - Recovered $1.3 million, 235 arrests

- ISRI State Metal Theft Law Database

- Education, Training and Outreach
  - National Sheriff’s Association
Producer Responsibility

- Sector-by-sector evaluation is needed

- Flexibility for different product lines
  - End-of-life cars versus computer monitors
  - Sunset clause

- Are we creating mini-monopolies?

- Transparency and competition
Controlling Flow Control

- Government enacts legislation to direct wastes and recyclables, generated in its jurisdiction, to specific facilities
  - Government influence on competitive, free market
  - Unintended, unanticipated problems
    - Prohibits the free flow of scrap material
    - Distorts market value
    - Definition of “Discard”

- US Supreme Court: United Haulers (2008)
  - State Owned Enterprise exception
Other Selected Issues

National Motor Vehicle Titling Information System (NMVTIS)

The National Motor Vehicle Titling Information System (NMVTIS) is designed to protect consumers from fraud and unsafe vehicles and to keep stolen vehicles from being resold. NMVTIS is also a tool that assists states and law enforcement in deterring and preventing title fraud and other crimes. The Anti-Car Theft Act (the Act) of 1992 directed the U.S. Department of Transportation to establish a national information system enabling states and others to access automobile titling information. In 1996, the Act was reauthorized, transferring the responsibility for this system to the U.S. Department of Justice (DOJ). The Act prescribes the ongoing responsibilities of DOJ in the operation and oversight of NMVTIS. 49 U.S.C. § 30502(a)(1) directs the Attorney General to establish NMVTIS to accomplish specific automobile titling information objectives that specify what information is to be made available and to whom. A mandatory federal rule issued in January 30, 2009 by the DOJ, requires all scrap processors, junk and salvage yards to electronically report to this database an inventory of all junk automobiles or salvage automobiles obtained in whole or in part during the prior month.

Appliance Recycling

Since 1993, the recycling of appliances and motor-vehicle air conditioners (MVACs) has been subject to Federal CAA regulations. Foremost under these regulations, it is illegal knowingly to release, or to cause to be released, refrigerants (e.g., R-12, a chlorofluorocarbon (CFC), and R-22, a hydrochlorofluorocarbon (HCFC)) into the atmosphere. This “venting prohibition”, as it is known, also applies to substitutes for CFCs and HCFCs (e.g., R-134a and R-410a). Recyclers that accept appliances and MVACs for recycling must either (1) remove remaining refrigerant from delivered appliances and MVACs or (2) ensure that refrigerant was removed from them prior to delivery. Both options have very specific practices and documentation requirements. These and more are discussed in ISRI’s Guidelines for Appliance Recycling.

Definition of Solid Waste (DSW)

The Definition of Solid Waste (DSW) is extremely important and relevant to the industry. DSW is the basis for RCRA regulations, and RCRA has the potential to regulate inbound material that members purchase for feedstock (e.g., unprocessed scrap), recycling processes, and manufactured products (e.g., specification-grade scrap commodities). Materials outside DSW are unregulated and may move freely. For instance, both processed and unprocessed scrap metal being recycled, as well as the recycling processes, are unregulated under RCRA federally. However, EPA’s 2011 proposed changes to DSW could significantly impede the recycling of scrap metal and other scrap materials. In October 2011 comments to EPA, ISRI strongly opposed the proposed changes as unlawful, unnecessary, and onerous and awaits the final DSW rule. A Final DSW Rule was expected by the end of 2012, but has not yet been issued. What the Final DSW Rule might include in the way of new restrictions and conditions on recycling, if any, and when it will be issued are not known.

Stormwater

Stormwater management is one of the most important operational and regulatory issues for the recycling industry because recycling operations are typically outdoors and exposed to precipitation that may flow off-site. Stormwater permits typically affect every aspect of facility operations. Historically, ISRI has developed and provided information to members on stormwater management and compliance and has been an advocate for the industry during the development and renewal of state general permits and the Federal Multi-Sector General Permit (MSGP). In most cases, members apply for coverage to discharge stormwater under their state general permit, however, members in DC, ID, MA, NH, NM, and US territories apply for coverage under the Federal MSGP. Most state general permits resemble to varying degrees (some exactly) the Federal MSGP, but there is significant variation in requirements across state general permits. For this reason, members should consult ISRI’s list of state stormwater general permits to find their applicable general permit (state or Federal) and associated information.
Trends and Opportunities

- Industry commitment to safety.
- Further industry consolidation?
- Rising quality demands at home and abroad.
- Global marketplace, but challenges to free trade and need to develop new markets.
- Need for regulatory balance.
- Certifications on the rise.
- Confluence of demographic, climate, sustainable development, market and technological changes that should increase the need for recycled commodities and bode well for the health of the industry in the long term.
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