Recycling at a Crossroads

Robin Wiener, ISRI President
SERDC Summit 2016
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Overview

- ISRI – an Introduction
- Today’s Recycling Industry – a Snapshot
- Challenges, Opportunities and Outlook
  - Market
  - Non-Market
- Discussion
ISRI – An Introduction
ISRI: Voice of the Recycling Industry

1,300
Member companies

4,000
Recycling facilities worldwide

34
Countries

World Map showing recycling industry presence in 34 countries globally.
ISRI Members Process and Broker The Full Range of Scrap Commodities

- Ferrous & non-ferrous metals
- Paper
- Plastics
- Glass
- Rubber
- Textiles
- Electronics
ISRI’s Mission

ISRI is the Voice of the Recycling Industry, Promoting Safe, Economically Sustainable and Environmentally Responsible Recycling through Networking, Advocacy and Education.
Institute of Scrap Recycling Industries

Our Priorities

Workplace safety

Responsible Recycling

Free & Fair Trade

Scrap ≠ Waste

Market Intelligence

Education, Training & Networking

Awareness
Today’s Recycling Industry – a Snapshot
Recycling in the United States

$105 Billion Industry

130,000,000+ tons processed annually, inclusive of commercial, industrial & residential

67 million tons
47 million tons
5+ million tons
1.8 million tons
3.5 million tons
100+ million

ferrous
paper
aluminum
copper
plastics
tires

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Recycling in the United States: Jobs

149,000 direct employment

plus 323,000 jobs throughout the economy indirectly supported by recycling

generating $11.2 billion in federal, state & local tax revenues
Recycling in the United States: Jobs

Good paying, green jobs

$77,153 average wages & benefits paid

Jobs

Data/Economic Impact available
(ISRI.org/jobstudy)

by State, Congressional District, State House District, State Senate District & City

Source: John Dunham & Associates (guerillaeconomics.com)
Recycling in the United States: Jobs

The U.S. Scrap Recycling Industry Creates and Supports Jobs in Georgia

<table>
<thead>
<tr>
<th></th>
<th>Jobs</th>
<th>Wages</th>
<th>Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recyclers</td>
<td>5,071</td>
<td>$338,176,800</td>
<td>$1,581,132,500</td>
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<tr>
<td>Brokers</td>
<td>83</td>
<td>$7,418,400</td>
<td>$18,533,100</td>
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<td>Total Direct Impacts</td>
<td>5,154</td>
<td>$345,595,200</td>
<td>$1,599,665,600</td>
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<table>
<thead>
<tr>
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<th>Federal Taxes</th>
<th>State and Local Taxes</th>
<th>Total Taxes</th>
</tr>
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<tr>
<td>Business Taxes</td>
<td>$216,620,800</td>
<td>$121,888,800</td>
<td>$338,509,600</td>
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</table>

Some details may not add due to rounding.

The U.S. Scrap Recycling Industry Creates and Supports Jobs in Georgia Congressional District 5

<table>
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<th>Economic Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recyclers</td>
<td>877</td>
<td>$57,791,300</td>
<td>$227,218,300</td>
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<tr>
<td>Brokers</td>
<td>39</td>
<td>$3,485,700</td>
<td>$8,708,300</td>
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<tr>
<td>Total Direct Impacts</td>
<td>916</td>
<td>$61,277,000</td>
<td>$235,926,600</td>
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</table>
Recycling is the 1st Link in the Manufacturing Supply Chain

Recycled Materials Supply 40% of the Global Raw Material Needs …

… US steelmakers rely on ferrous scrap to make two-thirds of the steel produced each year

… More than 50% of the US paper industry’s needs are met each year through the use of recovered fiber produced from such items as old newspapers, office paper and used corrugated boxes.

… A third of US Aluminum supply comes from soda cans, aluminum siding & other forms of aluminum scrap

Both Quantity and Quality are key to the Strength of that Link in the Supply Chain
Recycling in the United States: Exports

Part of the Global Industry

37
Total exported from U.S.
(million metric tons)

$18B
Value of U.S. materials
exported

156
Destination countries to which recyclables were sold

- The U.S. is the largest exporter of scrap commodities in the world.

- With approximately 30% of scrap processed in US destined for export in recent years, the health of the US recycling industry is directly tied to the health of the global economy.

- Leading Export Destinations: China ($6B), Canada ($2B), South Korea ($960M), Mexico ($955M), Turkey ($932M), and India ($914M)
Most of the Scrap Processed in the U.S. is Consumed Domestically

- **U.S. Recovered Paper and Fiber**
  - Export, 41%
  - Domestic, 59%

- **U.S. Aluminum Scrap Recovery**
  - Export, 30%
  - Domestic, 70%

- **U.S. Iron and Steel Scrap**
  - Export, 17%
  - Domestic, 83%

- **U.S. Copper & Copper Alloy Scrap**
  - Export, 53%
  - Domestic, 47%
Challenges, Opportunities and Outlook
The health of the recycling industry is closely related to the health of the global economy, and thus sensitive to …

• Domestic & overseas manufacturing,

• Fluctuations in currency markets,

• Transportation disruptions (e.g., West Coast port strike, Hanjin bankruptcy)

• Energy Prices,

• Flow of imports, and

• Volatility in commodity prices
Manufacturing in the US: Uneven Performance

U.S. Total and Manufacturing Capacity Utilization

Source: Federal Reserve
Global Manufacturing

EU Market Remains Very Weak
Growth in the Middle East has slowed
China Still Driving Global Commodity Markets

Excess commodity production in China, falling Chinese industrial prices, decelerating Chinese growth and slowing Chinese scrap import demand in recent years contributing to global deflationary pressure and weaker global scrap market conditions.
Effect on Global Scrap Trade

Reported World Scrap* Exports, 2006 - 2015(p)

million metric tons

Source: UN Comtrade Database

*Exports from all UN reporting countries of scrap plastic, rubber, paper & fiber, glass, textiles, precious metals, base metals and ferrous metals.

2006-2015 volume: 1.9 billion metric tons
US Scrap Exports Follow Same Curve

Annual U.S. Scrap Exports by Volume (metric tons) and FAS Value ($), 2006 - 2015

Sources: U.S. Census Bureau/U.S. International Trade Commission

- Volume (mt) - left scale
- FAS Value ($) - right scale
Scrap recycling is a commodities-based business. The ISRI Index fell to the lowest level since the Great Recession in November 2015. The index has again come under pressure, falling 4% in September 2016.

*ISRI index: weighted index of recovered paper and fibre, ferrous, copper, and aluminum scrap prices*
As energy prices have fallen, so has the price of plastics …
Impacts of Market Challenges on Recycling Industry

Impacts ...
• Recyclers squeezed due to price & volume declines, contamination
• Import competition
• Excess/idled capacity in automobile shredding
• Margin compression
• Closures across recycling industry
  • multi-generational metals recycling businesses
  • Single stream MRFs due to unsustainable business model

Industry Managing By ...
• Increased investments in technologies to increase yields (except residential)
• Increased focus on “other” commodities; greater integration across commodity sectors
• Industry consolidation
• Cutting costs

Long Term – positive, but immediate short term challenging
Increased Challenges Surrounding Quality of Recyclables Entering the Recycling Stream from Residential Sources…

• Move to one-bin collection systems raising significant concern over potential effects on ability to recover specification-grade material

• Recyclers of paper & plastics seeing a general decrease in quality of recyclables coming out of municipal stream
  • **ISRI’s MRF Council**: development of “Inbound Residential Curbside Specifications”; glass specifications also in development

• **In contrast**, commercial and industrial sources of recovered fiber continue to be a good source of quality fiber at healthy volumes.
  • *Lesson (?)*: need to focus on economically viable materials
Non Market Challenges

Pressure also on the Quantity of Recyclables Entering the Stream …

- Collection system price sensitive: As commodity prices fall, the incentive on the part of peddlers to bring recyclables to the market declines
- Decline of newspaper circulation, and all graphic paper grades
- Light-weighting across commodity spectrum: Newspapers, PET, aluminum cans
Non Market Challenges

Constantly Changing Design of Consumer Products and durable goods

- More complex
- Emergence of new materials & sometimes difficult to recycle materials
  - Degradable Additives
  - Clad materials
- Degradable Additives - Boron
- Clad materials - Carbon fiber reinforced plastics

ISRI’s DFR program: working with manufacturers to raise awareness and identify issues before becomes an end-of-life issue
Non Market Challenges

Non-uniformity in definitions and terms

- What is waste and what is a recyclable?
- What is recycling versus disposal?
- How can we compare recycling rates if we do not establish common definitions and formulas?

*What is collected in the blue bin at the end of the driveway is only a small part of the entire picture of recycling here in the U.S.*
Opportunities Ahead/Outlook

- Recyclers increasingly focused on safety, operational efficiency, quality and product diversification
- Shift in thinking to sustainable materials management
- Targeted investment in technology (& acquisitions)
- Opportunities for ISRI and other industry groups to educate:
  - policymakers & the public about the economic and environmental benefits of recycling
  - the next generation
Please join us for the **2017 ISRI Convention & Expo** to be held April 22-27, 2017 in New Orleans!

[www.isriconvention.org](http://www.isriconvention.org)
Thank You!

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www.isri.org