Drivers and Challenges For the U.S. Recycling Industry: China, Trade, and Domestic Market Developments

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Voice of the Recycling Industry™

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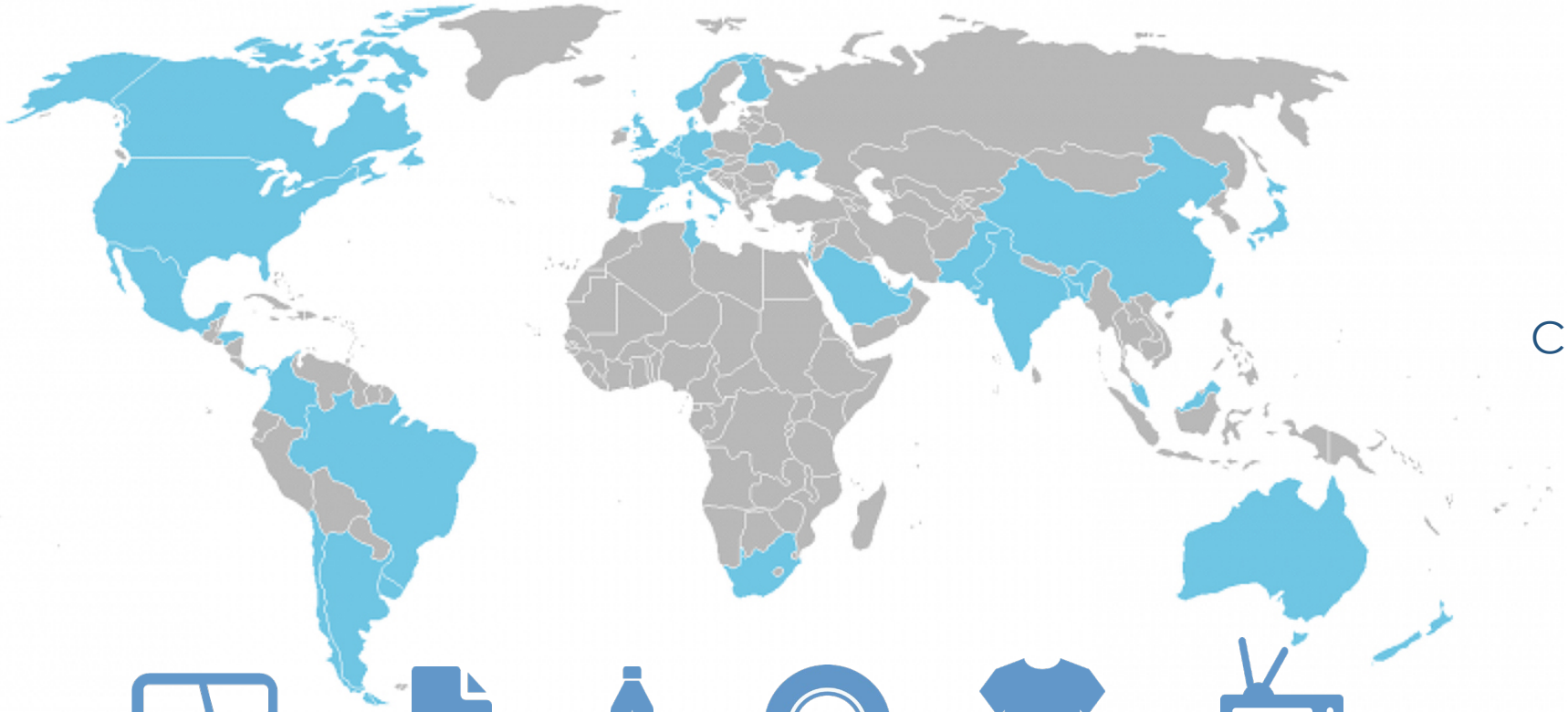
About ISRI: The Voice of the Recycling Industry™



Ferrous & non-ferrous metals | Paper | Plastics | Tire & Rubber | Textiles | Electronics

1,300+ Members

41 Countries

4,000+ Locations

Manufacturers, Processors Industrial Consumers, Brokers, Traders, Equipment/Service Providers

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U.S. Recycling Industry

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$117 Billion Industry

156,000 Direct Jobs

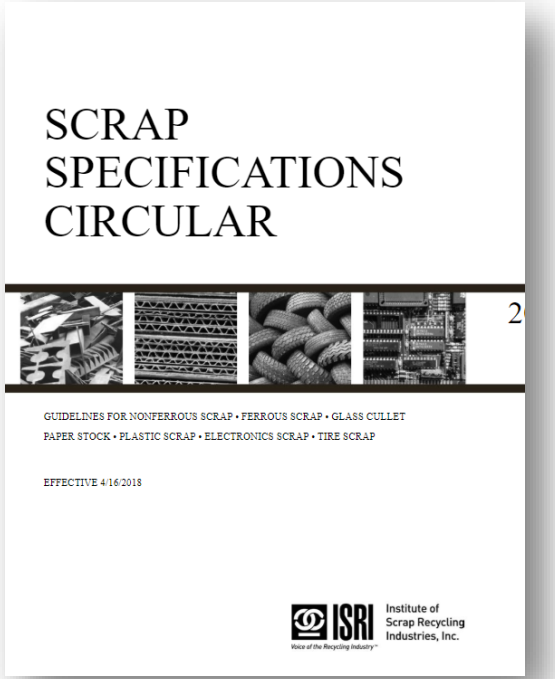
375,000 Indirect Jobs

130 mil Metric Tons processed annually, including:

- 65 million metric tons iron & steel
- 8 million metric tons Al
- 1.12 million metric tons Pb
- 1.8 million metric tons Cu
- 65 thousand metric tons zinc
- 5+ million metric tons electronics

1/3 Domestic production exported

160 Destination markets to which recyclables were sold



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ISRI's Mission

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OUR MISSION

To promote safe, economically sustainable & environmentally responsible recycling through networking, advocacy & education.

Workplace Safety

Responsible Recycling

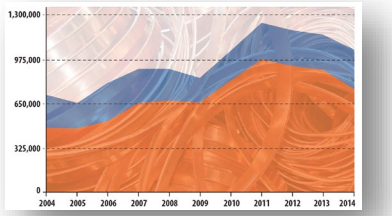
RIOS™
Recycling at its best™

Education, Training & Networking

Specifications

Design for Recycling™

Market Intelligence



Awareness

Youth Video & Poster Contest
ISRI Institute of Scrap Recycling Industries, Inc.
JASON Learning

Free & Fair Trade

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China and Trade

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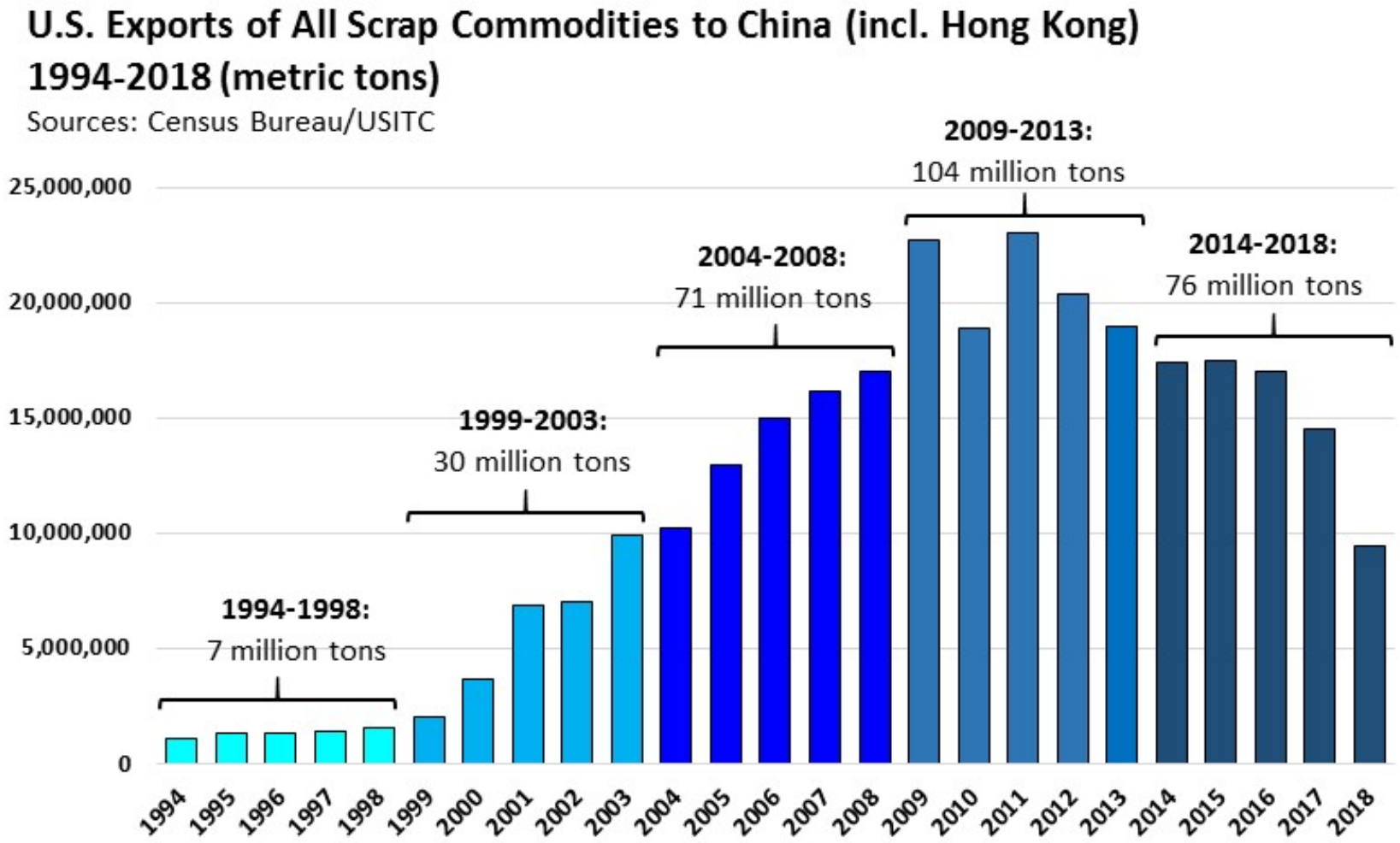
U.S. Scrap Exports to China + HK Fall To Lowest Level Since 2002



Total U.S. Scrap Exports to China + HK (million mt)		
2017	**2018**	**% CHG**
14.5	9.5	-35%

China's Multi-Prong Strategy

1. **Prohibit import of "solid waste with major environmental hazards & intense public reaction by the end of 2017"**
   Mixed paper, post-consumer plastics
2. **Halt imports that can be replaced with domestic resources by end of 2019**
   Prohibitions coming on nonferrous metals (e.g., insulated wire & motors), plastics and other metals
3. **Raise thresholds for importation**
   0.5% "carried waste" threshold for most imports
4. **Greater customs enforcement to reduce smuggling/illegal wastes**
   100% inspection
5. **Refine laws, regulations & related systems**
   Reductions in import licenses and quotas
6. **Increase domestic recycling**
   Strategic assets

"Perfecting the solid waste import management system…"
Beautiful China by 2050

Source: *Reform and Implementation Plan to Enhance Solid Waste Import Management System* Ministry of Environmental Protection, July 2017

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"BLUE SKY"
ISRI does not support

"NATIONAL SWORD"
ISRI supports

Source: *Reform and Implementation Plan to Enhance Solid Waste Import Management System* Ministry of Environmental Protection, July 2017

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Recent Pressures Placed on U.S. Recycling Industry

7/27/17: Chinese State Council Policy Statement

July 2017: **China Ban** on post-consumer 24 categories [mixed paper; residential plastics; eff. 1/1/18]

August 2017: China proposes **"carried waste" standards** on ALL scrap at levels far below global stds

March 2018: final **carried waste standards** take effect; remain below global stds

April 18: China announces **bans** on post-industrial scrap & category 7 metals by Dec 2018; SS scrap & nonferrous scrap (ex Al & Cu) by end 2019

May 3rd: Suspension of **CCICNA** for one month; complete halt of scrap exports to China through June 3rd

June 16th: China announces intention to ban **"solid waste"** imports by 2020

US-China Trade War
China imposes 25% tariff on Al scrap; U.S. imposes 25% tariff on Shredder Castings Imported from China; China retaliates w/tariffs on ALL scrap (Al scrap tariff 50%)

Exposes Domestic Challenges

U.S. Recycling Industry

Processing **equipment/infrastructure** designed to produce grades for which there is no longer demand

Long term **contracts** without flexibility to address current conditions

Brands want their products deemed recyclable & able to go through the residential recycling stream

Time needed to create **demand** within the U.S.

Recycling **equipment mfg** report sharply improved equipment orders; therefore sig. delivery delays

Enforcement varies from community to community

Wishcycling

Public confusion
What can go in the bin? What can't?

Lack of consistent **messaging**; uniform labeling

Prices for certain banned commodities (e.g., mixed paper) have plummeted, forcing review of municipal recycling programs

Freight costs/driver shortages

Spring/Summer 2018: Other Int'l Markets

August 2018: US announces doubling its import tariffs on **Turkish steel** (50%) & Al (20%) at time of heightened Turkish market volatility

U.S. Scrap Exports to China + Hong Kong By Commodity, 2017 vs. 2018

Metric tons

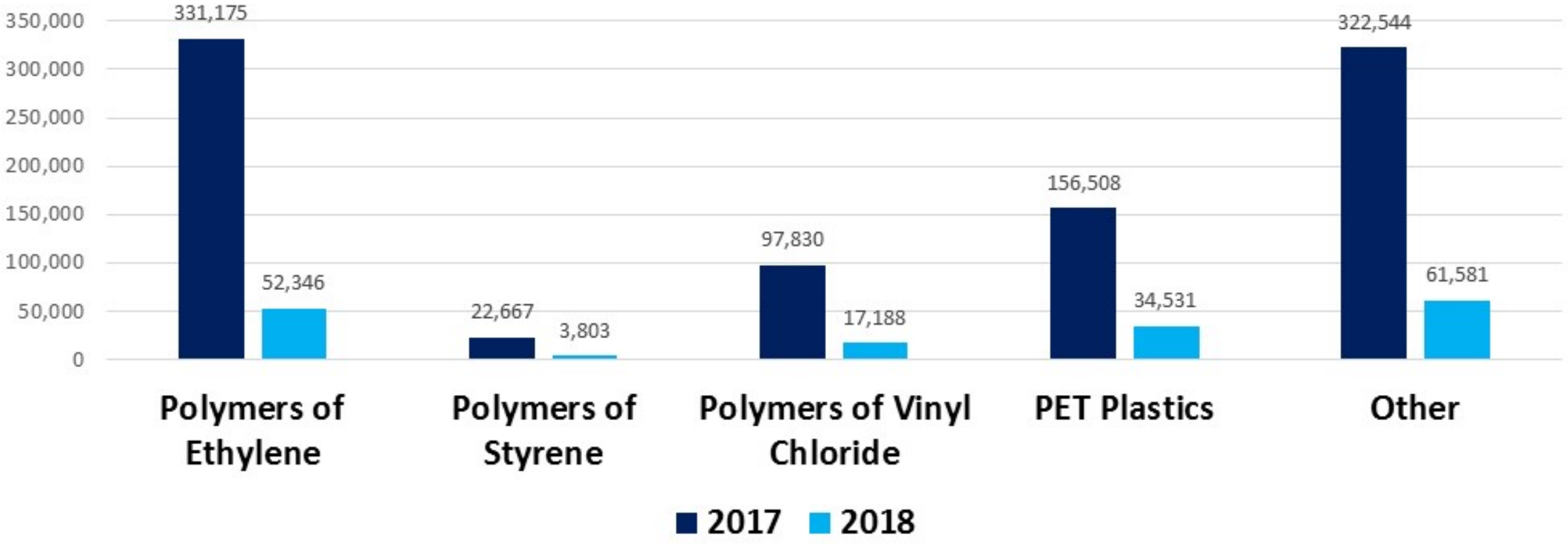
Sources: U.S. Census Bureau/USITC

Notes: Ferrous scrap excludes stainless and alloy scrap; Aluminum scrap includes UBC's and Remelt Secondary Ingot.

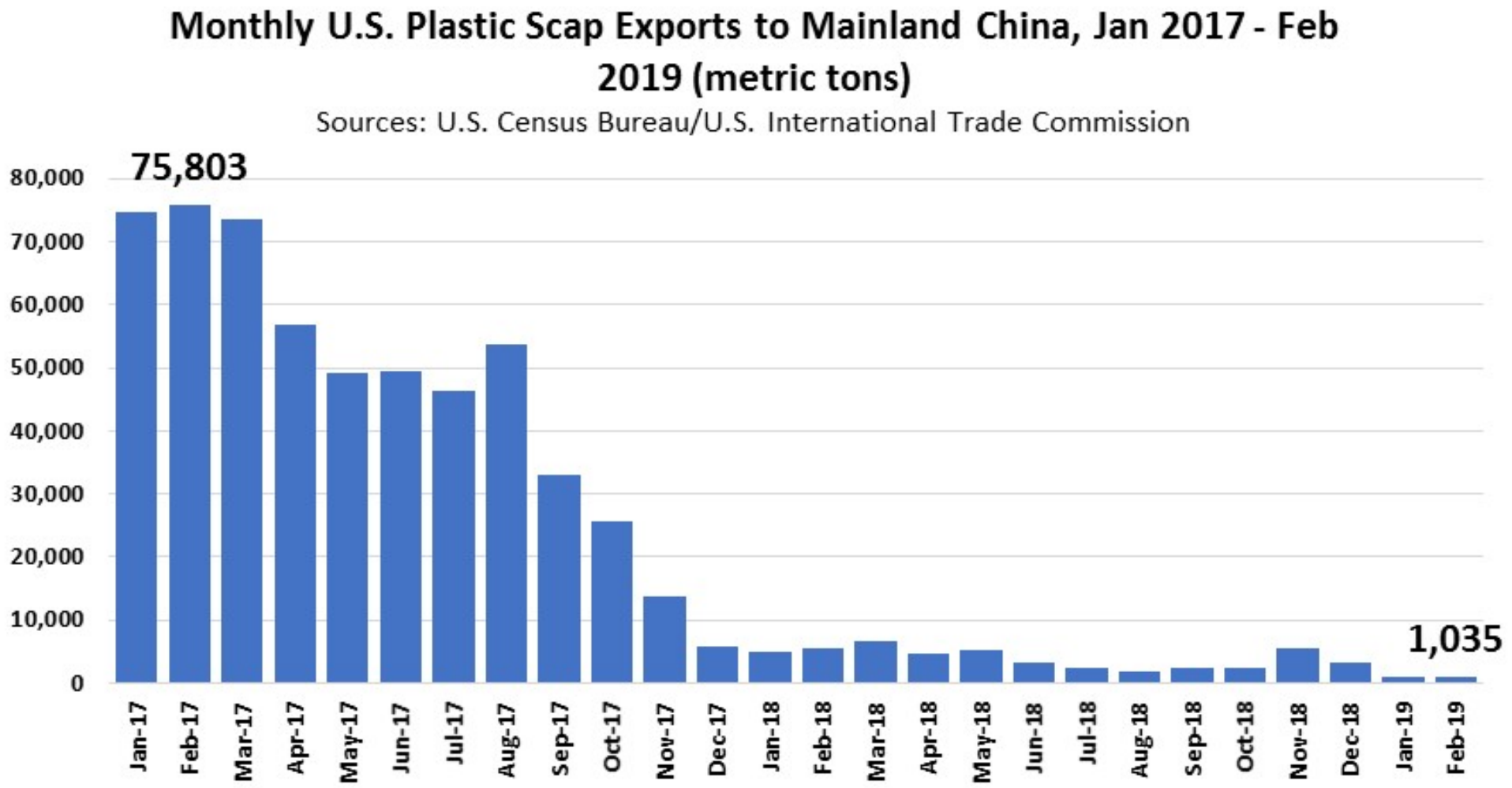
U.S. Plastic Scrap Exports to China + Hong Kong By Polymer, 2017 vs. 2018

Metric tons

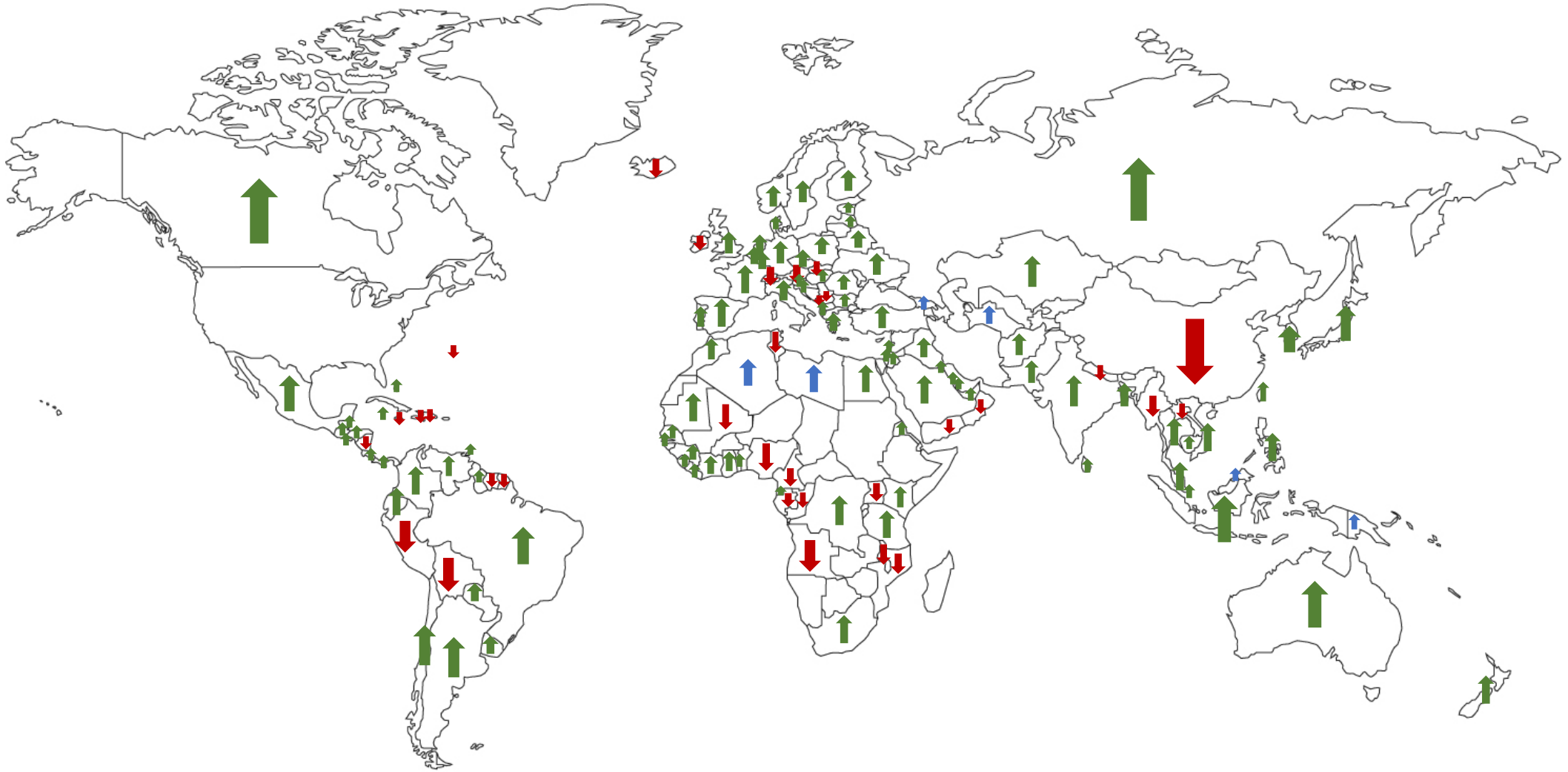
Sources: U.S. Census Bureau/USITC



Over-reliance on China Has Come at a Cost



Trade Shifts



Sources: U.S. Census Bureau / USITC

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U.S. Scrap Export Highlights in 2018

The top 5 markets in dollar value for U.S. scrap in 2018 were as follows:

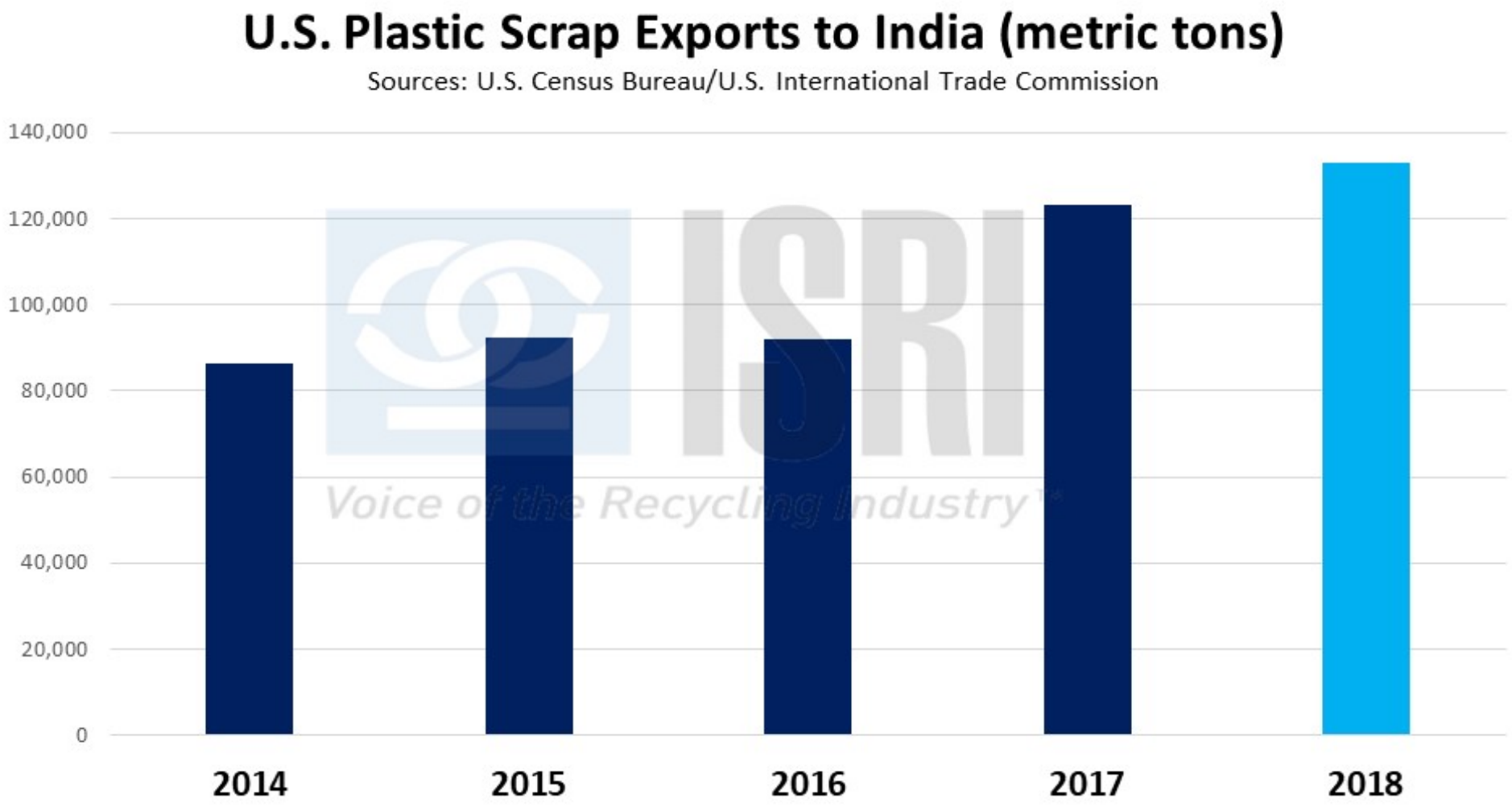
1. **China** – $3.5 billion (-38%)
2. **Canada** – $2.3 billion (+6%)
3. **India** – $1.5 billion (+63%)
4. **Mexico** – $1.4 billion (23%)
5. **South Korea** – $1.2 billion (+60%)

As U.S. scrap exporters developed new markets in response to China's pullback, India became the largest growth market last year in terms of net gain in export sales by value. The top 5 overseas growth markets in 2018 were:

1. **India**: up $586 million to $1.5 billion
2. **Malaysia**: up $550 million to $736 million
3. **Taiwan**: up $498 million to $1.1 billion
4. **South Korea**: up $465 million to $1.2 billion
5. **Germany**: up $319 million to $1.2 billion

Other top growth markets in 2018 included the **U.K., Mexico, Indonesia, Belgium, Japan, Vietnam**, **Egypt, Canada, Thailand, and Bangladesh.**

India Banning Imports of Plastic Scrap



Future: China as Global Competitor

Govt is directing funding/education towards enhancing domestic recycling and equipment development with view towards total self-sufficiency and potential net-exports

Other Pressures…

- **Reactive Import Restrictions Across Southeast Asia**

  Temporary (3mo – 2yr) import bans on plastic scrap and electronics; greater enforcement of import licenses for recovered paper; stricter pre-shipment requirements

- **Proposed Basel Convention Classification of Plastics as Hazardous**

  Would impose onerous administrative burdens in the very limited circumstances where U.S. plastic scrap exports/imports would be allowed

U.S. Scrap Fundamentals

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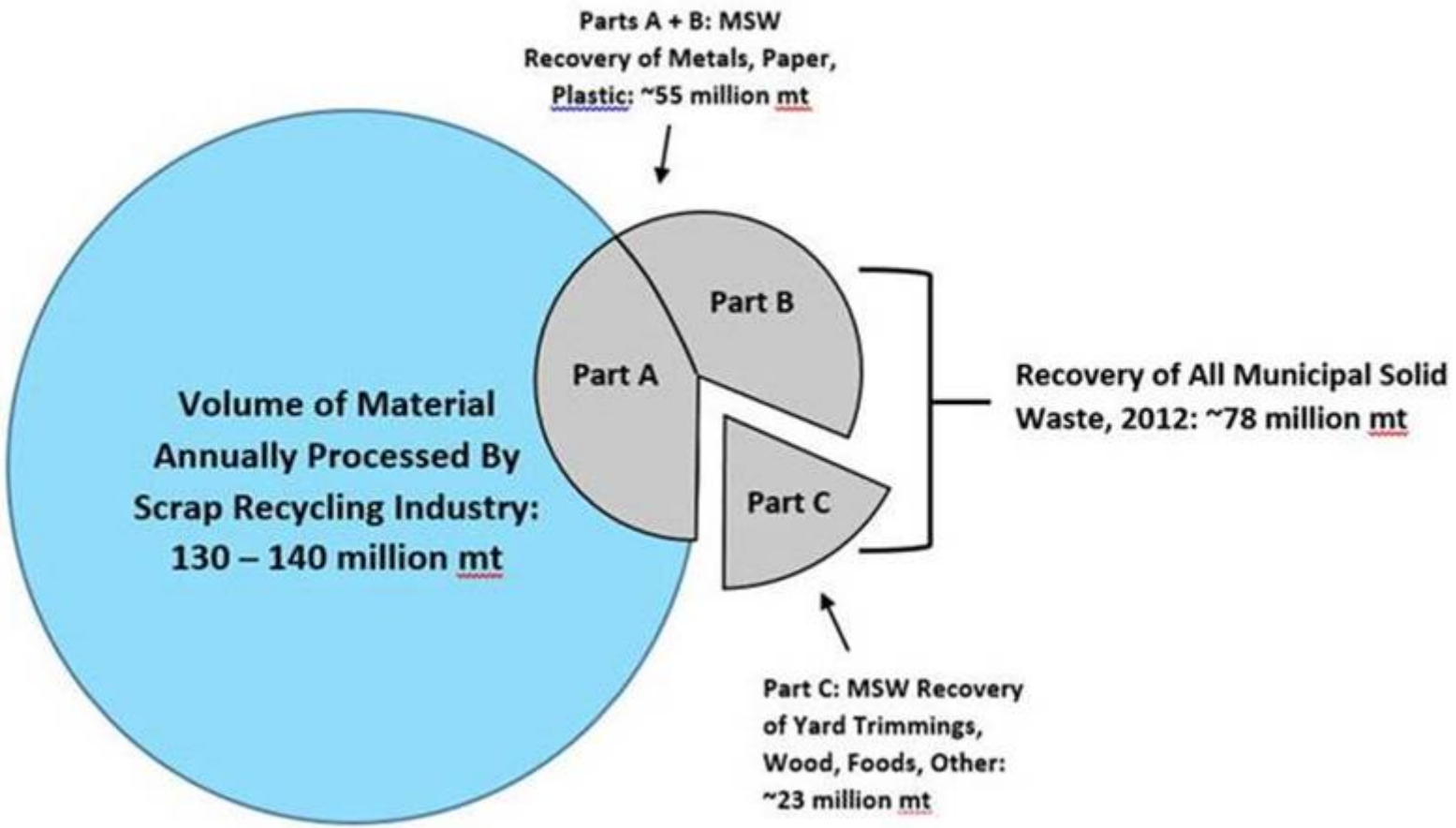
Recycling Industry Sectors



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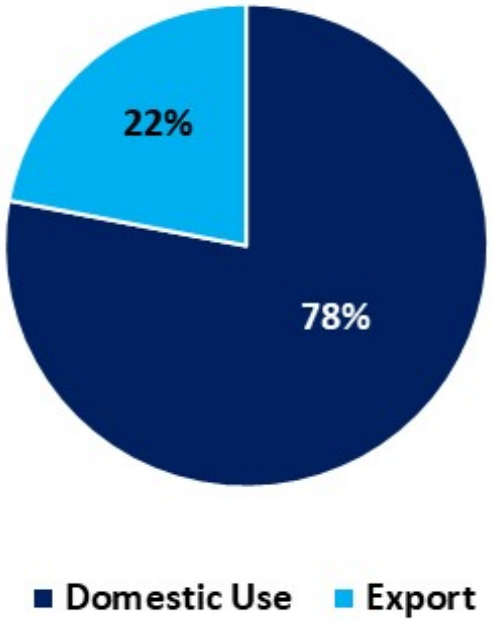
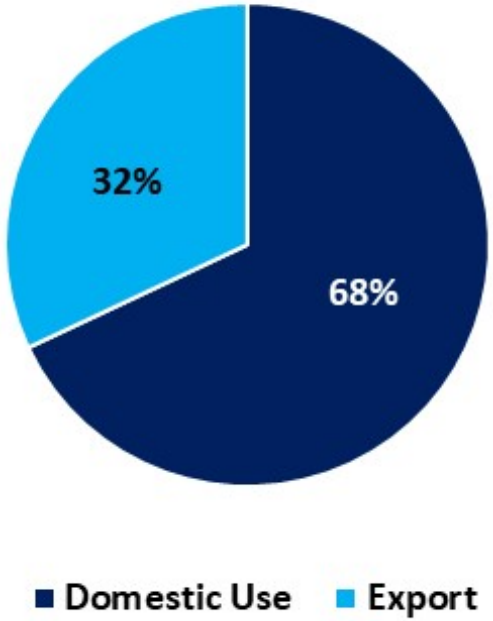
Most of the Scrap Processed in the U.S. Stays in the U.S.

On Average, Approximately 70% of Recyclables Processed in the U.S. are Consumed Here As Well

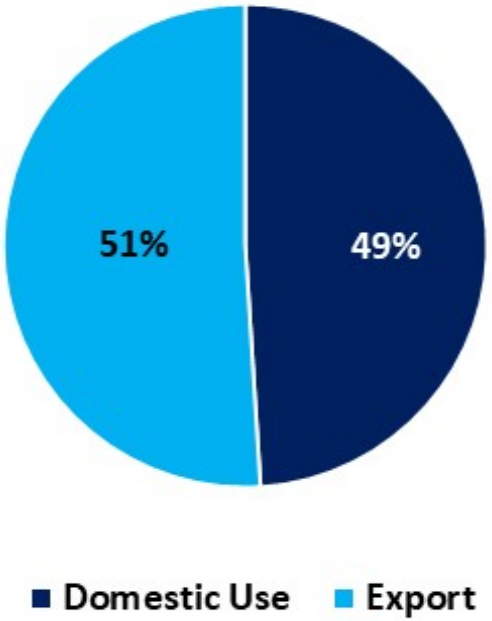
Steel Scrap



Aluminum Scrap



Copper Scrap



Sources: USGS, Census Bureau, ISRI Estimates.

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Determinants of the Domestic Supply of Scrap

- **Commodity prices (and expectations), both for primary and secondary materials**

- **Personal consumption, business and government spending all impact obsolete supply**
- **Manufacturing production and efficiency are the key drivers for prime scrap supply**
- **Operational costs, labor costs, and the cost of capital**
- **Taxes and subsidies**
- **Recycling infrastructure and technology**

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Determinants of Scrap Demand

- **Manufacturing output and economic growth**
- **Regional availability**
- **Relative commodity prices**
- **Shipping costs**
- **Exchange rates**
- **Technology**

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Plastic Scrap Price Trends

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2019 Plastic Scrap Market Developments

- **As global awareness on ocean plastics, hard-to-recycle plastics, and landfill diversion issues have gained prominence in public policy spaces, the trade of scrap plastic recyclables continues to decline.**

- **Industry sources have reported that HDPE and LDPE scrap is dealing with a domestic supply crunch. This would track with a continued 31% decline in PE scrap exports. The more severe decline in mixed plastic scrap exports may be due to more domestic buying to capture PE scrap through secondary processing as well as import restrictions coming online from Vietnam, Thailand, and other alternative markets. The Vietnamese restriction on scrap imports also explains a severe drop in PVC exports as Vietnam was an important destination for PVC scrap.**

- **As PET scrap imports have remained steady despite a dramatic slowdown in exports, PET processing in the U.S. appears to be attracting additional investment.**

YTD U.S. Plastic Scrap Exports by Polymer (metric tons)

Polymer Export Category	2018	2018 Jan-Feb	2019 Jan-Feb	% CHG
PE Scrap	415,122	71,720	49,764	-31%
PS Scrap	26,653	4,883	4,632	-5%
PVC Scrap	137,385	24,760	4,600	-81%
PET Scrap	117,678	19,007	11,539	-39%
Mixed Plastic Scrap	373,121	80,054	39,174	-51%
Total Plastic Scrap	**1,069,959**	**200,424**	**109,709**	**-45%**

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

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Mixed Economic Signals and Outlook

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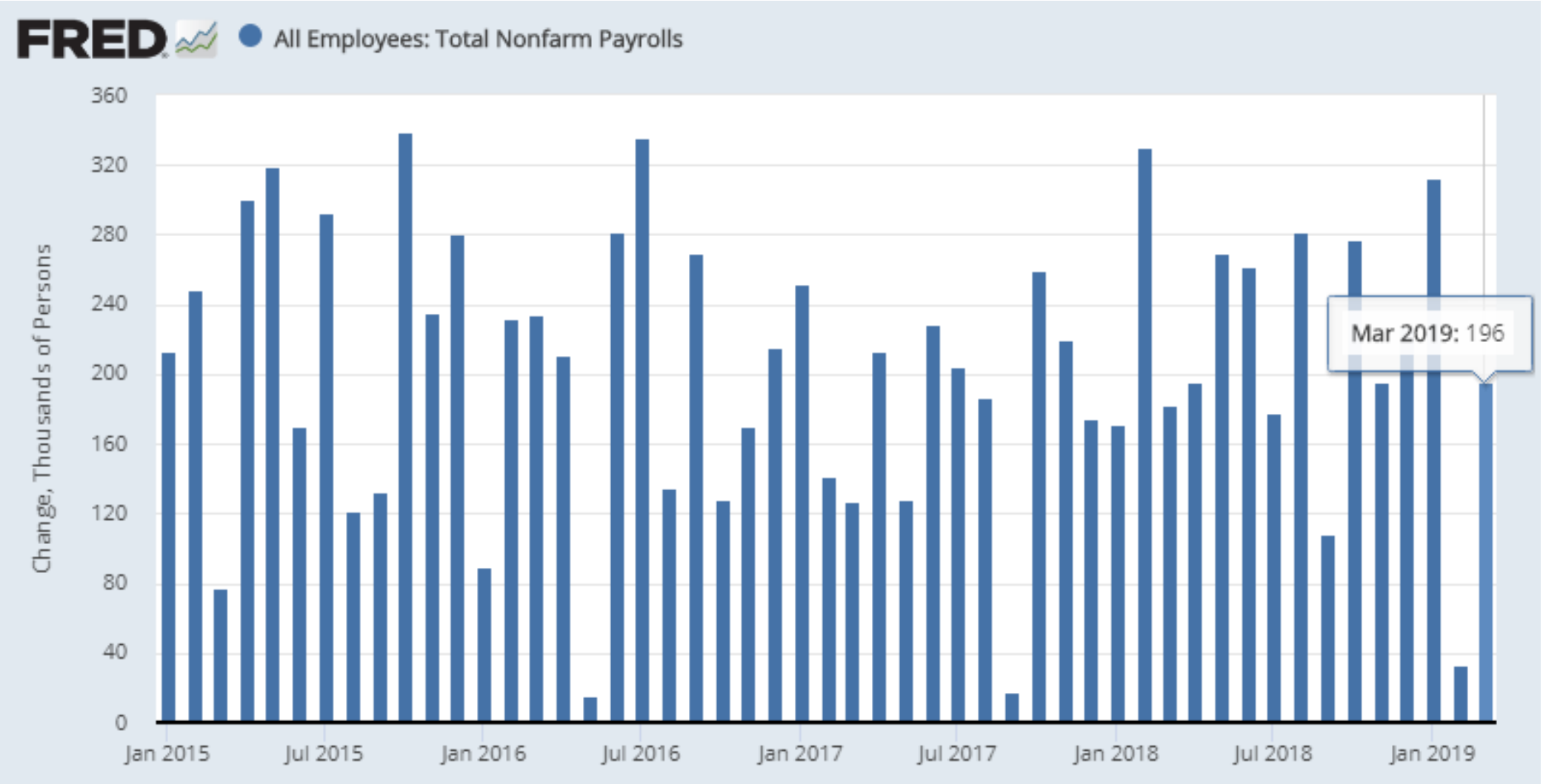
Hiring Rebounded in March



But manufacturers reportedly cut 6,000 jobs last month due to a drop in motor vehicles and parts sector jobs.

Tight Jobs Market Presents Challenges for Recyclers

First Quarter GDP Growth Surprises to the Upside

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Category	Q1	Q4	Q3	Q2	Q1
GDP	**3.2%**	**2.2%**	**3.4%**	**4.2%**	**2.2%**
Inventories (change)	$128.4B	$96.8B	$89.8B	-$36.8B	$30.3B
Final Sales	2.5%	2.1%	1.0%	5.4%	1.9%
PCE	1.2%	2.5%	3.5%	3.8%	0.5%
Nonresidential Inv.	2.7%	5.4%	2.5%	8.7%	11.5%
Structures	-0.8%	-3.9%	-3.4%	14.5%	13.9%
Equipment	0.2%	6.6%	3.4%	4.6%	8.5%
Intellectual Property	8.6%	10.7%	5.6%	10.5%	14.1%
Residential Inv.	-2.8%	-4.7%	-3.6%	-1.3%	-3.4%
Net Exports	-$899.3B	-$955.7B	-$949.7B	-$841.0B	-$902.4B
Export	3.7%	1.8%	-4.9%	9.3%	3.6%
Imports	-3.7%	2.0%	9.3%	-0.6%	3.0%
Government	2.4%	-0.4%	2.6%	2.5%	1.5%
GDP Price Index	0.9%	1.7%	1.8%	3.0%	2.0%

But Mixed Numbers on U.S. Manufacturing Recently

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Category	MAR	FEB	JAN	DEC	NOV
Industrial Production					
Total Index	-0.1%	0.1%	-0.3%	0.0%	0.6%
Manufacturing	0.0%	-0.3%	-0.5%	0.6%	0.2%
Utilities	0.2%	3.7%	0.6%	-6.7%	2.7%
Mining	-0.8%	0.0%	-0.2%	2.1%	0.8%
Capacity Utilization					
Total Industry	78.8%	79.0%	79.1%	79.5%	79.6%
Manufacturing	76.4%	76.5%	76.8%	77.3%	76.9%

Sources: Federal Reserve, Briefing.com

Outlook from Key Sectors

"Customer orders remain strong." **(Textile Mills)**

"Still fairly steady with production and services." (**Transportation Equipment**)

"Economy showing general strength, especially in manufacturing. Cost pressures and tariff challenges persist but are manageable. General outlook is for stability and potential improvement in the second half of 2019." (**Food, Beverage & Tobacco Products**)

"Orders remain strong. Supplier delivery continues to be challenged on some commodities." (**Machinery**)

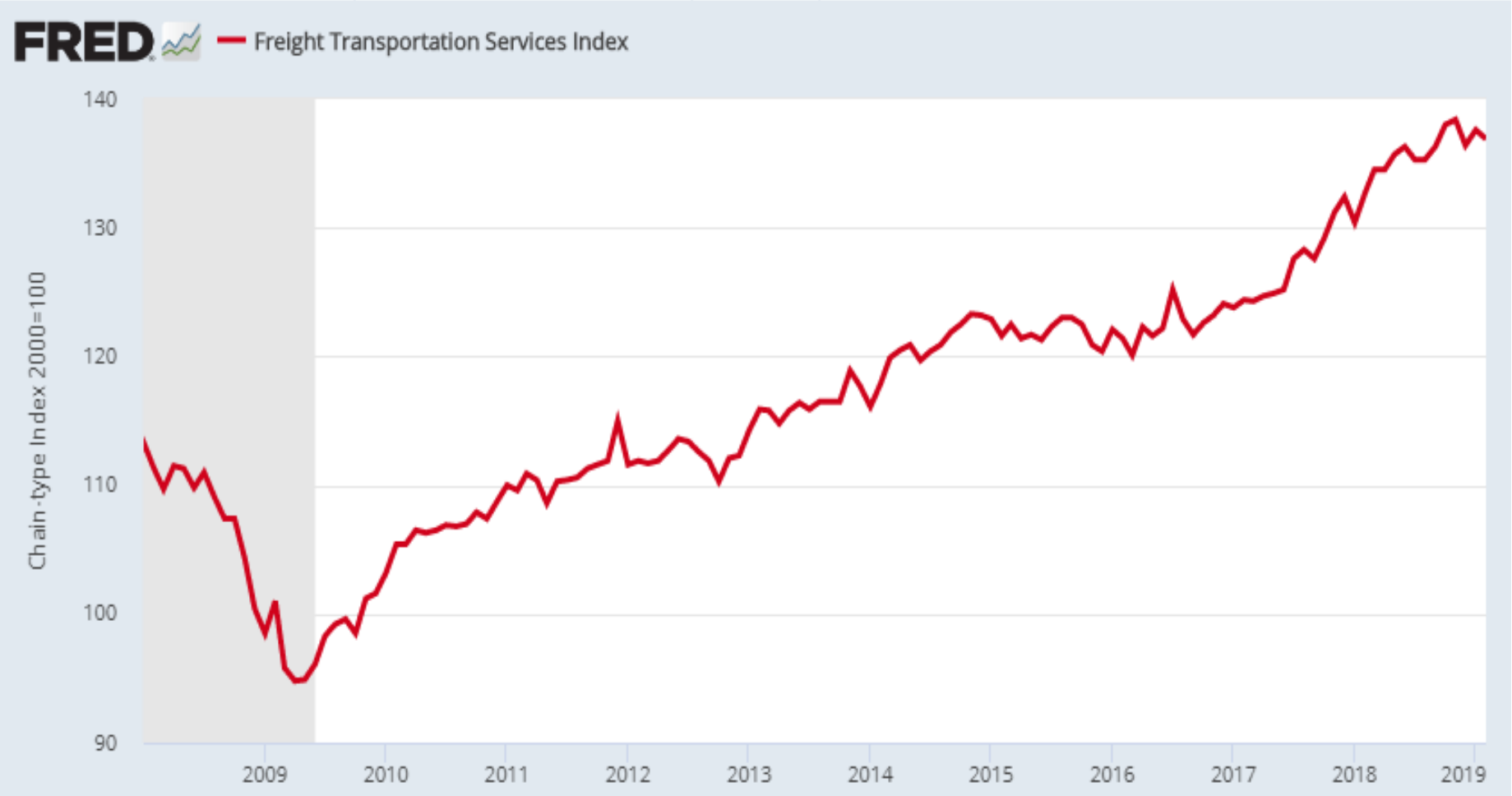
"Aerospace engine-related business continues to be strong. Energy and general industry-related business is flat to down." (**Miscellaneous Manufacturing**)

"Business so far this year is meeting, but not exceeding, our forecast. We are concerned about indicators showing a slight recession for the second half of the calendar year." (**Fabricated Metal Products**)

"Uncertainty of steel prices due to Section 232 tariffs on imported steel and lack of resolution of the anti-dumping trade cases." (**Petroleum & Coal Products**)

Source: Institute for Supply Management

Other Pressures: Transportation Costs



Scrap recyclers have been confronted with transportation headaches across the board, from rail to truck, barge, and containers, although the Wall Street Journal reports, "transportation/ logistics bottlenecks remain, {but} they don't appear to be worsening."

Global Economic Growth Seen Slowing

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IMF World Economic Outlook Projections

	2017	2018	2019
World Output	**3.8**	**3.7**	**3.5**
Advanced Economies	**2.4**	**2.3**	**2.0**
United States	2.2	2.9	2.5
Euro Area	2.4	1.8	1.6
Germany	2.5	1.5	1.3
France	2.3	1.5	1.5
Italy	1.6	1.0	0.6
Spain	3.0	2.5	2.2
Japan	1.9	0.9	1.1
United Kingdom	1.8	1.4	1.5
Canada	3.0	2.1	1.9
Other Advanced Economies 3/	2.8	2.8	2.5

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Fed is Projecting Slower Growth, No Rate Hikes This Year

Figure 1. Medians, central tendencies, and ranges of economic projections, 2019–21 and over the longer run

Increase in Investments

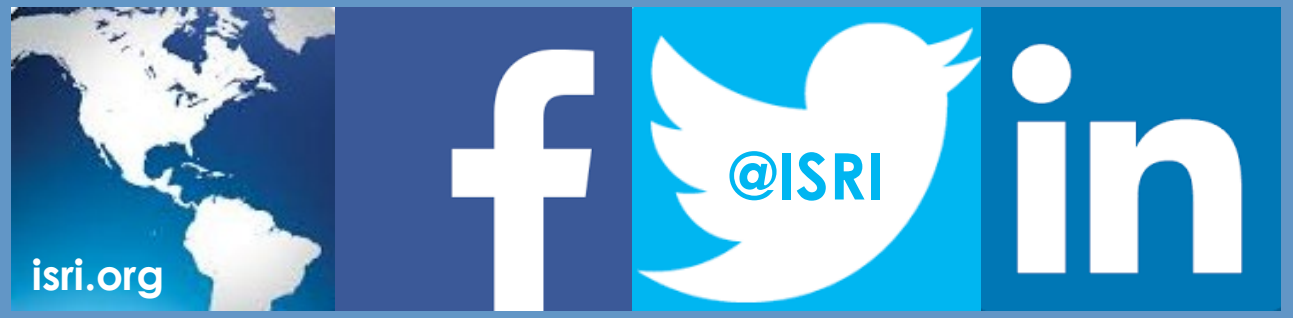
Investments being made in new capacity

- New greenfield paper mills planned in North America will use significant amount of recovered fiber from the U.S.
  - Pratt, in Ohio
  - WestRock, in Mexico
  - Green Bay Packaging, in Wisconsin
- Chinese investments in Maine, West VA, Wisconsin, Kentucky
- European investments

Scrap Industry Challenges and Opportunities

- For recyclers, tight labor markets, ongoing transportation headaches, and uncertainty on trade remain front and center.
- For scrap recyclers, the strained U.S.-China trade relationship and other global economic challenges have only accelerated the industry restructuring that was already underway.
- In the private sector, industry consolidation has continued as larger recycling companies compete to obtain profitable operations and expand their footprints.
- For residential recycling programs, the disconnect between which materials communities want to recycle and which materials recyclers can profitably market has come to a head.
- Focus on **QUALITY** and consistency to meet consumer demands at home and abroad has become the key.
- Recyclers are increasingly focused on (new and end) market development and the targeted investments required to produce high-quality recycled commodities.

THANK YOU



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