

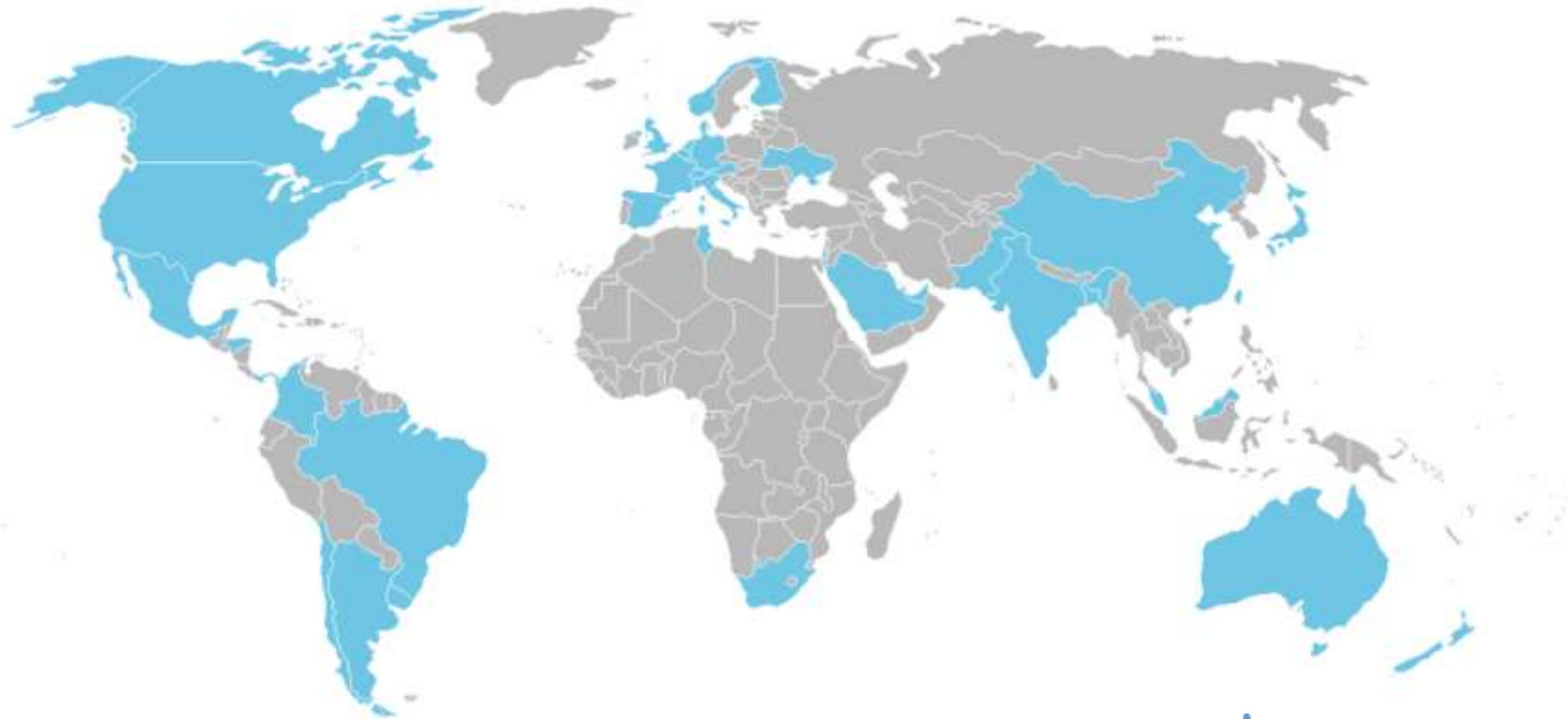
The Impact of Chinese Regulatory Shifts on Domestic Resource Recovery

MARK REITER

Vice President, Government Relations

19 June 2018

Voice of the Recycling Industry™



1,300+
Members

41
Countries

4,000+
Locations

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



Ferrous & non-ferrous metals



Paper



Plastics



**Tire &
Rubber**



Textiles



Electronics

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

Workplace Safety



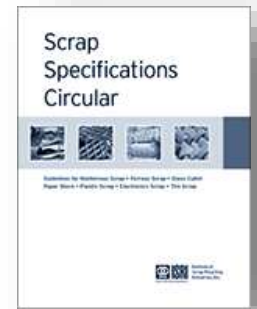
Responsible Recycling



Education, Training & Networking



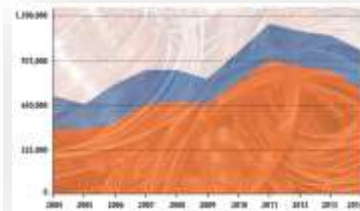
Specifications



Design for Recycling™



Market Intelligence



Awareness



Free & Fair Trade



\$117 Billion Industry

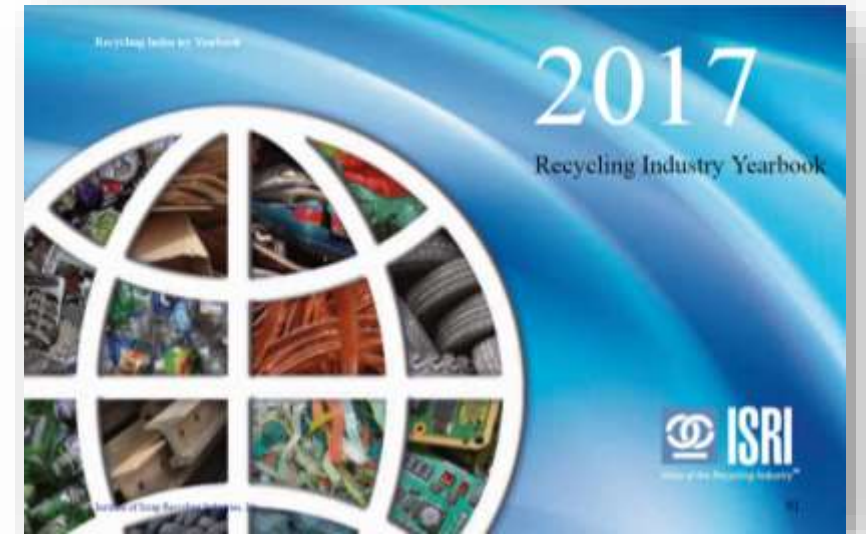
156,000
Direct Jobs

375,000
Indirect Jobs

130,000,000 Metric Tons
processed annually, including:

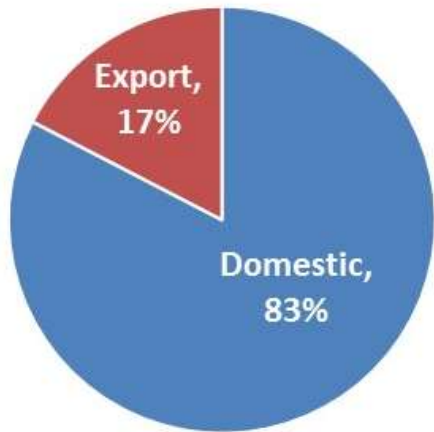
65 million metric tons iron & steel
1.1 million metric tons lead
95 thousand metric tons zinc
47.4 million metric tons paper

4.9 million metric tons aluminum
1.8 million metric tons copper
5+ million metric tons electronics
795 thousand metric tons PET bottles

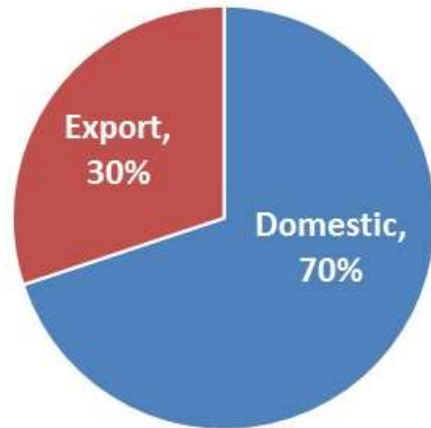


Most U.S. Scrap is Bought and Consumed in the United States, but Export Markets Are Critical to the Health of the Industry

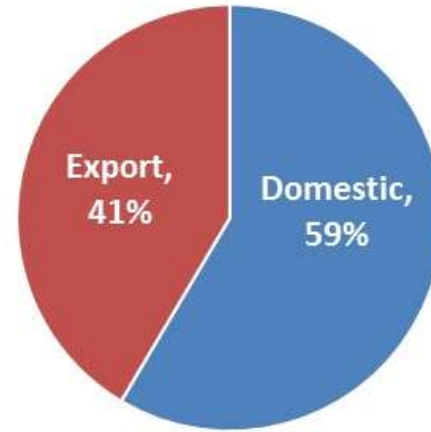
U.S. Iron and Steel Scrap



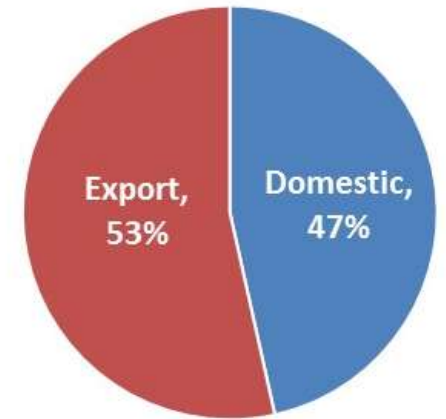
U.S. Aluminum Scrap Recovery



U.S. Recovered Paper and Fiber



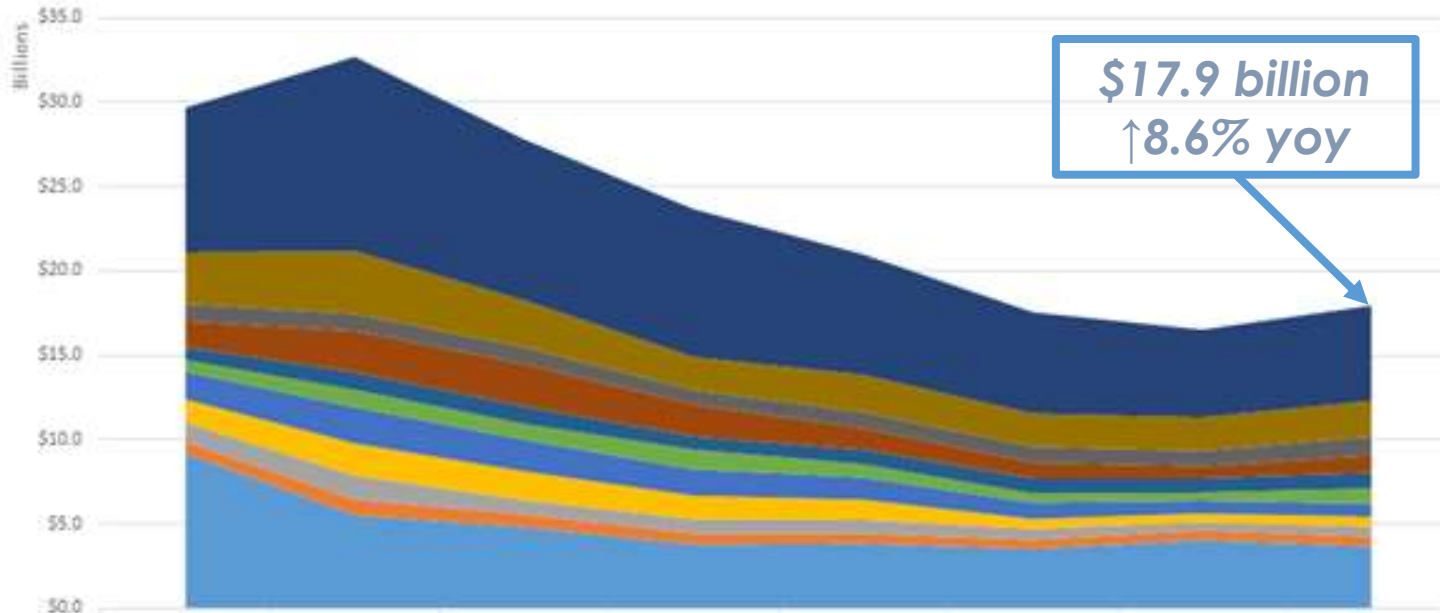
U.S. Copper & Copper Alloy Scrap



U.S. Scrap Exports

U.S. Scrap Exports to the World by FAS \$ Value

*Source - U.S. International Trade Commission / U.S. Census Bureau



\$17.9 billion
↑8.6% yoy

“Despite China’s Ban, Overall U.S. Scrap Exports Remain Strong in 2017.”

ISRI, Feb. 15, 2018

CHINA \$5.6 billion 31%

CANADA \$2.1 billion 12%

MEXICO \$1.1 billion 6%

TURKEY \$1 billion 6%

INDIA \$922 million 5%

	2010	2011	2012	2013	2014	2015	2016	2017
China	\$8,580,969,756	\$11,522,781,168	\$9,527,570,650	\$8,762,321,019	\$7,139,658,171	\$6,002,779,108	\$5,199,600,023	\$5,641,350,791
Canada	\$3,060,221,923	\$3,722,652,747	\$2,792,097,719	\$1,971,633,352	\$2,202,896,080	\$1,974,054,421	\$1,970,041,241	\$2,116,596,380
Mexico	\$1,012,504,118	\$997,566,010	\$979,829,233	\$844,325,492	\$853,086,177	\$921,175,563	\$927,447,834	\$1,105,623,709
Turkey	\$1,535,938,668	\$2,441,040,815	\$2,513,386,830	\$1,890,263,757	\$1,278,444,845	\$931,611,983	\$696,102,382	\$1,028,348,509
India	\$775,766,853	\$1,044,437,422	\$1,041,898,410	\$773,450,848	\$850,711,698	\$904,714,213	\$848,589,717	\$922,735,775
Germany	\$687,334,763	\$1,037,143,989	\$949,707,646	\$1,180,620,062	\$789,424,125	\$557,068,977	\$492,649,161	\$909,981,376
Korea	\$1,630,977,028	\$2,147,758,796	\$1,859,085,347	\$1,550,047,370	\$1,318,634,456	\$954,539,530	\$752,126,587	\$777,555,101
Taiwan	\$1,380,500,509	\$1,902,413,456	\$1,705,303,577	\$1,391,967,640	\$1,190,582,494	\$596,133,992	\$509,237,271	\$600,130,108
United Kingdom	\$1,155,680,446	\$1,418,421,705	\$845,527,989	\$849,877,819	\$807,876,516	\$636,079,815	\$497,267,957	\$580,836,846
Italy	\$677,620,563	\$917,743,177	\$757,698,113	\$649,653,998	\$596,460,297	\$547,995,538	\$562,194,877	\$573,861,181
Rest of the World	\$9,176,798,770	\$5,535,297,557	\$4,819,019,973	\$3,796,486,780	\$3,852,931,178	\$3,529,184,964	\$4,065,343,066	\$3,681,219,545

China's Environmental Challenge

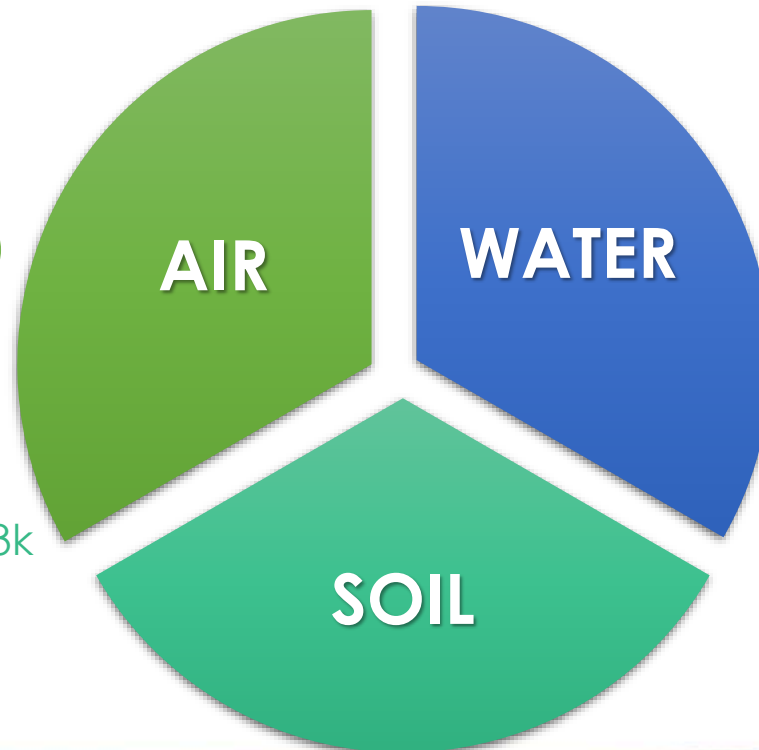
"The modernization that we pursue is one characterized by harmonious co-existence between man and nature...We will launch initiatives to make the party and government offices do better when it comes to conservation, and develop eco-friendly families, schools, communities and transport services."

Xi Jinping

19th Party Congress
October 18, 2017

Reduce carbon intensity
40-45% below 2005 by 2020

Make 90% of **farmland** safe, return 13k km² of polluted land to **forest and grassland**, and self-sustainability in **recycling** by 2020



Improve quality of >70% of seven key **river basins** and the amount of foul **water in urban areas** not to exceed 10% by 2020

China's Multi-Prong Strategy

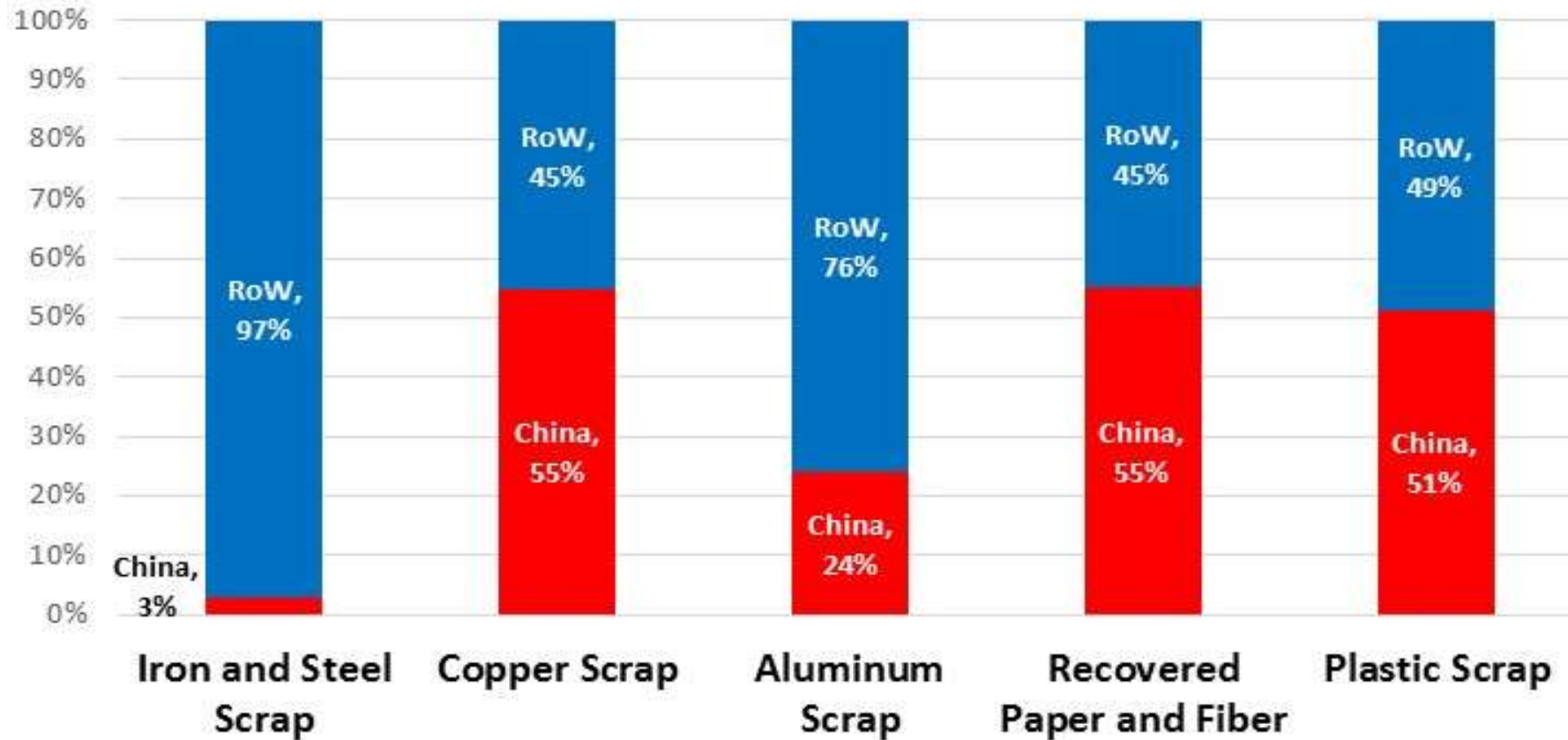
- 1 Prohibit import of “solid waste with major environmental hazards & intense public reaction by the end of 2017”**
Mixed paper, post-consumer plastics
- 2 Halt imports that can be replaced with domestic resources by end of 2019**
Prohibitions coming on nonferrous metals (e.g., insulated wire & motors), 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

Why China is so Important to the Recycling Industry

Mainland China's Share of Global Imports for Selected Recycled Commodities, 2016(p)

Source: UN Comtrade Database



43M
metric tons

China's Total
IMPORTS from
the World

Compounding Challenges

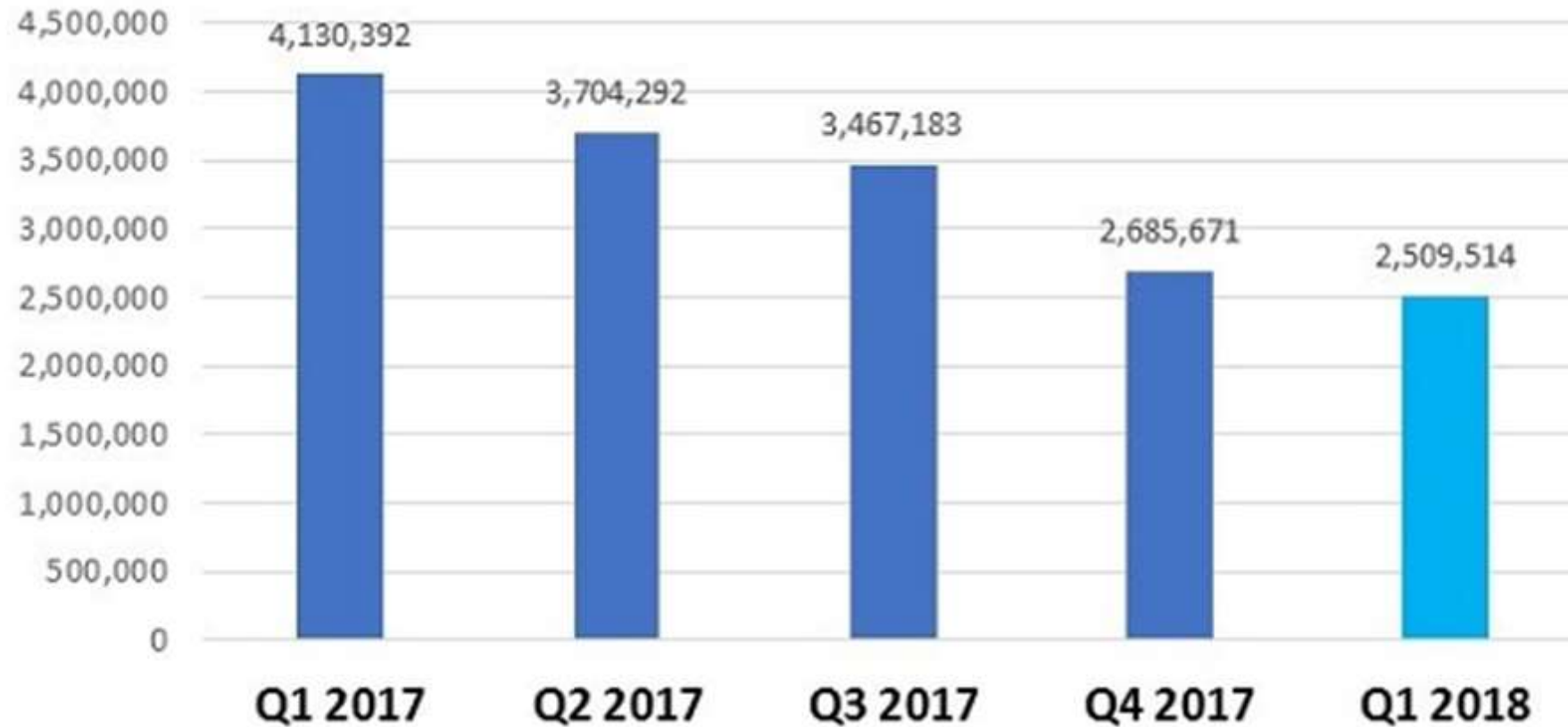
- ❑ **Add'l import prohibitions** Coming
All plastics, metals
- ❑ **Meeting strict quality standards**
Unclear definition of “carried waste”
- ❑ **Import licenses/quotas**
Pre-shipment vs Ports of Entry
- ❑ **Inspection inconsistencies**
Pre- & Post-shipment
- ❑ **‘Trade War’**
Steel/Alu 232 & 301 tariffs / retaliation
- ❑ **CCIC U.S. Suspension in May 2018**
U.S. scrap exports halted one month

MRF Stockpiling
Diversion to landfill
Finding new markets

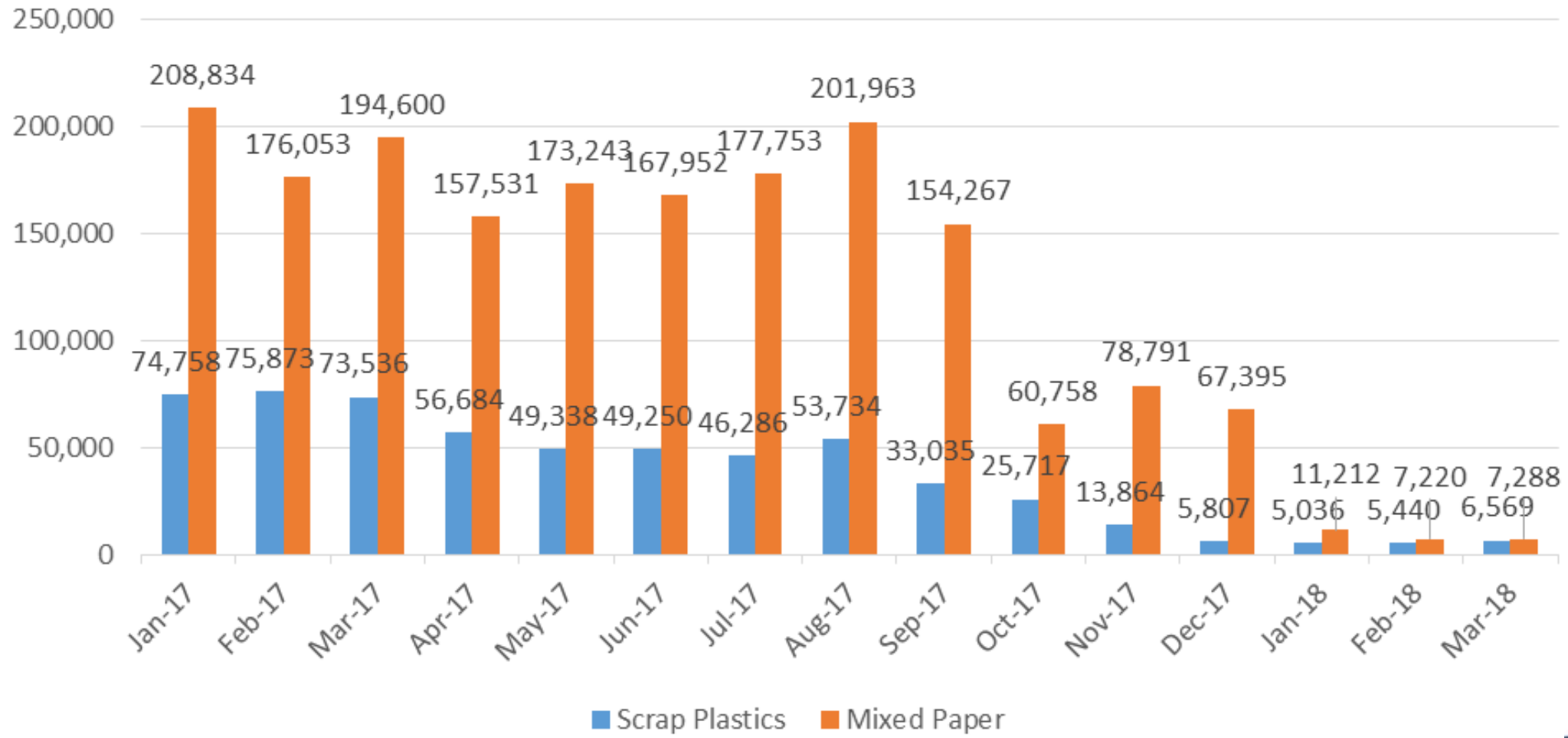
Emerging: Chinese
Competition Globally

Total U.S. Scrap Exports to Mainland China by Volume, Q1 2017 - Q1 2018 (metric tons)

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



Decline of Select U.S. Scrap Exports to China (metric tonnage)



Sources of Recyclables - RESIDENTIAL



SINGLE STREAM or **ONE-BIN**

Recyclable paper, plastic, metals and glass are co-mingled with waste for easy collection at lower costs.

Although only 30-40% of supply, residential recycling is the biggest challenge.



Sources of Recyclables - INDUSTRIAL

60-70% of recyclables come from commercial and industrial sources.

“Source separated” means no cross contamination - the majority can easily meet China’s import standards.



But China’s intention is to be self-sufficient, leading to *de facto* import constraints.



DIRECT DIALOGUE

U.S.-China trade discussions
Chinese Embassy in Washington



MEDIA

Trade press
*The Economist, CNN, BBC, NPR,
NYT, WSJ, SCMP, Xinhua, CGTN*



COMMENTS/QUESTIONS TO CHINA

Through the WTO
Direct to Environment Ministry,
MOFCOM, Customs

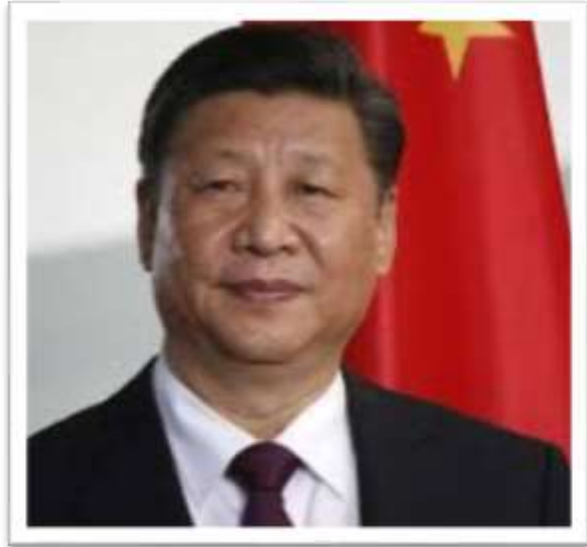
Key Messages

To U.S. Govt:

- *\$5.6 bil in U.S. exports & 40k+ jobs at stake*

To Chinese Govt:

- *Need for clarity & transparency*
- *Support of responsible recycling & shutting down of irresponsible recycling operations*
- *Need to adopt standards consistent with global recycling industry*
- *Scrap versus waste*
- *Revenues at risk within China*
- *Needs of manufacturers for high quality scrap*



Presidential **term limits** eliminated

Government **restructures:**

MEP → MEE w/more power

Customs & AQSIQ merge

Environment a top **strategic priority**

China's New Market Dynamic is Here to Stay

More **environmental compliance** inspections on Chinese enterprises

Low numbers of **approved imports**

More **import prohibitions** to come

100% inspections

Little demand for materials to be recycled...demand for commodities already recycled.



Trade diversion keeps materials moving...

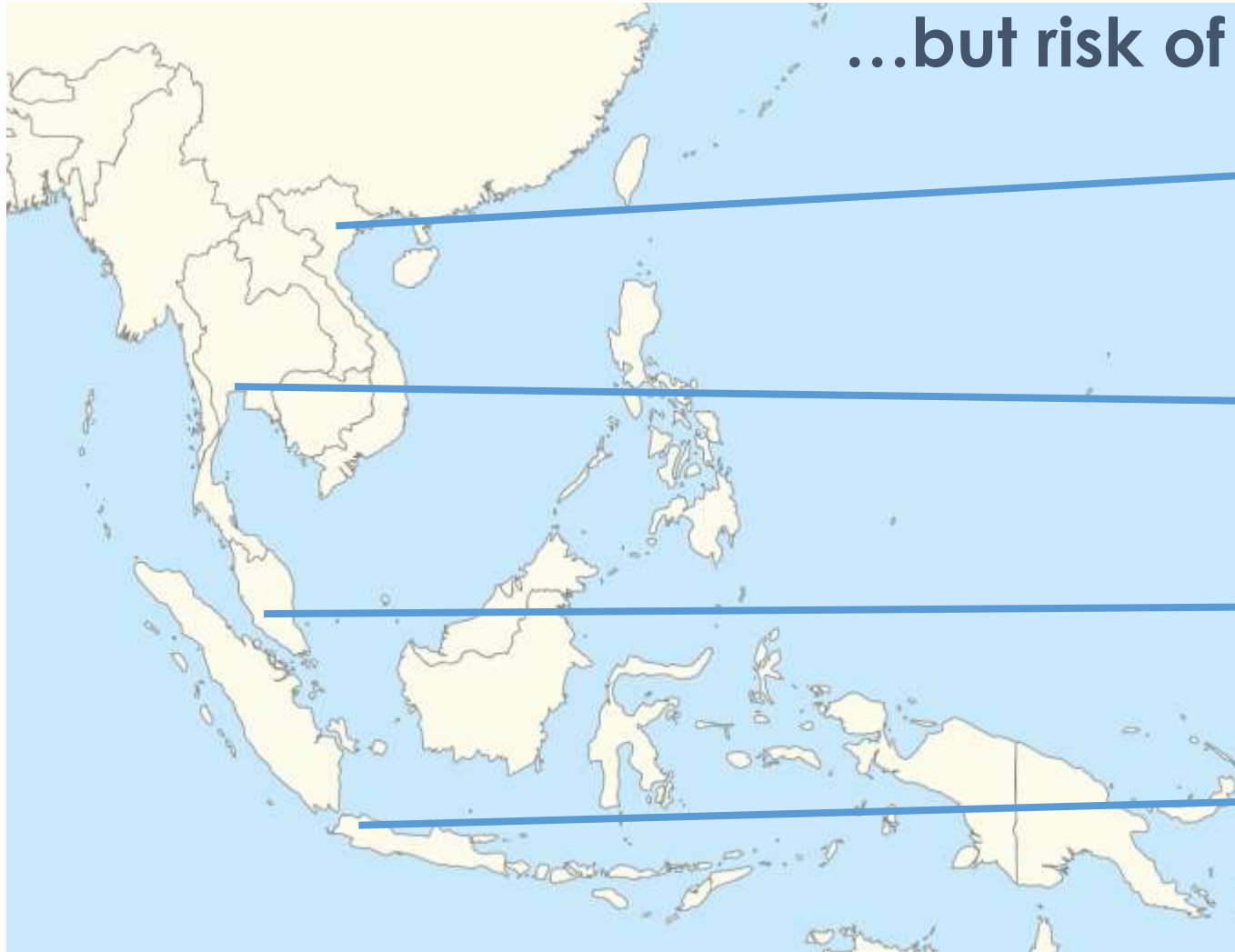
Recovered Paper

COUNTRY	FAS Value / Metric Tonnage		% CHG 2016-2017
	2016	2017	
India	\$292,660,728	\$378,265,202	29%
	1,561,837	1,930,720	24%
Indonesia	\$58,871,160	\$76,848,556	31%
	381,358	440,585	16%
Vietnam	\$18,858,932	\$57,738,701	206%
	120,673	397,162	229%
Thailand	\$39,591,315	\$42,010,097	6%
	293,769	283,019	-4%

Plastics

COUNTRY	FAS Value / Metric Tonnage		% CHG 2016-2017
	2016	2017	
India	\$49,643,864	\$58,361,023	18%
	91,913	123,165	34%
Vietnam	\$19,998,550	\$45,701,105	129%
	66,747	137,044	105%
Malaysia	\$8,034,411	\$31,093,741	287%
	38,790	119,098	207%
Thailand	\$1,434,617	\$10,732,390	648%
	6,541	32,680	400%

...but risk of copycat restrictions.



Vietnam

Capacity constraints at one port leads to moratorium on plastics and enforcement of import licenses on paper at that port

Thailand

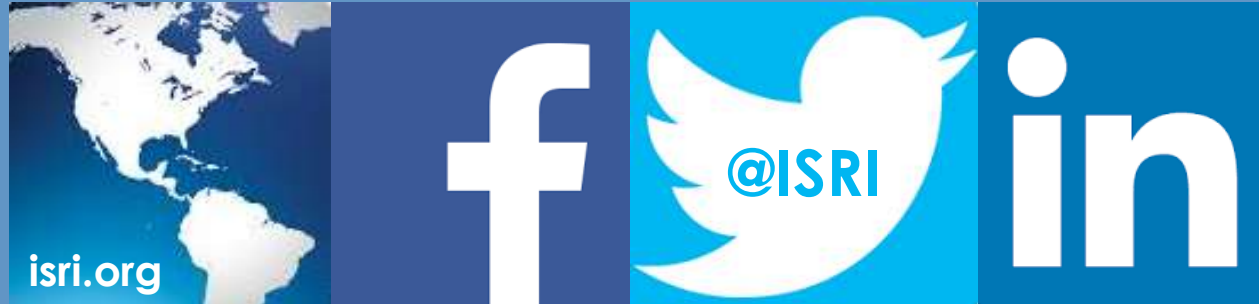
Potential ban on scraps; discrepancy in trade classification for insulated wire for tariff purposes

Malaysia

Paperwork requirements and temporary stop to import permit issuance

Indonesia

Strict import licenses and 100% Pre-shipment inspections



Institute of Scrap Recycling Industries, Inc.

mreiter@isri.org