



Grow & Optimize

Changing for the Better

SERDC – Fall Workshop

Recycling Market Update

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China, China, China.....

What are they doing?

- Green Fence (2013), to National Sword (2018), to Blue Sky 2019, to potential ban of imports by end of 2020.
- Mixed Paper has been banned
- Governmental regulations on OCC Quality & Quantity (Import Permits)

Why?

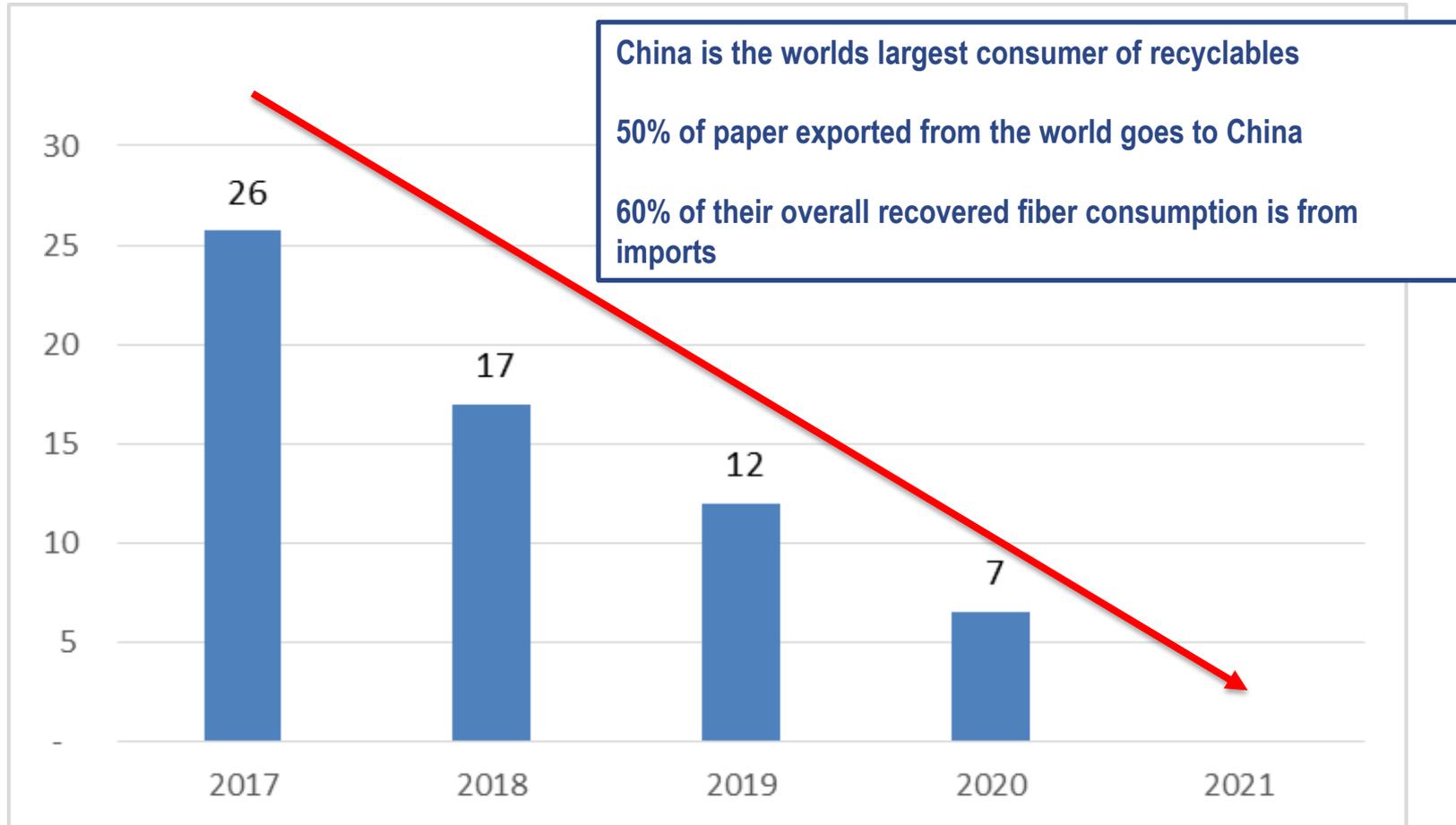
- Improve the environment
- Build local infrastructure to become more self sufficient
- Eliminate foreign garbage from entering the country

THAT'S WHAT XI SAID.....



Global Export Trade to China

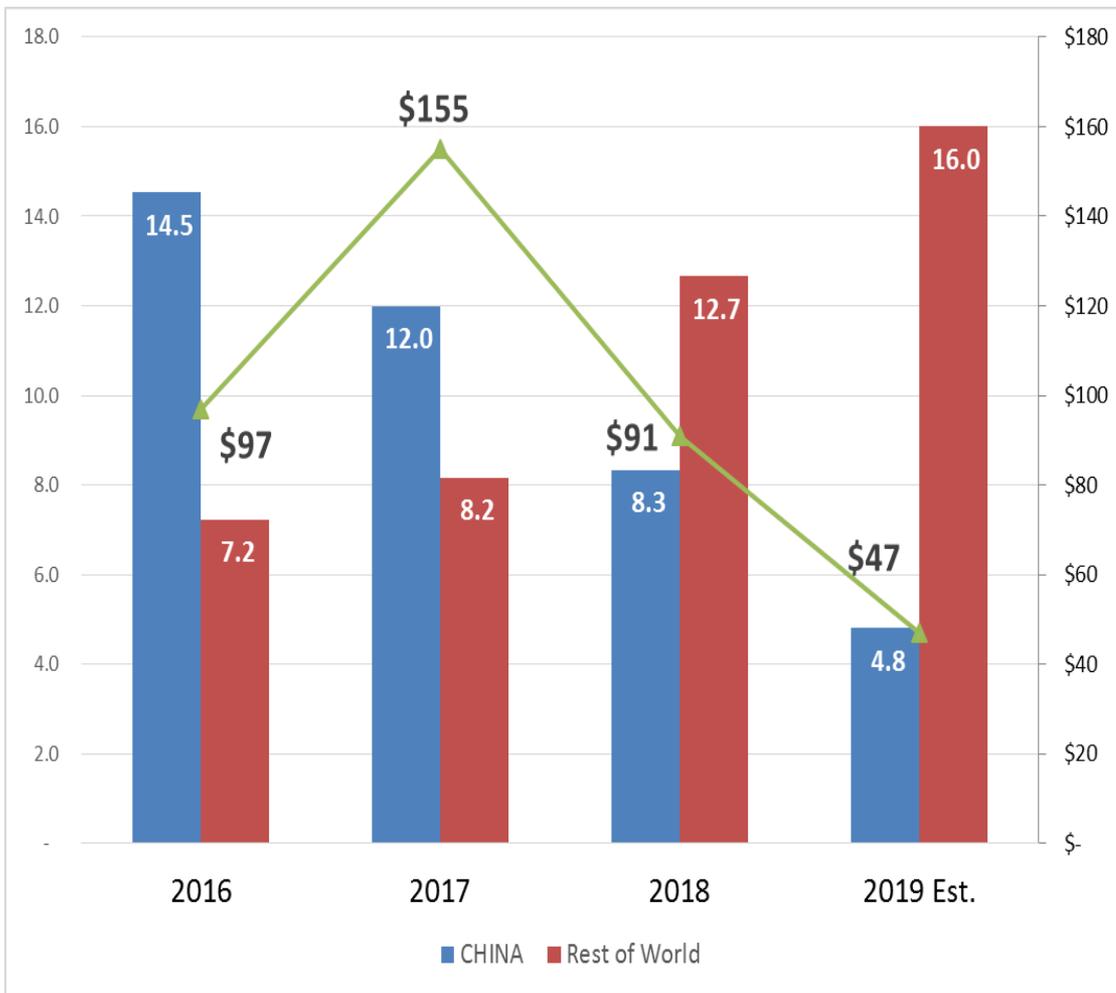
Units in million tons



US Export Trade Cycle vs. SE OCC Price

(units in million tons)

Total 21.7 20.2 21 20.8



China imports from US down by ~10 mil tons (>65%) vs 2016

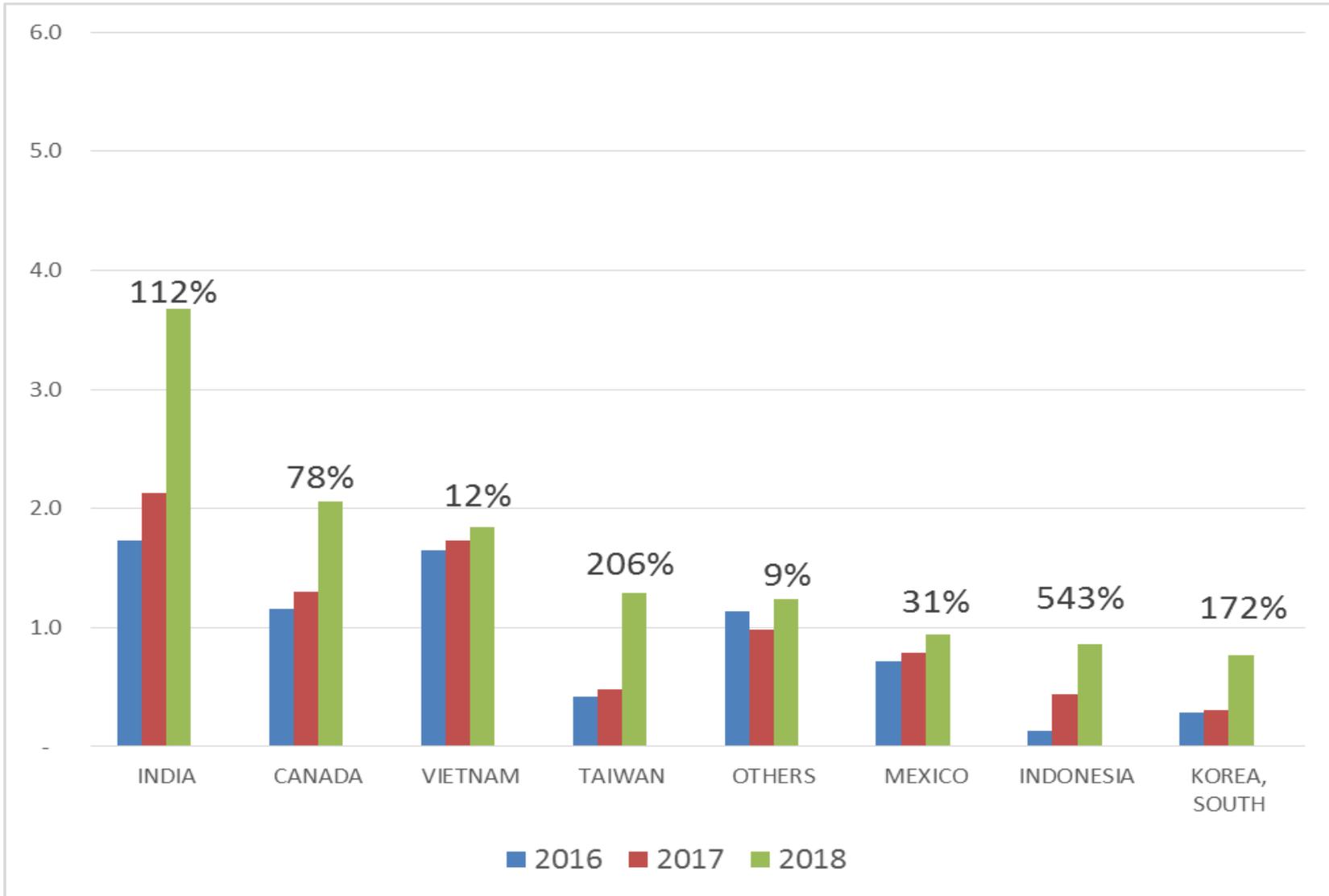
Export trade from the US has been relatively flat

ROW has increase imports from US by 9 mil tons (>120%)

Pricing has been impacted as volume is being dumped to the ROW.



ROW Import Growth Trend from US



New Capacity.....

China mills will invest in capacity in other countries

- Nine Dragons purchased 3 mills in the US
- Shanying Paper purchased a mill in Kentucky
- Nine Dragons - India, Indonesia, Vietnam, etc
- Lee & Mann adding capacity in Vietnam
- Sun Paper building a mill in Laos
- More in the works.....

Other countries, primarily SE Asia, are producing recycled pulp (RM) or containerboard (FG) for China.

- India, Indonesia, Taiwan, & Vietnam accounted for 70% of China's reduced imports.
- These governments will likely impose quality restrictions and/or limit imports
- Overall infrastructure to sustain this growth long-term is TBD – Mill Capacity, Port Capacity, Trade Imbalance

US mills are adding capacity - 17 new PMs &/or conversions 2018-2021, >4.5M tons capacity (1M from China mills)

How much will China import in 2020 and beyond.....



China reduces imports faster than capacity comes on line.

Imbalanced market.

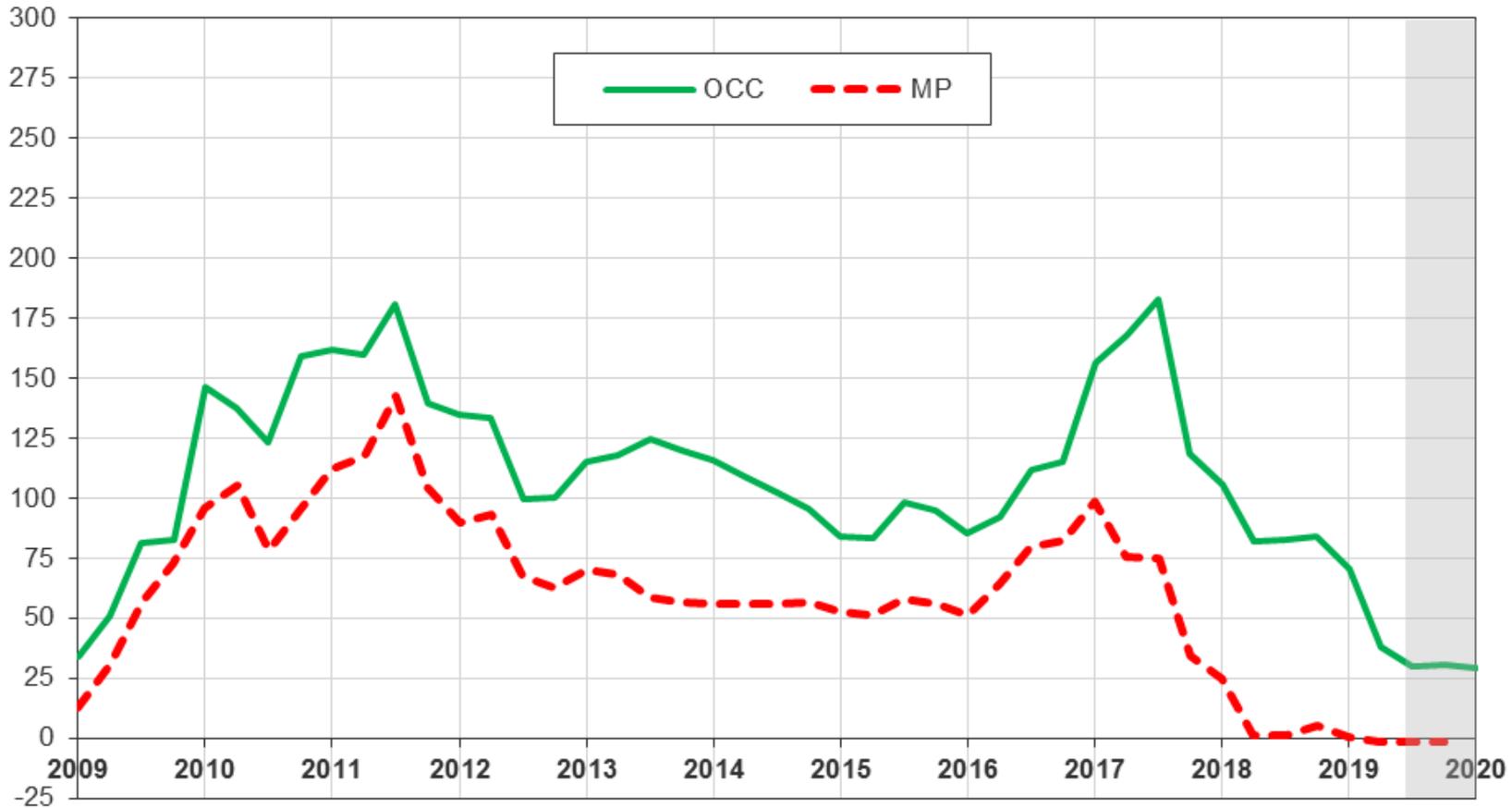
RCP prices fall

Containerboard prices increase?

Capacity comes on line as China reduces imports.

Market is more balanced.

OCC & Mixed Paper Price Trend



Source: RISI



Quality is key!!!

- Quality will continue to be the focus area for the US and abroad
- Processing costs will increase at the MRFs
 - Reducing sort-line speeds = reduced capacity
 - Additional labor to address contamination – low unemployment rate makes this difficult
 - New technology (optics, ballistics, robotics, etc) that comes at significant costs and still developing. Buy now or wait?
- ROI for new capacity is being challenged due to reduced material value and increased costs to process



Conclusion

ROW is undergoing a major transition as a result of China's restrictions on imports.

Quality will continue to be a major area of focus. ROW will mandate what comes in to their country. MRF's will incur added costs in order to make the right quality.

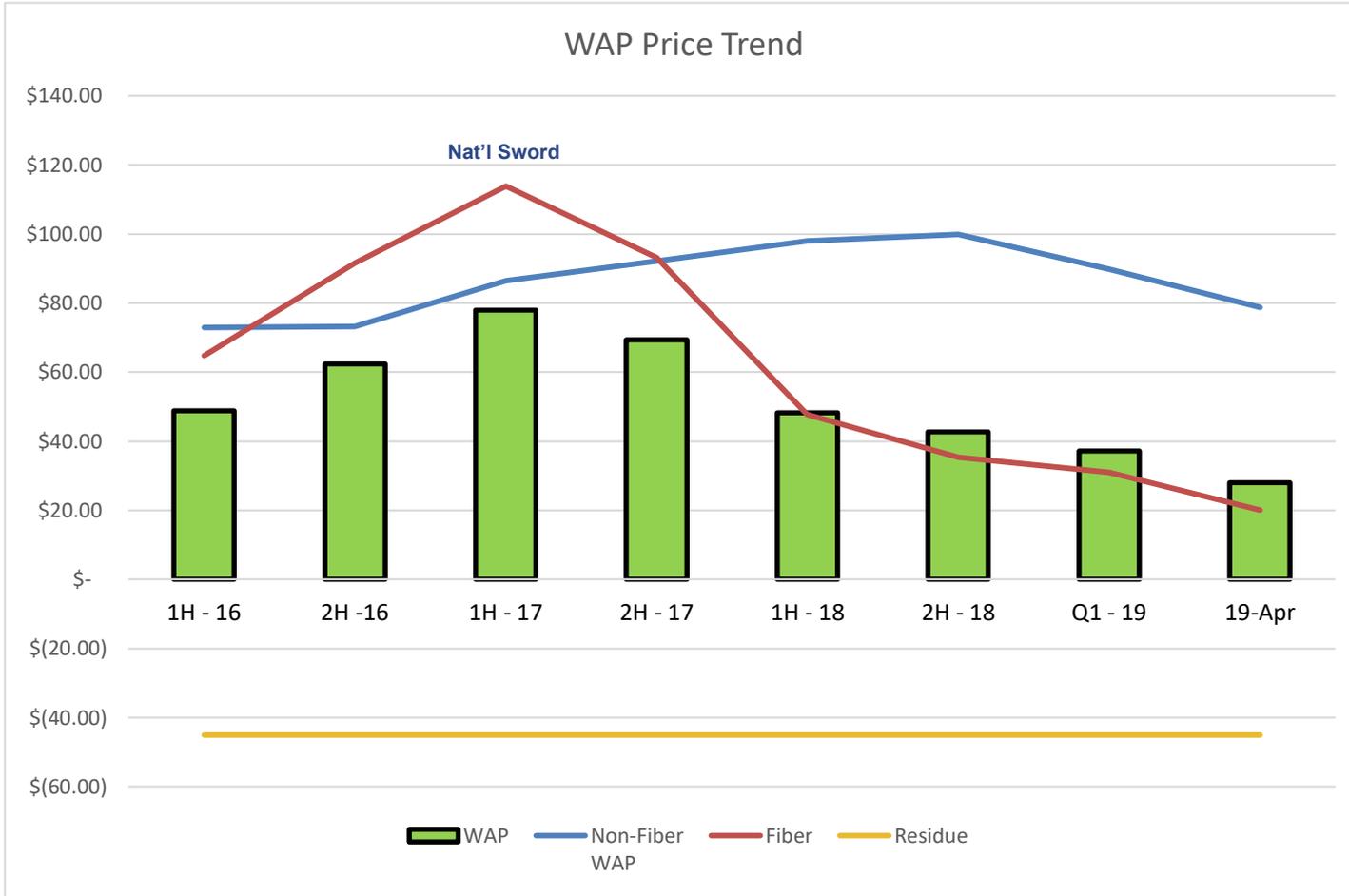
Whether China makes the board or others do, there will always be a need for packaging.

It will take time for the world to digest what China has cut off. In time, it WILL happen.



Appendix

Price Impact to Residential Single-Stream



Grades	Composition
Metal Aluminum Cans	1%
Metal Steel Cans	2%
Plastic PET	4%
Plastic HDPE Natural	1%
Plastic HDPE Colored	1%
Glass Mixed	24%
Non-Fiber	32%
OCC	20%
Mixed Paper	30%
Fiber	51%
Residue	17%
WAP	100%

- Index prices make up the base-line (WAP), charges/rebates are determined after processing costs are deducted.
- >70% of what's received from the curb has a negative value today



What's this mean to the Municipalities

- Additional funding will be needed to supplement the added costs at the MRFs
- Work closely with MRFs to determine the right cost/revenue sharing model
- Municipalities need to re-visit list of acceptable items – back to basics
- Stronger focus on public education
- Strong emphasis on reducing contamination
 - Charge, refuse to pick up, “oops tags”, etc

Sonoco North America Integrated Business

Integrated Supply Chain Model

Recycling



21 Plants
4 MRFs

Collect 2.8 million tons
70% OCC
20% Mix
10% Other

Paper



13 Paper Mills with
21 paper machines

1.3 million tons of
Paperboard

3 Adhesive plants
and Forest Products

Converting



75 Industrial and
Consumer
converting
operations

Consumes internally
supplied paperboard
and adhesives

