



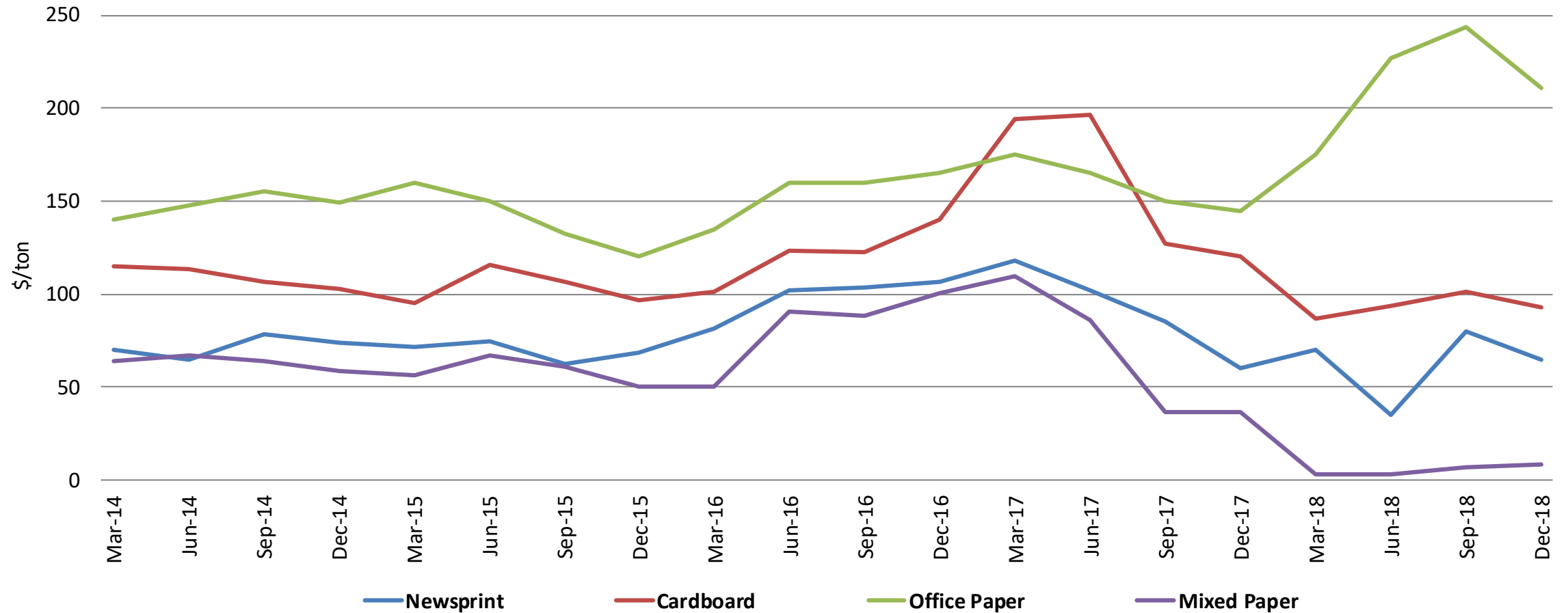
Beating Back Contamination

Recycling Market Disruptions

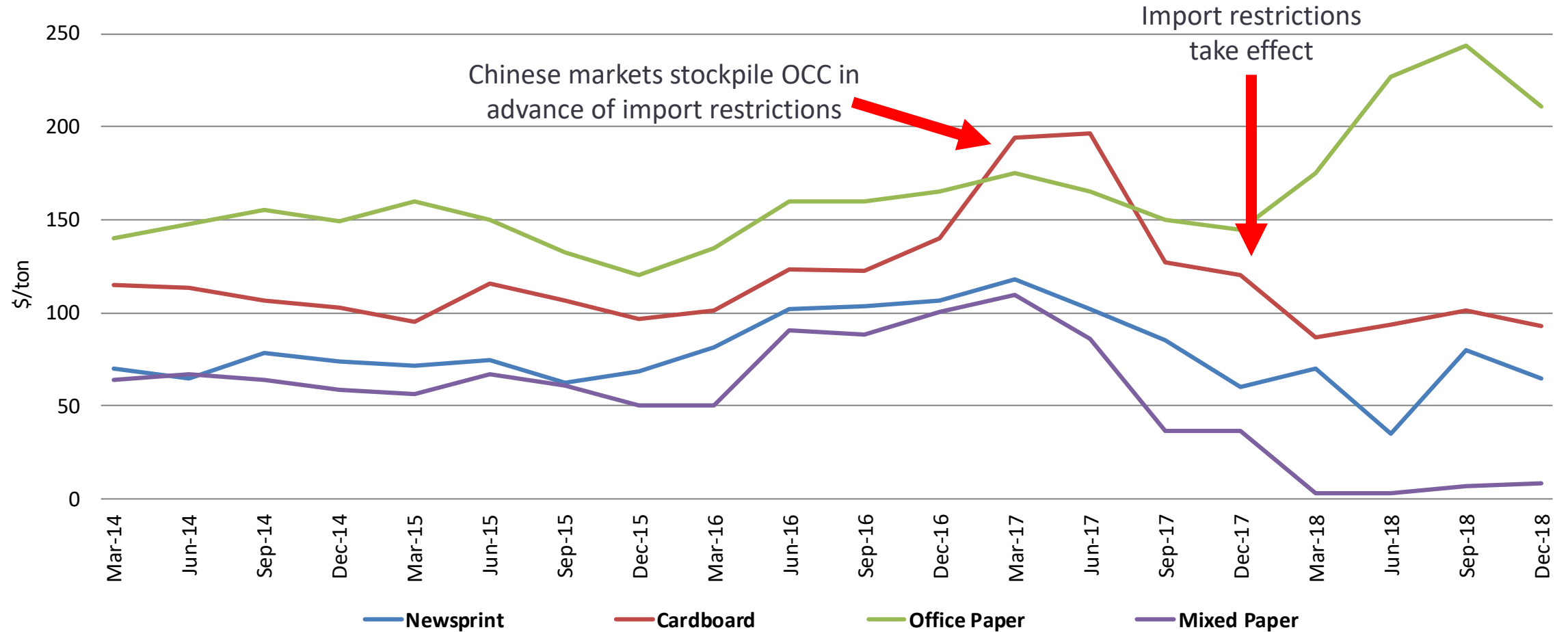
- 2017 China announces National Sword
- Unprocessed plastics are BANNED
Effective January 2018
- Mixed paper is BANNED
Effective January 2018
- Other recovered paper and plastic must not exceed 0.5% contamination
Effective March 2018
- Other southeast Asian countries following suit



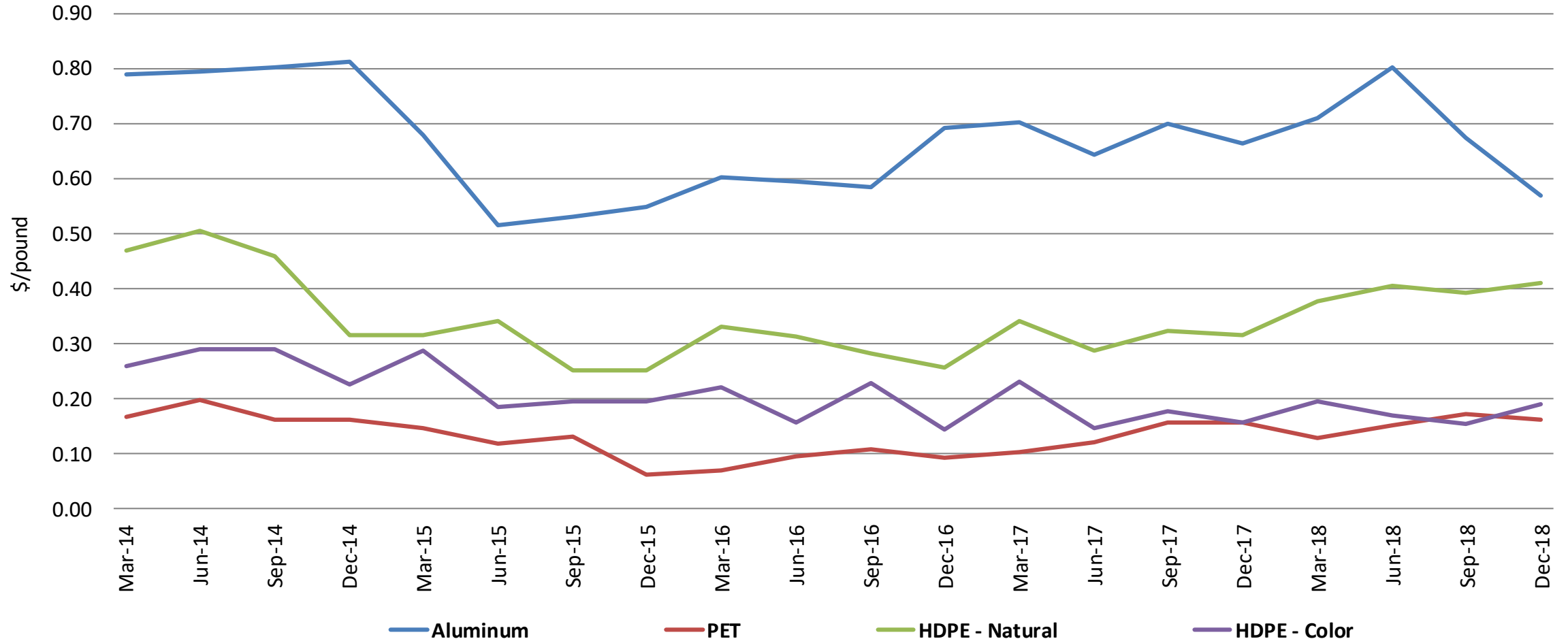
NC Fiber Pricing



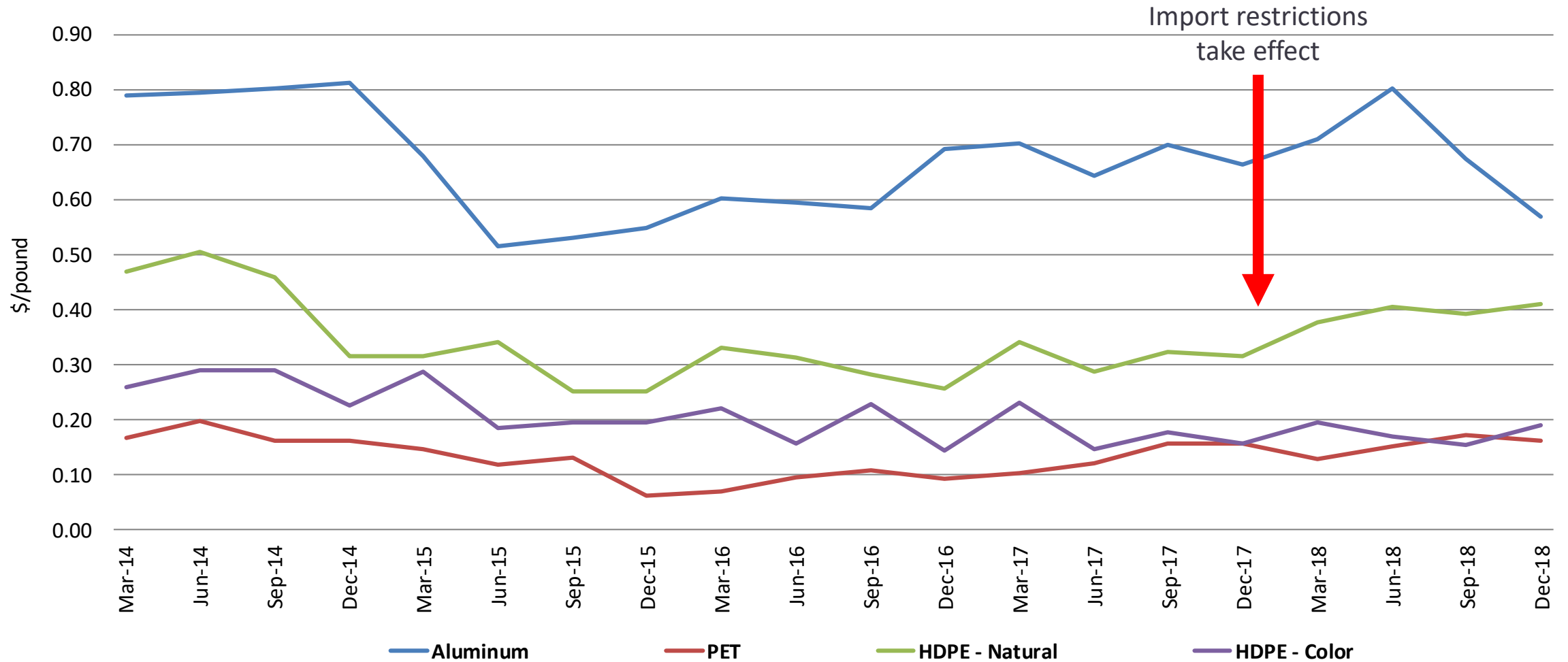
NC Fiber Pricing



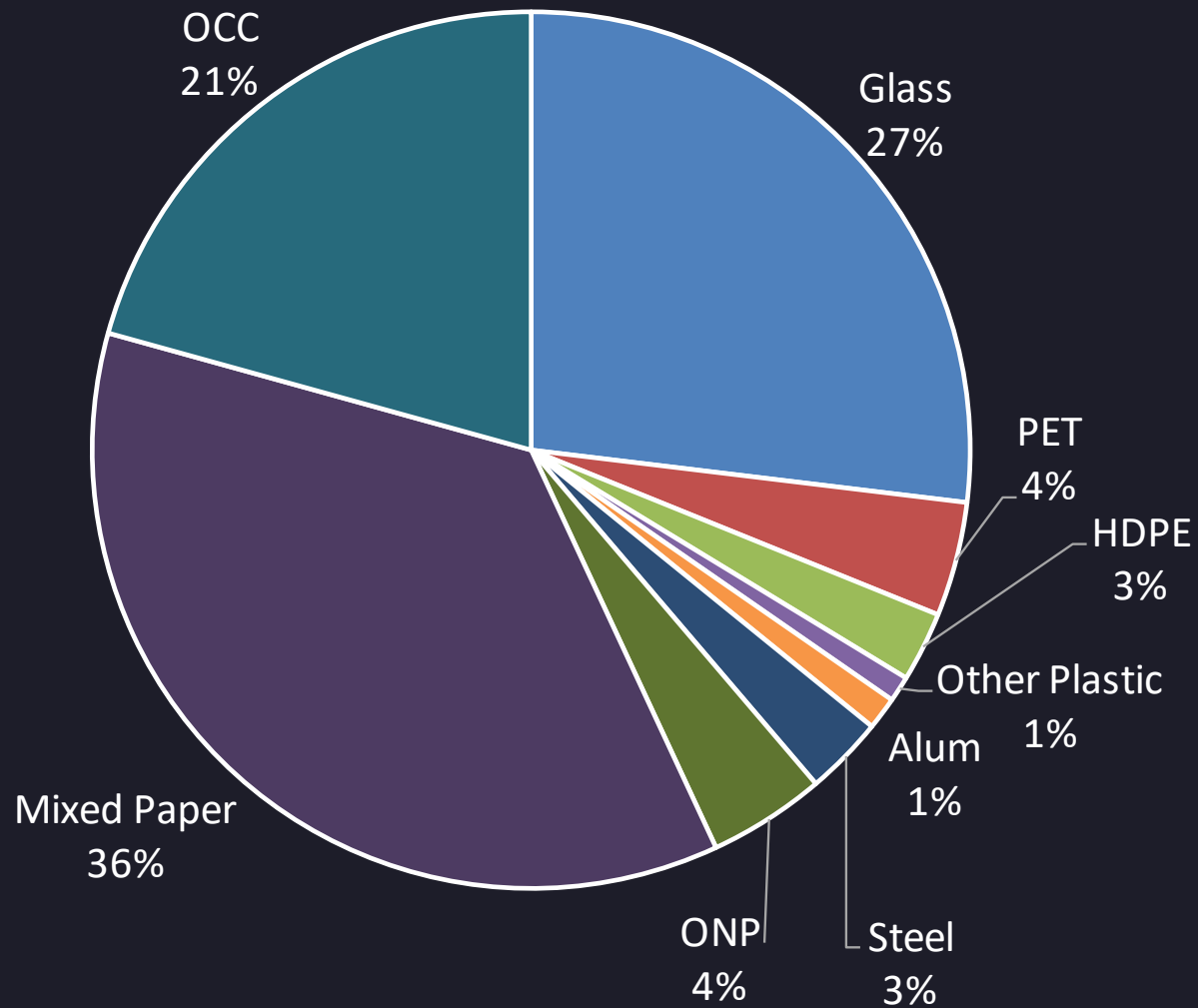
NC Container Pricing

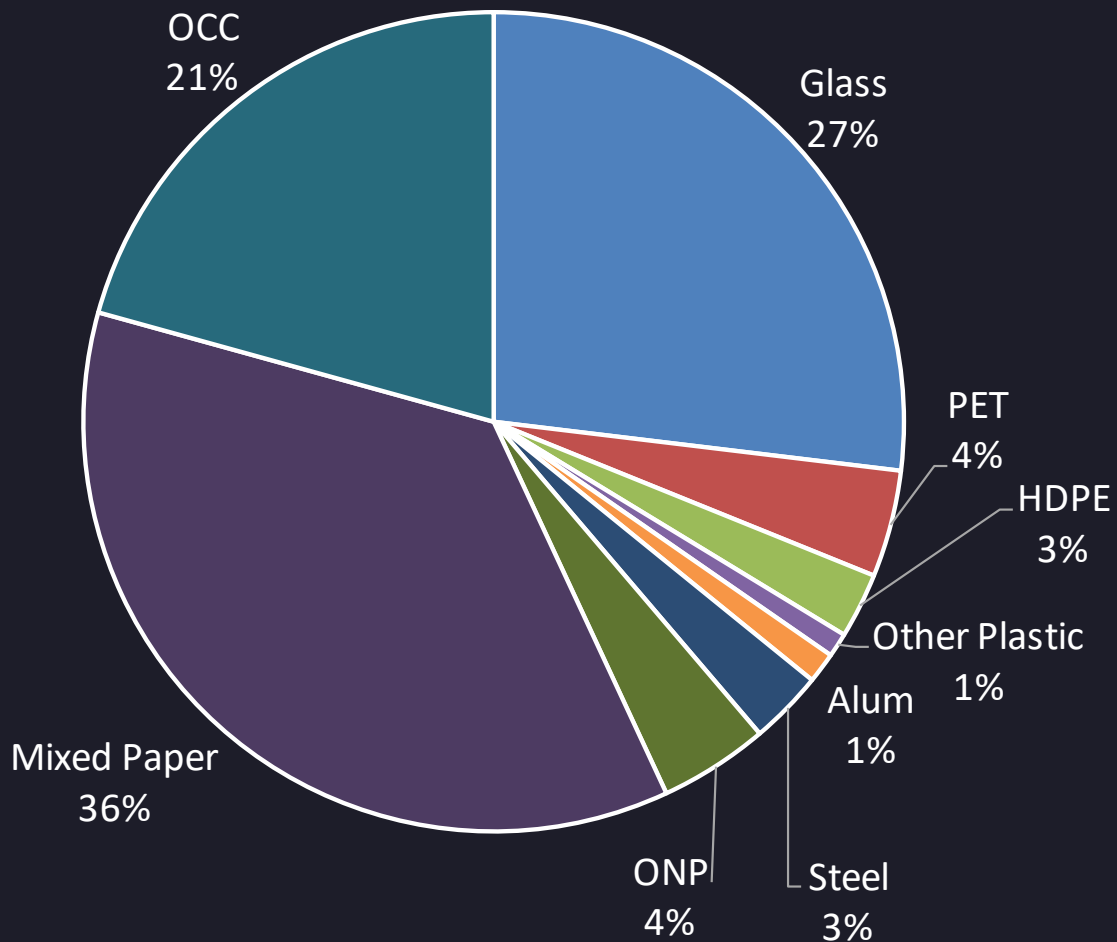


NC Container Pricing



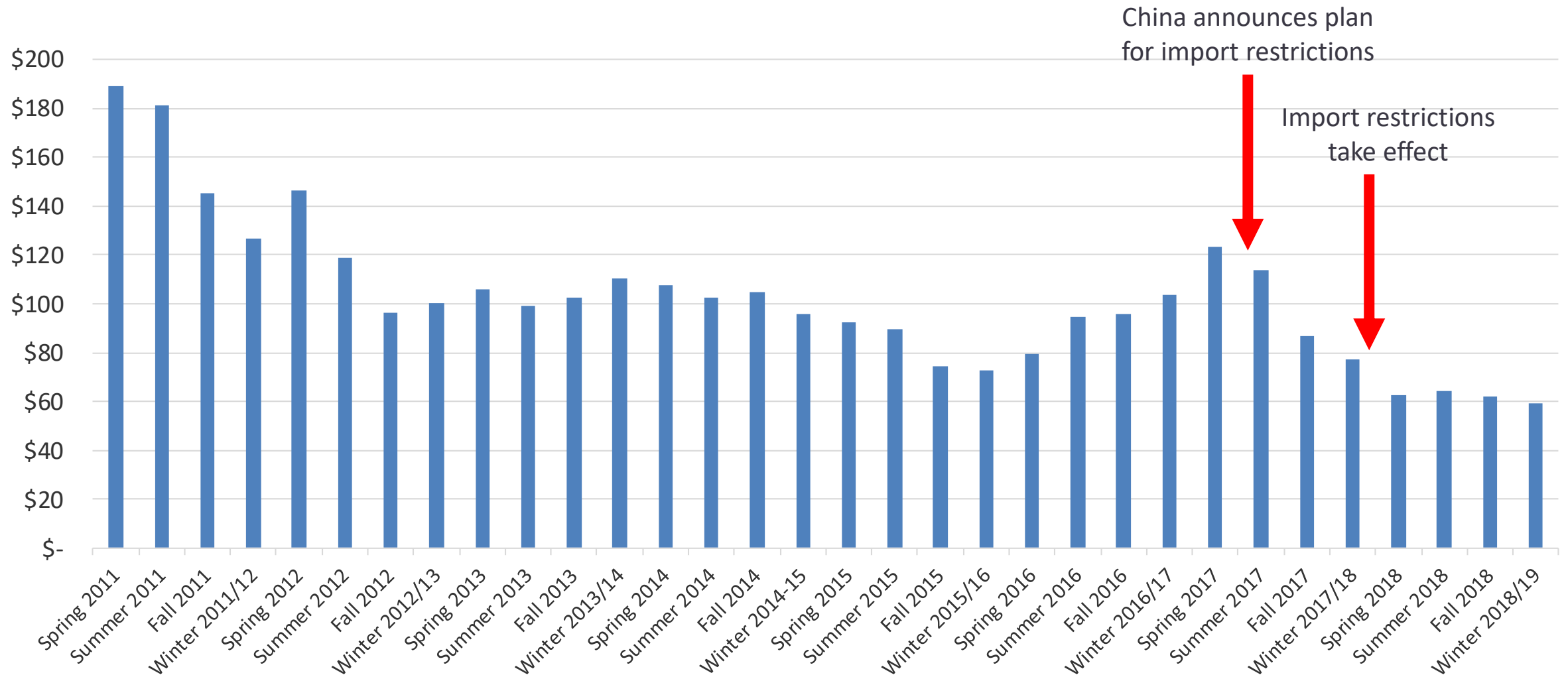
Makeup of a Commingled Ton

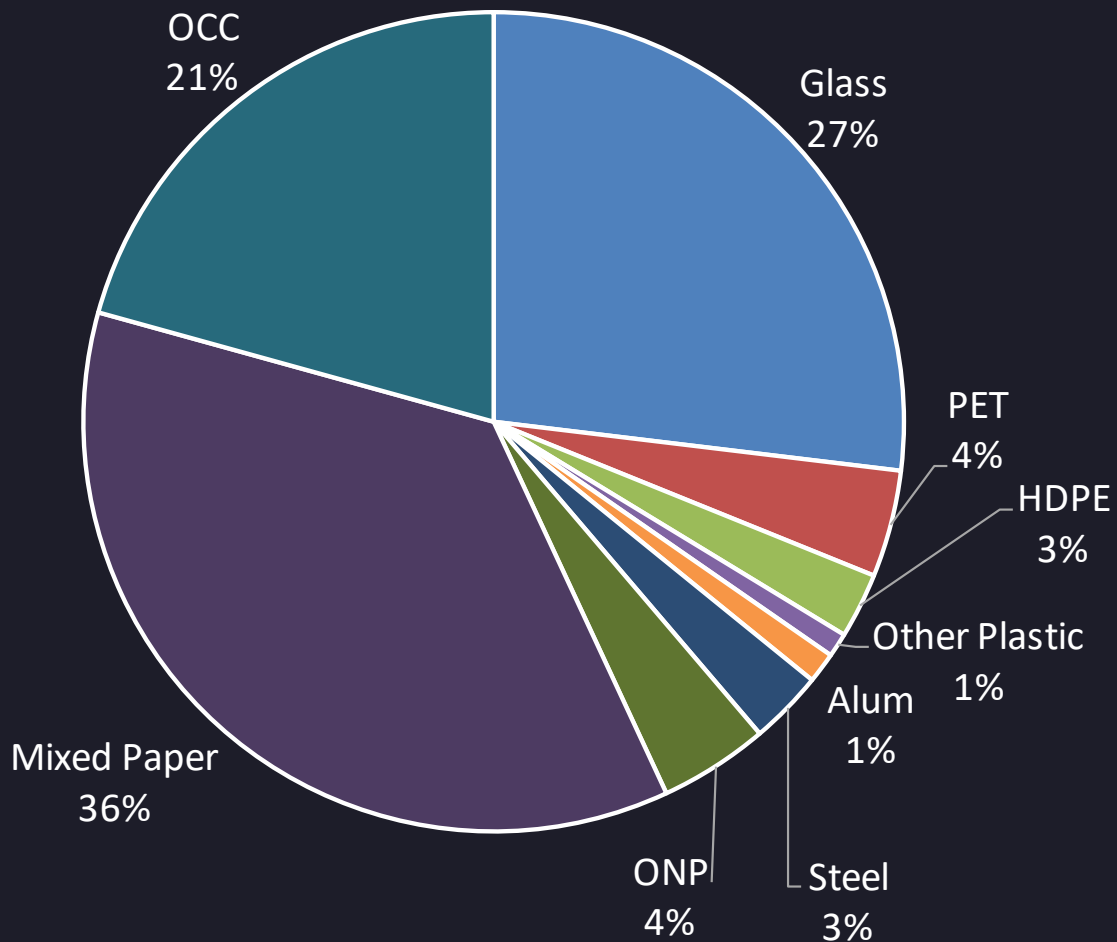




Material	% of 1 MRF ton	Price/ton	Value
Glass	27%	-\$26	-\$7.00
PET	4%	\$320	\$13.50
HDPE	3%	\$380	\$9.79
Other Plastic	1%	\$0	\$0.00
Aluminum	1%	\$1,140	\$13.75
Steel	3%	\$134	\$3.90
ONP	4%	\$65	\$2.80
Mixed Paper	36%	\$8	\$3.02
OCC	21%	\$93	\$19.32
TOTAL	100%		\$59.08

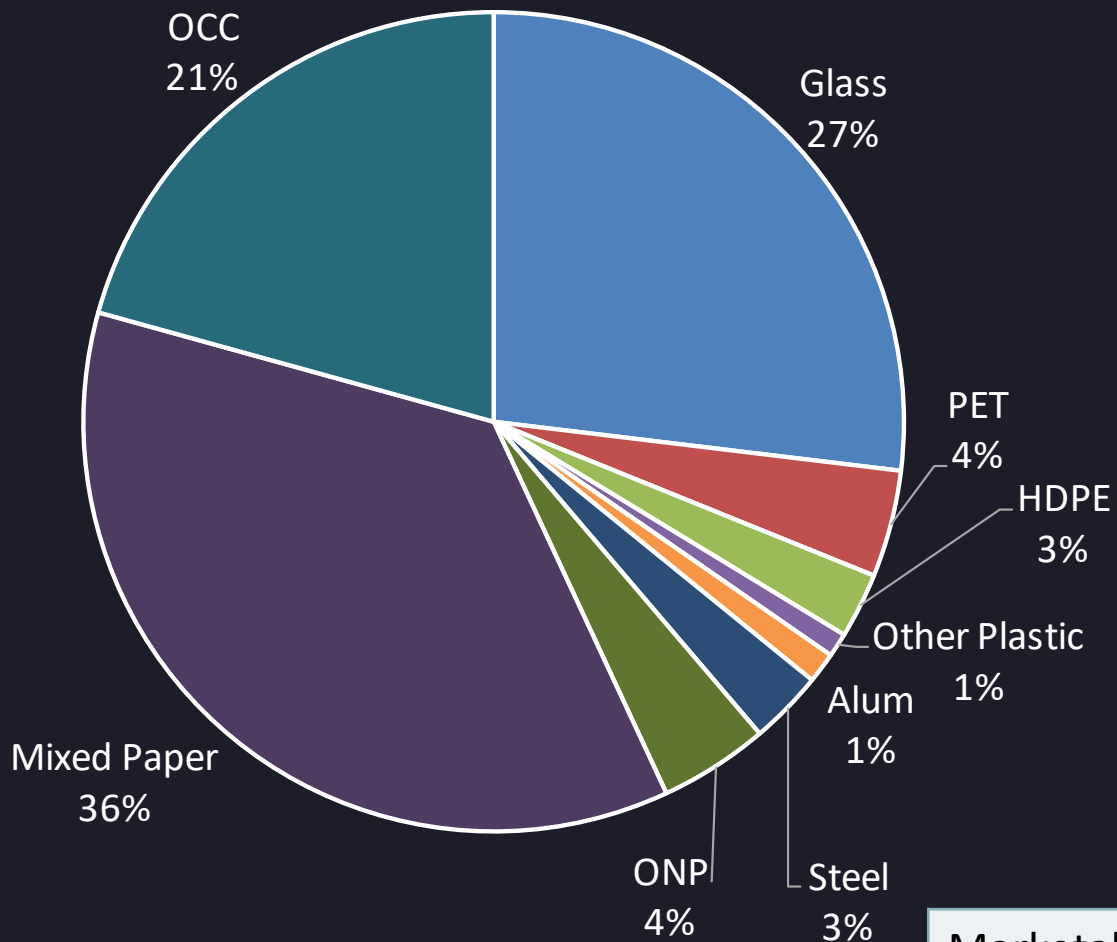
Value of a commingled ton





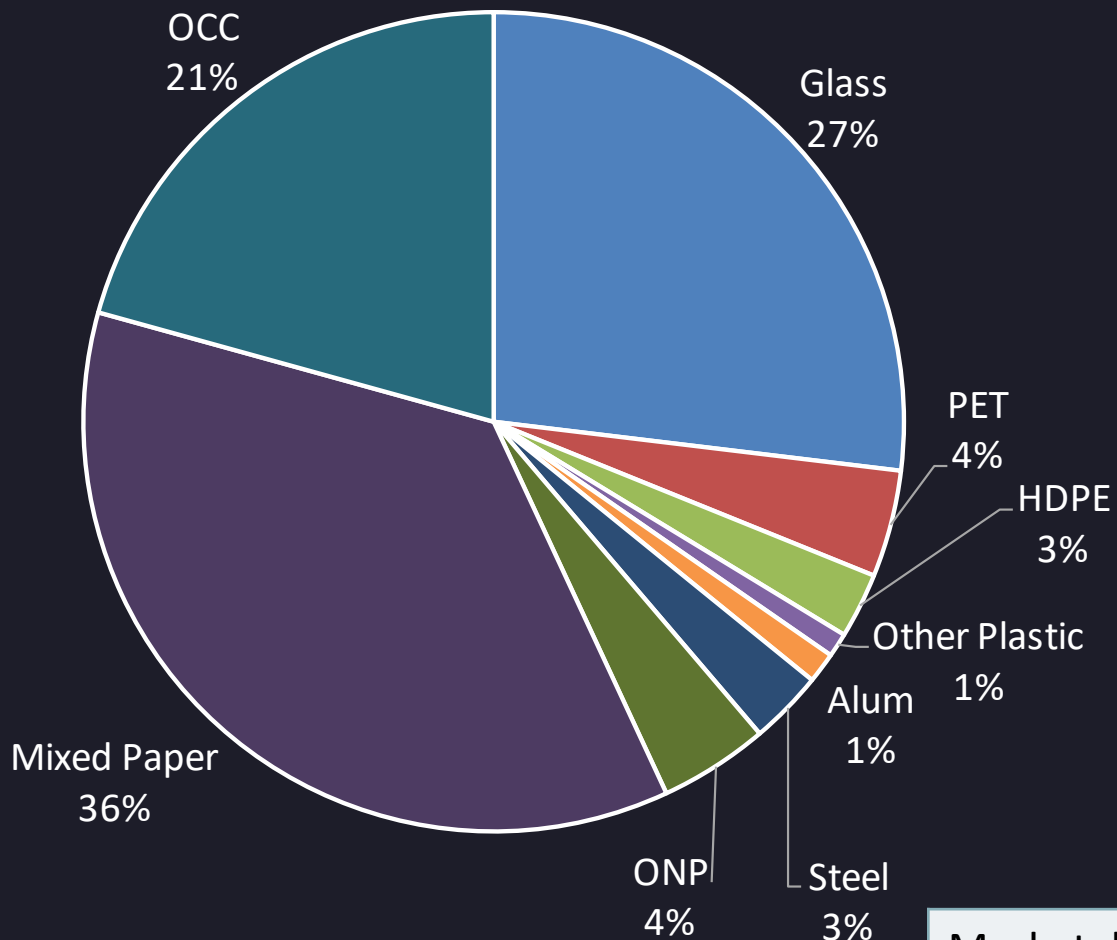
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TOTAL	100%		\$59.08

What about CONTAMINATION??



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Glass	27%	-\$26	-\$7.00
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Mixed Paper	36%	\$8	\$3.02
OCC	21%	\$93	\$19.32
TOTAL	100%		\$59.08

Marketable Commodities	90%		\$53.17
Contamination	10%	-\$70.00	-\$7.00
Value of incoming ton to MRF			\$46.17



Material	% of 1 MRF ton	Price/ton	Value
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Other Plastic	1%	\$0	\$0.00
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Steel	3%	\$134	\$3.90
ONP	4%	\$65	\$2.80
Mixed Paper	36%	\$8	\$3.02
OCC	21%	\$93	\$19.32
TOTAL	100%		\$59.08

Marketable Commodities	80%		\$47.26
Contamination	20%	-\$70.00	-\$14.00
Value of incoming ton to MRF			\$33.26

How is this impacting MRFs?

Net
Processing
Revenue/
Fee

=

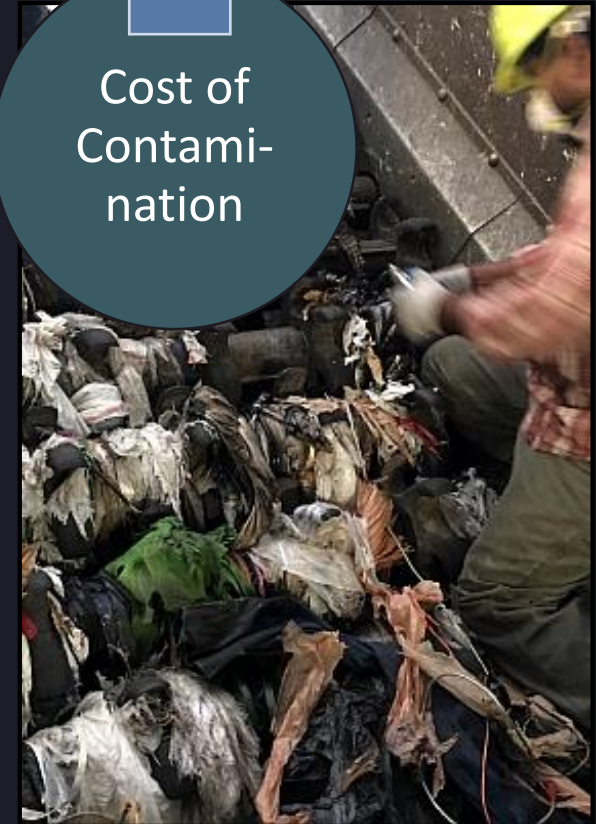
Commodity
Sales

-

Processing
Cost

-

Cost of
Contami-
nation



Bad News

- Contamination rate: 14%
- Value of commingled ton: ~\$41
- Processing Cost: \$70+

Cost of processing exceeds value of material!

- MRFs beginning to charge for contamination

Good News

- We have experienced low market values before
- Recyclers are investing in facilities and equipment
- Southeast has strong and growing domestic markets

We can work on contamination!

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