



MARKETS AND METHODOLOGY 2016

Greg Rudder

Editor, *PPI Pulp & Paper Week*. RISI

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TOPICS

- OCC + domestic pricing, supply-demand condition
 - China's demand + outlook
 - MRFs, specifications, processors
 - *Pulp and Paper Week's* pricing methodology

U.S. RECOVERED PAPER FAST FACTS

- ▶ **\$7.5 billion/yr** market: 58% domestic + 42% export
 - ▶ **52.04 million tons** 2015 demand.
- ▶ 31 million domestic + 21 million export, **69% to China**
- ▶ **2015 mill consumption was highest since 2010**
 - ▶ 20-30% from curbside collection
- ▶ Single-stream MRF system for 290 million Americans
 - ▶ 1Q consumption rose behind export to 13 million

***P&PW* PRICING UPDATE**

▶ FOB, seller's dock	May 2015	Dec 2015	May 2016
▶ OCC, Southeast	\$80	\$90	\$85
▶ Mixed, Southeast	50	55	60
▶ SOP, Southeast	145	115	120

▶ FAS, Long Beach/LA	May 2015	Dec 2015	May 2016
▶ OCC, Export/China	150	147	144
▶ Mixed, Export/China	\$107	\$98	\$115

▶ Source: *PPI Pulp & Paper Week*, RISI.

OCC FORECAST

- ▶ **OCC is forecast to increase this year** at US mills, by \$3 on average, and decline \$4 to China, based on RISI April forecast. If true, this could be a first.
- ▶ Export OCC dipped in early May – but domestic increased. **LA OCC** \$144, down \$5. MW domestic up \$15 in two mos.
- ▶ **New US mill capacity** should pressure domestic prices at times, when China actively buys.
- ▶ RISI forecasts 2% drop on OCC imports to China in 2016.
- ▶ **1Q US GDP** at 0.5%; 2015 total = 2.4%. 5-yr. = 2.42%.

GROWING NEED FOR OCC

- ▶ US mill consumption (000 short tons)

	2010		2015	
▶ OCC	61%	19,085	68.5%	21,084
▶ MP	14%	4,390	12.1%	3,713
▶ HGD	8%	2,498	10.9%	3,377
▶ ONP	12.8%	3,989	5.1%	1,563
▶ Pulp subs	4.2%	1,301	3.4%	1,049

- ▶ **Notes:** OCC a 31-million-ton US market in 2015: 21.0 million domestic -- which is up 2.37 million from 2012. 49.3% of 2015 US exports were OCC vs 39% in 2010. Resolute Augusta, GA, newsprint 190,000 PM shut in May.

MIDWEST SURPRISE: NEW CAPACITY

- ▶ Two machines started in last six months and third planned -- The first new ones in years in Midwest
- ▶ 1. **Pratt Industries: Valparaiso, IN**, 355,000 tons/yr, 65% mixed paper, 35% OCC. Startup at end of September.
- ▶ 2. **Corrugated Supplies: Alsip, IL**, corrugating medium, 220,000 tons/yr, OCC mostly/completely. Jan. startup.
 - ▶ **575,000 tons of demand from the two**
- ▶ **Offset:** WestRock shuts three medium mills with **675,000 tons** in late 2015/early 2016

CAPACITY ADDITIONS 2016-2017

‣ 2015

- **Orchids**, Pryor, OK – Mar 2015 – Tissue (20)
- **IP**, Valliant, OK – May 2015 -- Restarted Corr Medium PM (355)
 - **Double Tree**, Gila Bend, AZ – 2015 – Tissue (40)
- **Pratt**, Valparaiso, IN – Sept/Oct 2015 – Containerboard (360)

‣ 2016

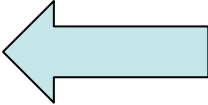
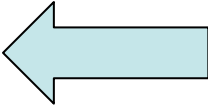
- **Corrugated Supplies**, Alsip, IL – Jan 2016 – Corr Medium (220)
 - **von Drehle**, Natchez, MS – 1Q 2016 – Tissue (40)

‣ 2017

- **Orchids**, Barnwell, SC – 1Q 2017 – Tissue (30, mix)
- Kruger**, Trois Rivières, QC – 2Q 2017 – Containerboard (360)
- **Corrugated Supplies**, Milwaukee, WI – 2H 2017 – Containerboard (350)
- **Confidential, US East – Mid- to late-2017 – Containerboard (TBA)**

2015 MILL CONSUMPTION HIGHEST SINCE 2010

▶ US mill consumption (000 short tons)

▶ 2008	32,655	
▶ 2009	28,748	
▶ 2010	31,552	
2011	30,009	
▶ 2012	29,913	
▶ 2013	29,975	
▶ 2014	29,992	
▶ 2015	30,786	

▶ Source: American Forest & Paper Association.

ONGOING BUY-SIDE CONSOLIDATION

▶ Largest consumers in NA	000 tons	Mkt. Share
1. International Paper	5,871	17.3%
▶ 2. WestRock*	5,129	15.2%
3. Georgia-Pacific	3,302	9.6%
4. Cascades+	2,342	6.9%
5. Pratt+	2,122	6.2%
6. Caraustar*	1,351	4.0%
7. Sonoco	1,333	3.9%
8. Graphic*	1,119	3.3%
9. PCA/Boise* +	1,059	3.1%
10. SCA Tissue NA*	1,045	3.1%

▶ Total for NA market **33,838,000**

Top 10 Market Share **72.6%**

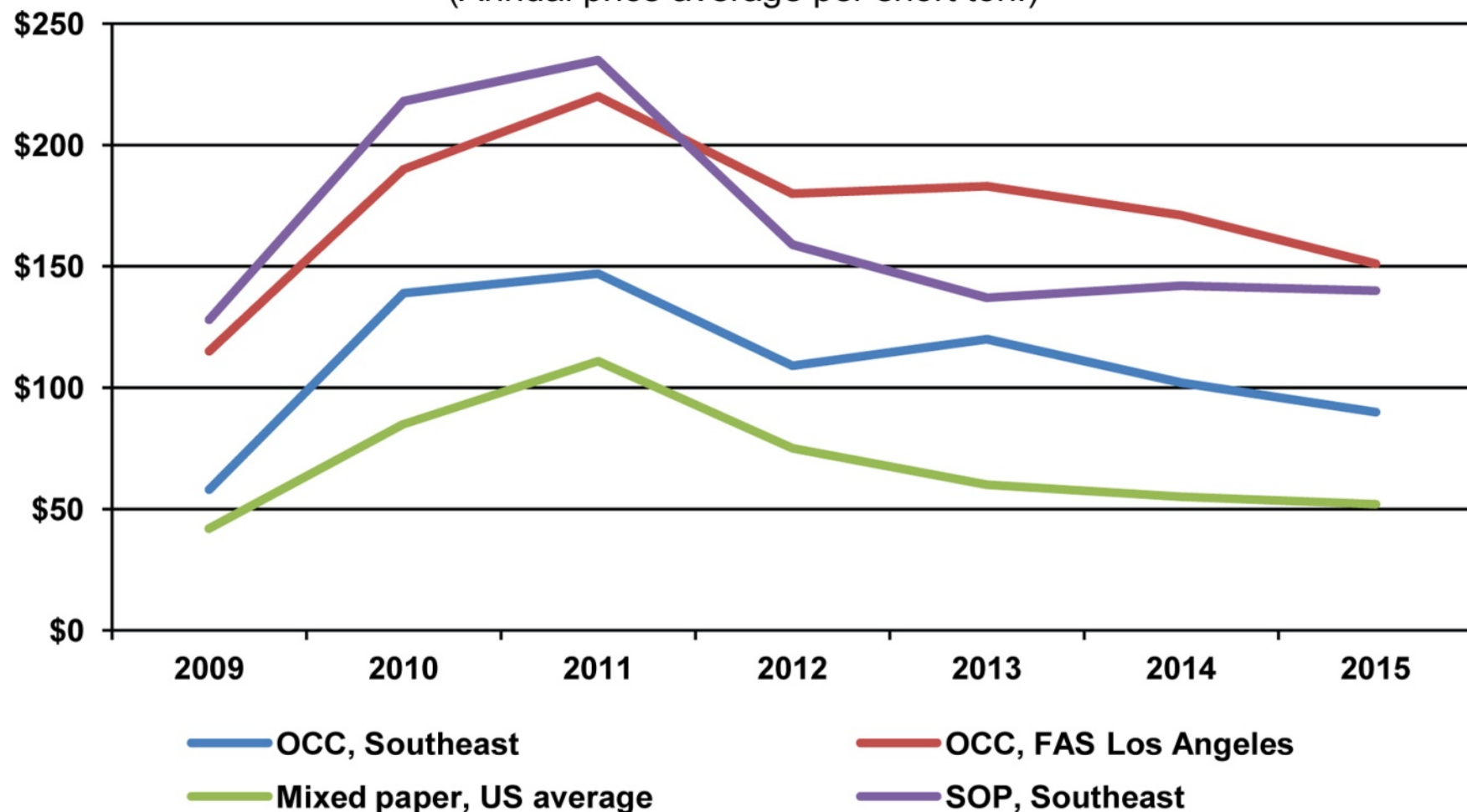
*=Acquisitions since 2013. += New, converted PMs since 2013.

CHINA' S DEMAND AND IMPACT

- ▶ **China' s buy of US recovered paper down 6%** from 2011 peak = 916,000-ton drop. 2015 buying increased by **4.2%**.
- ▶ **US mill prices are now 30-40% below 2011 peak.**
- ▶ Price depression **hits processors**, suppliers, MRFs
- ▶ **Strong dollar** reduces some exports, read: high/pulp grades
- ▶ **Demand unclear?** Expect no sustained upticks. In last year, CNY downtime largest-ever, renminbi devalued, two near-stock market crashes, imports/exports still negative. Boxboard oversupply, newsprint cuts.
- ▶ **Leadership changes** at two largest US export firms ACN and Ralison. The two sell 40% of US exports.

US RECOVERED PAPER PRICES, 2009-2015

(Annual price average per short ton.)



Notes: OCC and SOP Southeast and the mixed paper national average prices are at the FOB seller's dock, excluding premiums. OCC=old corrugated containers. FAS=price at port for shipment. SOP=sorted office paper.

Source: *PPI Pulp & Paper Week*.

EXPORT FALL-OFF, REVIVAL

▶ (000 short tons)

▶ Exports	To China	China share	TOTAL
▶ 2009	14,132	67.2%	21,017
▶ 2010	12,872	62.2%	20,692
▶ 2011	15,776	68.1%	23,179
▶ 2012	15,647	70.5%	22,188
▶ 2013	14,596	70.2%	20,794
▶ 2014	14,273	67.8%	21,059
▶ 2015	14,860	69.3%	21,435

▶ Source: US Dept of Commerce, Bureau of Census.

COLLECTION ,THE MRF, AND COST

- ▶ **Higher-cost collection** without consistently higher raw material pricing, and MRF quality struggle continues.
- ▶ **Waste Management** (WM) plant shuts cut roughly 20% of its 2015 processed volume.
- ▶ How will the **MRF of tomorrow** be different? New technology, better contracts?
- ▶ **“Dirty”** MRF plans: Houston, Indianapolis, WV, Vancouver, Baltimore. Montgomery idled in Oct. Calif. Low recovery rate.
- ▶ **Extended producer responsibility** in BC, Ontario, Canada

SPECS, PROCESSORS

- ▶ **PSI specification changes approved by ISRI.** ONP Nos. 6-8 recast to single-stream curbside SRP. + high quality SCN. Three mixed paper grades become one. Market appears in tune with these changes. MRF growth + ongoing drop in ONP quality caused the changes.
- ▶ Fastest-growing processor is a paper company, Pratt Industries, which is the US' s largest buyer, by far, of mixed paper. WestRock, Sonoco, Cascades, IP, Pratt, Caraustar are among 10 largest processors. WM is #1, Republic #2, ReCommunity #7.

RISI USA RECOVERED PAPER PRICE REPORTS

- ▶ *PPW/OBM*'s **US monthly** coverage -- for 17 materials sold to domestic mills in six regions, and for six export grades for mainly China, and Asia, India, Mexico. We also do **weekly** bulk grade export prices and **Bench\$mart**.
- ▶ For the OBM/PPW monthly, I survey **80+contacts** from the 1st through the 4th.
- ▶ Survey 40% processors, 40% mills, 20% brokers (export).
- ▶ Seek **consensus** + actively cross-checking for the monthly.

METHODOLOGY

- ▶ We **reviewed our pricing methodology** in 2H 2015 and made two additions.
- ▶ We committed to the 5th of the month for price publishing + allow for flexibility related to holidays and full weeks where the **4th falls on a Friday**.
- ▶ Also, **if volatile domestic pricing occurs** from the 20th to 28th to 31th in a previous month, and a large enough share of a region participated, these movements may be considered in the upcoming 1st-5th period of price collection.

THANKS

▶ BEST OF LUCK WITH YOUR BUSINESS

- ▶ Greg Rudder
- ▶ 510-922-9504
- ▶ grudder@risi.com