Update on International & Domestic Recycling Markets

Council on Recycling Meeting
December 3, 2019

(As delivered at the Material Recovery Facility [MRF] Stakeholder Meeting, October 7th, 2019)

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Recap 2013-2018

• 2013- China implemented “Green Fence,” an import restriction program
• US exports to China fell by 40%
• July 2017- China announced “National Sword”
• 2017- China begins country-wide inspections; revokes permits
• Jan. 1, 2018- Bans on 24 categories of recyclables, including post-consumer plastics and mixed paper
• Mar. 1, 2018 – Carried waste standard (0.5%) goes into effect
Recap 2013-2018 (cont.)

- 2018- imports to other SE countries increase dramatically, resulting in Indonesia, Malaysia, Thailand & Vietnam implementing their own import restrictions
- 2018- reports from China that mills are taking downtime due to lack of fiber imports
- Aug. 15, 2018- DNR holds first MRF Stakeholder meeting

Source: Resource Recycling
Since August, 2018

- Sept, 2018- paper giant Nine Dragons announces plans to buy Fairmont, WV paper mill; 2 Chinese plastic companies announce plans to open facilities in GA & SC
- Oct, 2018- Nine Dragons announces it will spend $300M on recycled pulp lines in US in Rumford, ME & Biron, WI
- Oct, 2018- China’s latest round of import permits doubles amount of fiber allowed in country to 2M metric tons from previous rounds
- Year end results: Recycled plastic imports to China fell by 99% in 2018 compared with 2017; paper imports fell by 1/3

Source: Resource Recycling
2019-Present

- Feb, 2019- Waste Management, Waste Connections and Republic Services all detail financial losses in annual earnings reports, but announce recycling investments.
- Mar, 2019- India announces plastic import restrictions (late summer); Vietnam announces end of plastic scrap imports by 2025.
- Mar, 2019- US 2018 export figures reveal paper exports increased; plastic exports down 35%.
- Aug, 2019- China announces tariff increase on accepted fiber grades.

Source: Resource Recycling
Impact on Plastics Exports

U.S. scrap plastic exports to all countries, January-June, 2016-2019 (pounds)

Source: Resource Recycling
Impact on Plastics Exports

U.S. scrap plastic exports by country, January-June, 2016-2019 (pounds)

- Canada
- China
- Hong Kong
- India
- Indonesia
- South Korea
- Malaysia
- Mexico
- Philippines
- Senegal
- Taiwan
- Thailand
- Turkey
- Vietnam

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Impact on Paper Exports

U.S. scrap paper exports to all countries, January-June, 2016-2019 (pounds)

Source: Resource Recycling
Impact on Paper Exports

U.S. scrap paper exports by country, January-June, 2016-2019 (short tons)

- Canada
- China
- India
- Indonesia
- South Korea
- Mexico
- Taiwan
- Thailand
- Vietnam

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Domestic Pricing/Value of a Ton (Sept)

- Fiber grades are facing historic low prices
- During 2019:
  - OCC decreased from $70 to $30/ton
  - Mixed paper decreased from $5 to $0/ton (may go negative)
  - UBC/Aluminum $1,100-$1,300/ton
  - Steel/tin $35-$40/ton
  - PET decreased from $330 to $245/ton
  - HDPE natural from $840 to $430 to $520/ton
  - HDPE color decreased from $400 to $220/ton
- Composite value of a ton of recycling has fallen from $70-90 in 2017 to $30-50 in 2019
- Present mixed commodity value $25-$35/ton
- 2x-3x value in processing costs
Metals Pricing Trends

Metal Pricing (Chicago)

Source: Secondary Materials
Bigger impact than China?
Basal Convention

- Basal Convention went into effect in 1992
- Agreement between nearly 200 countries
- US has signed, but not ratified agreement (non-voting)
- Goal to limit trade in hazardous wastes, especially between developed and developing countries
- Last year, Norway proposed to add plastic scrap to the Basal Convention, citing marine litter concerns

Source: Resource Recycling
Basal Convention (cont.)

- Impact is not entirely clear, but expected to significantly decrease plastic exports
- Plastics to non-developed countries expected to stop
- Plastics to developed (OECD) countries may be able to continue
- Also unclear if single resins could be exported, and in what form (bottle, flake, pellet) and what “almost free from contamination and other types of wastes” means
- Effective date: Jan. 1, 2021

Source: Resource Recycling
Enough Discouraging News...

While export markets are decreasing, there IS significant domestic infrastructure development...
Especially in fiber
WI Mill Infrastructure Development

**ND Paper (Nine Dragons), Biron**

*Description*
- Location: Biron, Wis.

*Investment Details*
- **Investment type:** New line and paper machine conversion to containerboard
- **Announced:** October 2018
- **Completion date:** Coming on-line through October 2020
- **Production details:** 2 new recycled pulp production lines, 1 paper machine producing corrugating medium and linerboard
- **Feedstock:** OCC/mixed paper
- **Output tonnage:** 2,100 tons per day recycled pulp (~760,000 tons per year, estimated)
- **Investment figure:** $180 million (includes conversion)

*Source:* Resource Recycling

WI Mill Infrastructure Development

**Midwest Paper**

**Location:** Combined Locks, Wis.

**Investment type:** Conversion from all printing/writing grade production, to mostly containerboard production

**Announced:** Mid-2018

**Completion date:** Up and fully running as of July 2018

**Production details:** 2 corrugated paper machines, 1 printing/writing grades paper machine

**Feedstock:** Primarily OCC

**Output tonnage:** 400,000 tons-per-year capacity

**Investment figure:** at least $42 million


**Notes:** Includes recycled fiber pulping system

Source: Resource Recycling
WI Mill Infrastructure Development

**Green Bay Packaging**

- **name**: Green Bay Packaging
- **Location**: Green Bay, Wis.
- **Investment type**: New mill to replace existing mill
- **Announced**: June 2018
- **Completion date**: Planned for Spring 2021
- **Production details**: 1 paper machine producing linerboard and corrugated medium
- **Feedstock**: OCC/mixed paper
- **Output tonnage**: 685,000 tons (445,000-ton increase over existing mill)
- **Investment figure**: $500 million


**Notes**: Includes recycled fiber pulping system; Voith paper machine, stock prep system

Source: Resource Recycling
Other Midwest Infrastructure Development

- **Pratt Industries, Wapakoneta, OH**
  - Completion date: By end of 2019
  - Feedstock: OCC/mixed paper
  - Output tonnage: 396,000
  - Investment: $210-310M

- **Verso Corporation, Duluth, MN**
  - Completion date: 1st quarter 2020
  - Feedstock: OCC
  - Output tonnage: 48,000
  - Investment: undisclosed

Source: Resource Recycling
Other Domestic Infrastructure Development

- Phoenix Paper, KY; OCC/mixed; 2020; 700K
- ND Paper, WV; SOP/news; 2020; 240K
- Cascades, VA; OCC/mixed; 2021; 440K
- CorrVentures, NY; OCC; 2021; 300K
- ND Paper, ME; OCC/mixed; 2020; 480K
- International Paper, AL; OCC; 2020; 450K
- Crossroads Paper, UT; OCC/mixed; 2022; 350K
- North Pacific Paper, WA; OCC/mixed; ?; 400K
- Port Townsend, WA; 2020; OCC; 285K
- Bio Pappel, WA; 2020; OCC/mixed; 240K
- And... 2 additional mills in Mexico

Source: Resource Recycling
Questions?

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