Outlook on Global RCP Markets
The impacts of Chinese import regulations

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Chinese RCP import regulations

2017-2019 YTD
• National Sword 2017 and Blue Sky 2018
• Mixed paper ban
  • Announced in July 2017, took effect at the end of 2017
• New 0.5% contaminant standard
  • Took effect at the beginning of 2018
• Trade dispute between China and the USA
  • Duty on US RCP (25%) and US recycled pulp (10% - 20%) …
  • Inspection and pre-inspection regulations: New rules about CCIC…
• In total, 18 million tonnes of RCP import permits were issued for 2018, compared to 28 million tonnes for 2017
• So far, 8.2 million tonnes of import licenses have been issued for 2019
Impacts of Chinese RCP import regulations

- Change of global RCP trade pattern
  - Sharp decline in Chinese imports and surge of imports from Other Asia
  - Decline of exports for most RCP exporting countries/regions
- RCP cost and availability
  - China: Higher RCP costs and recycled fiber shortage
  - Outside of China: Increasing RCP availability and low RCP costs
- Impacts on overall pulp and paper industry
  - China: Declining finished paper and board (PAB) output and rising PAB imports
  - Outside of China: Opportunities for new recycled pulp and PAB projects

Chinese RCP imports
Million tonnes

SHARP DROP IN 2018 AND 1Q19

- New contamination standard and new inspection and pre-inspection rules lowered Chinese imports sharply in the first half of 2018
- Chinese imports picked up somewhat in the second half of 2018, especially for OCC
- Total Chinese imports dropped by 34% from 25.7 million tonnes in 2017 to 17 million tonnes in 2018, compared to the 18.1 million tonnes of import quotas issued by the Chinese government
- Chinese imports continued to fall, by 16% Y/Y in 1Q19
Chinese RCP imports
Million tonnes

QUALITY AND GRADE

- Zero mixed paper imports since 2018 because of the mixed paper import ban
- OCC imports dropped by only 14% in 2018, less than other grades, which fell by 34% on average
- China bought high-quality OCC only
- OCC imports fell by 11% Y/Y in 1Q19, while ONP and high grades imports slid by 33% and 24%, respectively

CHANGING IMPORT SOURCE

- North America and Europe were impacted significantly by Chinese import regulations
- US share of Chinese imports fell sharply from 45% in 2016-2017 to 37% in 2018
- European share of Chinese imports dropped from about 30% in 2016-2017 to 27% in 2018
- Chinese imports from Japan and Other Asia increased in 2018
- 1Q19: Chinese imports from the USA and W. Europe fell by 33% and 18% Y/Y, respectively, while those from Japan and Australia increased by 32% and 26%
Other Asia RCP net imports

Million tonnes

**SURGE IN IMPORTS**
- This region’s net imports surged from 7.2 million tonnes in 2016 to 13.8 million tonnes in 2018
- Most countries/regions in Other Asia registered a significant increase in imports in 2016-2018
- There is growing RCP demand and increasing availability of low-cost RCP from the major exporting regions thanks to the decline in Chinese imports

![Bar chart showing RCP imports for India, Indonesia, Thailand, Vietnam, Taiwan, and South Korea from 2016 to 2018](chart1)

Other Asia: RCP imports and domestic collection

Million tonnes

**SHARP INCREASE IN IMPORTS**
- Fast-rising import share in total RCP consumption driven by demand
- Increasing availability of RCP at low cost because of the decline in Chinese imports
- Limited growth in domestic collection
  - Less efficient recycling system, world’s new manufacturing hub (net “exports” of packaging materials led to less potential supply of RCP)

![Bar chart showing domestic collection and imports from 2012 to 2018](chart2)
US RCP exports
Million tonnes

CHANGING EXPORT DESTINATIONS

• Exports to China dropped 31% in 2018 and the Chinese share of US exports declined from 60% in 2017 to 40% in 2018

• Shipments to Other Asia soared 80% in 2018 and the share of Other Asia in US exports jumped from 23% in 2017 to 40% in 2018

• 1Q19: US exports dropped by 4% Y/Y; exports to China fell by 30%, while those to Other Asia increased by about 20%

European RCP exports
Million tonnes

CHANGING EXPORT DESTINATIONS

• Western European net exports fell by about 12% in 2018

• Exports to China plummeted 39% in 2019

• Chinese share of European exports declined from 78% in 2016 to 41% in 2018

• Shipments to Other Asia surged 71% in 2018 and the Other Asia share of European exports rose sharply from 16% in 2016 to 50% in 2018
Japanese RCP exports
Million tonnes

DIFFERENT FROM THE USA OR EUROPE
- Total exports increased marginally by 1% and the exports to China increased 12% in 2018: good quality
- Shipments to Other Asia declined by 20% in 2018
- 1Q2019: Japanese exports dropped by 9% YOY but the exports to China continued to increase (by 15%)

OCC prices in different regions

CHINESE PAPER COMPANIES FACING HIGH RECYCLED FIBER COSTS
- Before July 2017, one set of OCC prices
- Now, two sets of prices: Chinese price and prices outside of China
- Sharp drop in US and European OCC prices
- Low OCC import prices in Southeast Asia
- Domestically collected OCC became quite expensive in China due to the overall recycled fiber shortage issue
- Recent decline in OCC prices globally because of the weak paper packaging markets and reduction in Asian RCP purchases
China’s surging virgin and recycled pulp imports

**SURGE IN RECYCLED PULP IMPORTS**

- About 4 million tonnes of recycled pulp capacity was announced in the USA and Other Asia, but how much of this will start up as planned?
- No well-established quality standard or specifications for imported recycled pulp
  - Will China have restrictions on recycled pulp imports in the future?
- Risks associated with recycled pulp investments
  - Uncertainty surrounding Chinese RCP import policies
- Increase in virgin pulp imports will not help much to solve China’s fiber shortage issue

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<th>Country</th>
<th>2017</th>
<th>2018</th>
<th>1Q19</th>
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<tbody>
<tr>
<td>Taiwan</td>
<td>0.42</td>
<td>110.50</td>
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<tr>
<td>Vietnam</td>
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<td>Malaysia</td>
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<td>20.17</td>
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<tr>
<td>USA</td>
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<tr>
<td>Germany</td>
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<td>3.37</td>
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<tr>
<td>Other</td>
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<td>13.52</td>
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</tbody>
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China’s investments in recycled pulp

**ANNOUNCED AND ESTIMATED RECYCLED PULP PROJECTS**

- Nine Dragons
  - Fairmont, USA: About 220,000 tonnes per year (started up already)
  - Biron, USA: 650,000 tonnes per year
  - Rumford, USA: About 400,000 tonnes per year
  - India: 500,000 tonnes
- Lee & Man
  - Indonesia: 340,000 tonnes per year
  - Malaysia: 550,000 tonnes per year
- Sun Paper
  - Laos: 400,000 tonnes per year
- Jingxing Paper
  - Malaysia: 550,000 tonnes per year
- Other
China’s falling paper and board output
Million tonnes

RECYCLED FIBER SHORTAGE
- Falling production for paper and board grades relying heavily on RCP in 2018
- Demand softness because of slowing economic growth
- Higher environmental standards

China’s increasing paper and board imports
Million tonnes

- Accelerating imports for containerboard and newsprint in 2017-2018
- Where did Chinese imports come from?
  - Other Asia, North America and Europe
- Where will China buy more from in the future?
Other Asia’s growing containerboard output and exports

Million tonnes

INCREASE IN EXPORTS TO CHINA
• Growing domestic demand and exports to China
• Rising operating rates and new containerboard capacities
• Chinese paper companies’ investments in Other Asia

Other Asia: RCP import regulations and others

WILL OTHER ASIA FOLLOW CHINA?
• Quality and environmental concerns over RCP imports
• Taiwan started to limit imports of low-quality RCP in October 2018
• Some have import license systems, inspection and pre-inspection measures, or new quality standards
  • Vietnam
  • Indonesia: Planned to have 100% pre-inspection and 0.5% impurity standard at the end of March, but the guidelines were postponed “until further notice”
• Port congestion issues
• How will imports impact local RCP collection? We saw a considerable decline in the local paper recovery rate in 2018
Chinese RCP Import Regulations
2019 and Beyond

2019
• How many more import licenses will China issue for the rest of 2019?
• Where is the trade dispute between the USA and China heading?

2020 AND BEYOND
• Will we see another sharp cut in import permits in 2020?
• Will China ban imports of all RCP grades by the end of 2020?

China: Domestic RCP Collection
Million tonnes

SHARP DECLINE IN IMPORT SHARE
• High prices for domestically collected RCP
• Improvements in domestic collection driven by growing demand and high prices for domestic RCP
• Support of private sector (paper companies, resource recycling companies, e-commerce and logistics companies) and local and central governments on resource recycling
• Economic transformation
  • Export driven to domestic consumption driven → increasing potential supply for RCP
China’s domestic RCP collection

FURTHER IMPROVEMENTS IN DOMESTIC COLLECTION

- Zero Waste City plan: To set new recycling and waste systems
- Supports from central and local governments on resource recycling business: Tax rate cut from 16% to 13% and more …
- Supports from private sectors
- Better quality standards and specifications to be established, led by Chinese paper companies and associations
- Further growth in a domestic-consumption-driven economy: More paper packaging materials will stay and be collected within China
- Estimated real paper recovery rate: 70-80%
- Overall, there is still some room for more domestic RCP collection but limited room for a higher recovery rate

Thank you!

For more information:

Outlook for Global Recovered Paper Markets, 2017
www.risi.com/GlobalRCP

OCC/UKP Market Analysis and Outlook
www.risi.com/OCC-UKP

The China Recovered Paper Market: A Comprehensive Analysis and Outlook
www.risi.com/ChinaRCP

World Pulp and Recovered Paper 5-Year & 15-Year Forecasts
www.risi.com/forecasts

World Recovered Paper Monitor
www.risi.com/WRPM