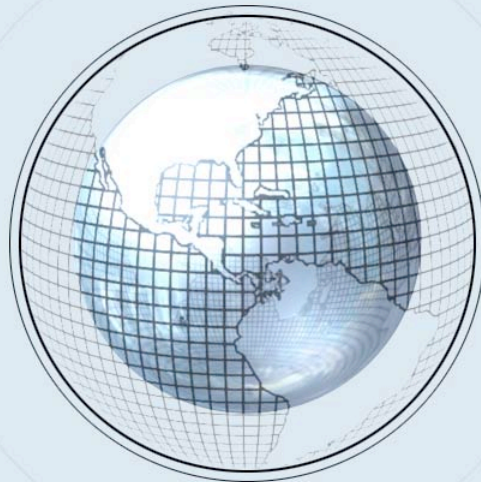


Southeast Recycling Conference

Status of the World Recovered Paper Markets

**Bill Moore, President
Moore & Associates
Atlanta, GA**

www.MARecycle.com



Moore & Associates – Paper Recycling Consultants

- **Recovered Paper Market Experts**
- **Market Research**
- **Pricing: Benchmarking, Analysis, and Forecasting**
- **Procurement and sales strategy & assistance**

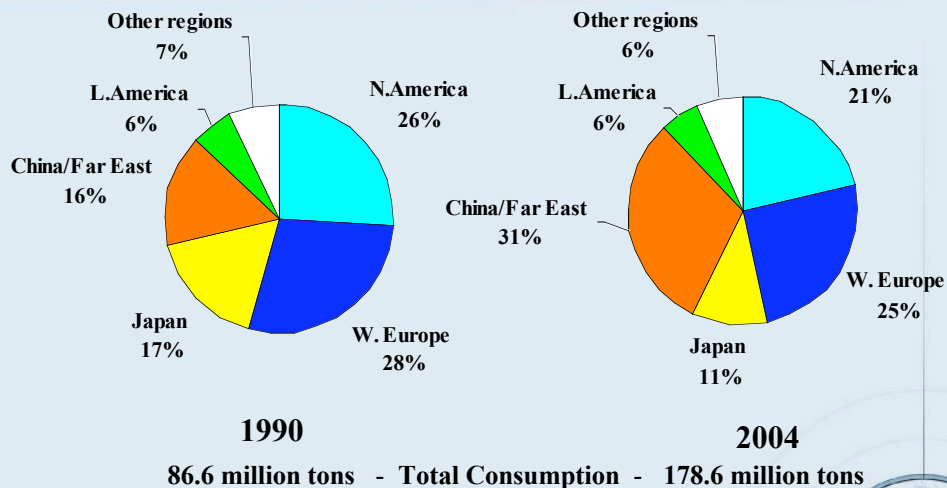


Market Trend Summary

- US is the breadbasket of the world – recovered paper grades are global commodities on a world market
- Paper recycling undergoing fundamental change: economic globalization, paper industry consolidation, document destruction, digital revolution, new technologies
- North American market driven by economics & export; renewed policy-driven world is still possible, but public spending increasingly remote

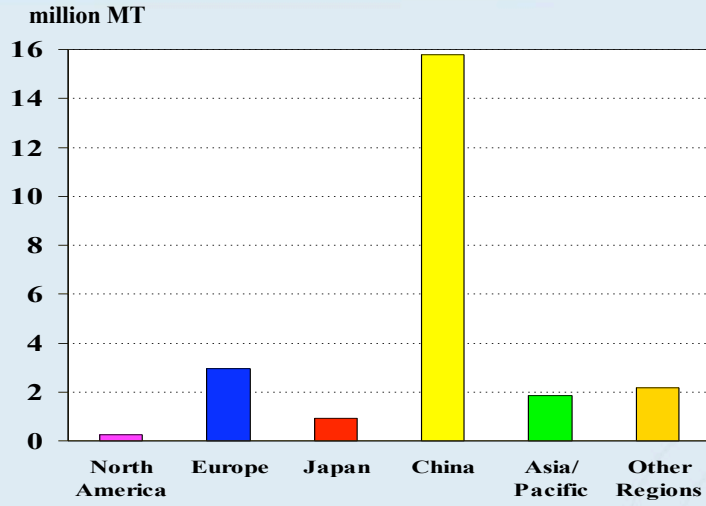
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Regional Share of Recovered Paper Consumption



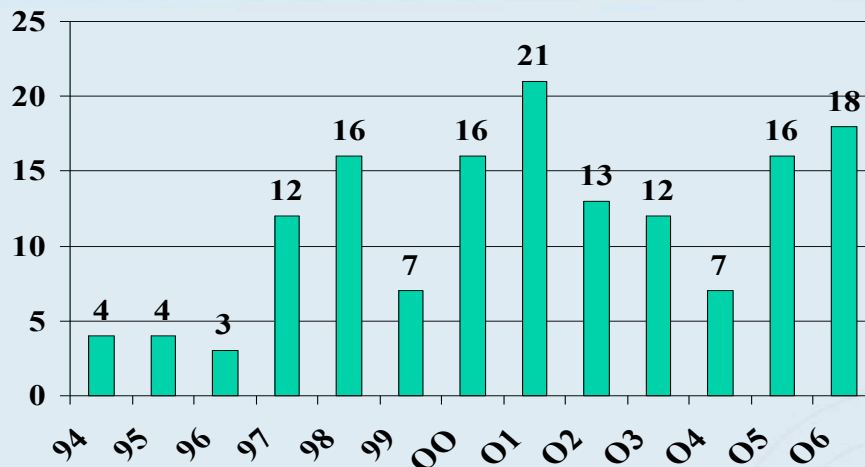
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Global Investment in Additional Recycling Capacity 2005-2009



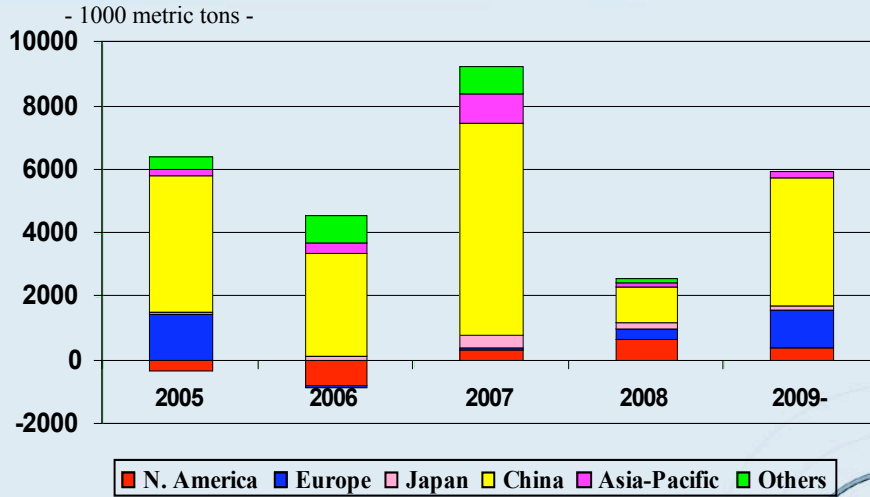
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US Paper Mill Closures

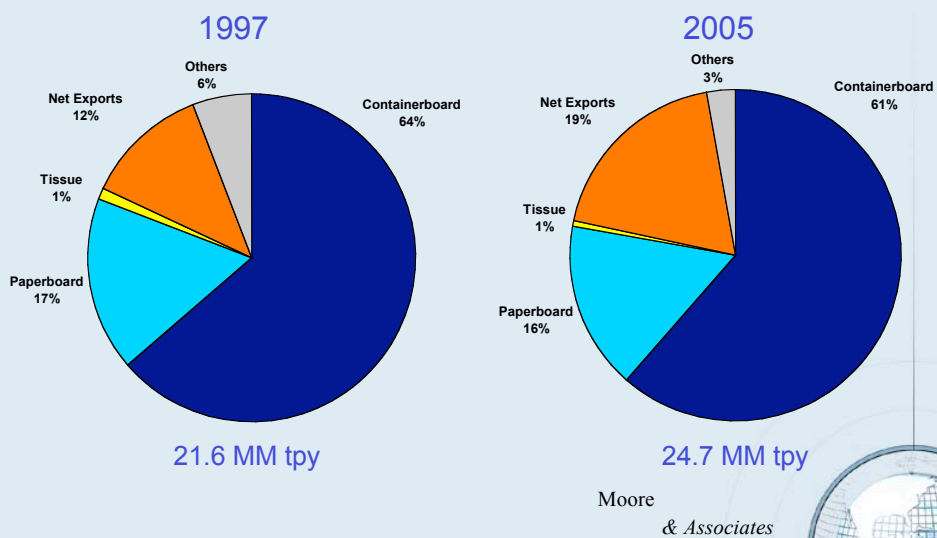


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Timing of Announced Recycle Mill Projects



OCC Demand



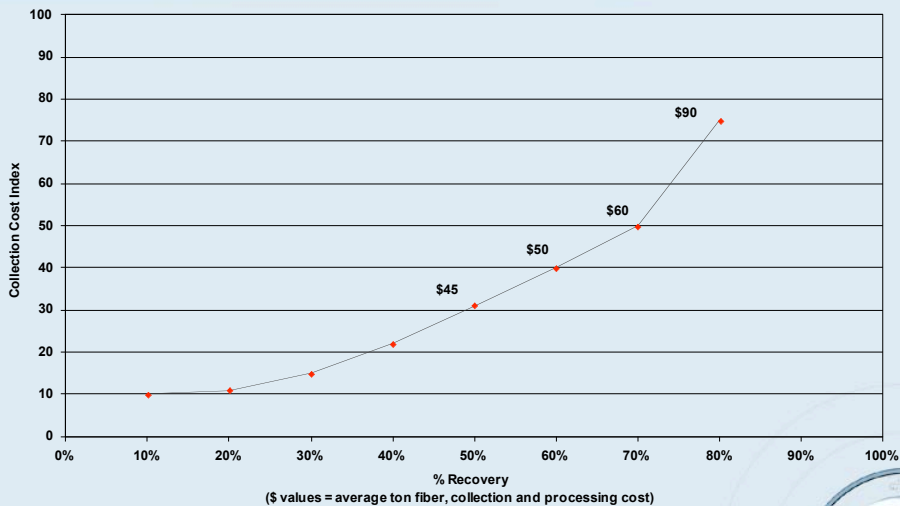
Market Trends – OCC

- Recovery & price are driven by supply-demand economics
- Easy to get sources are all recovered; but any trip to the landfill shows a lot of OCC still disposed
- Residential & small commercial sources under-recovered; too expensive to collect as OCC only

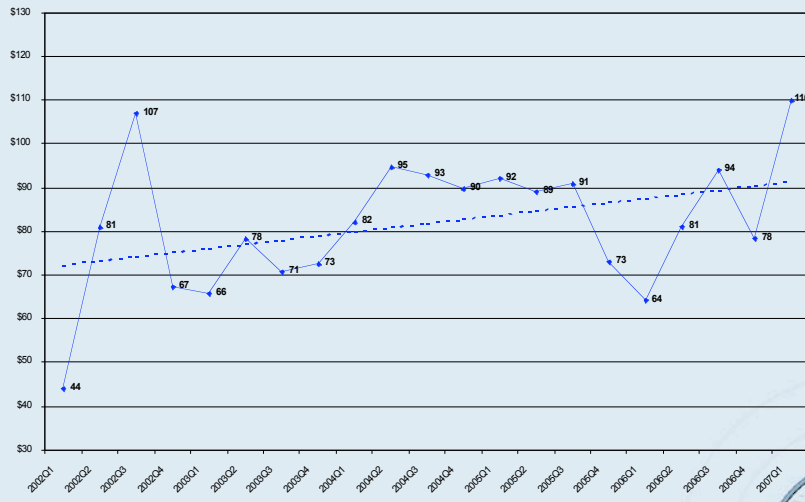
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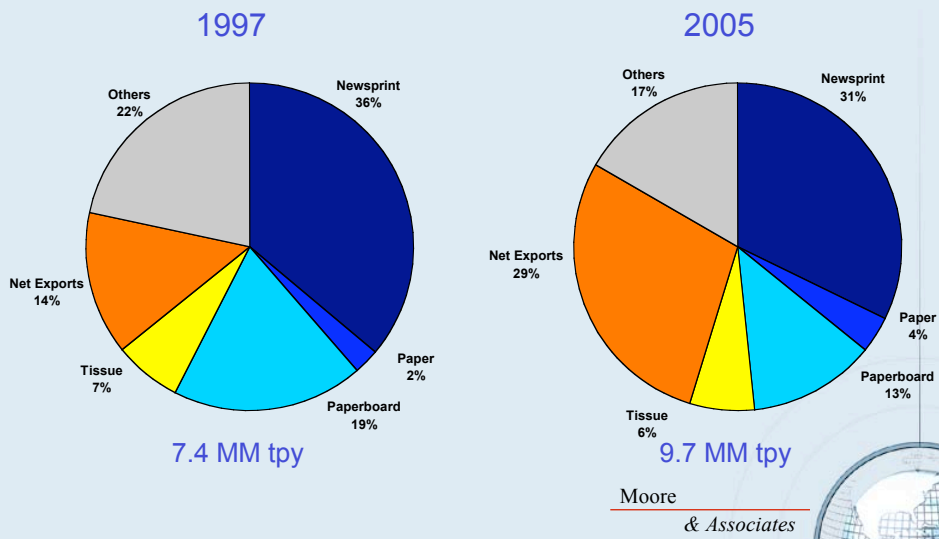
OCC Recovery Cost Impact



US Average OCC Pricing



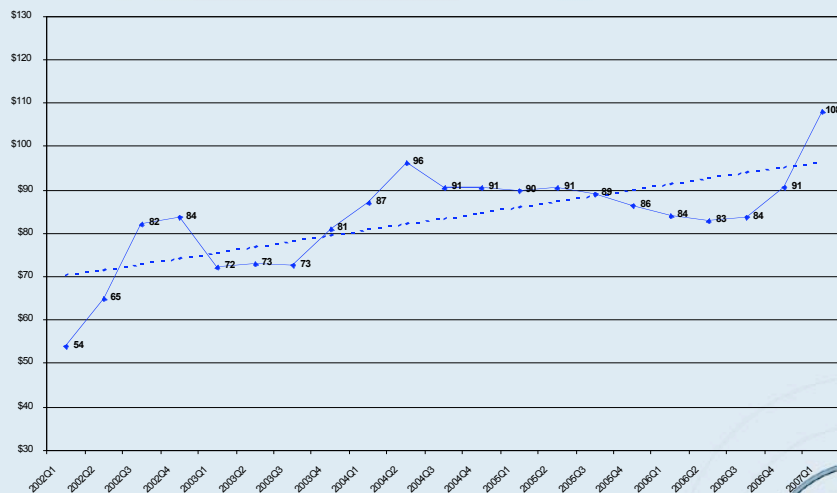
ONP Usage (Demand)



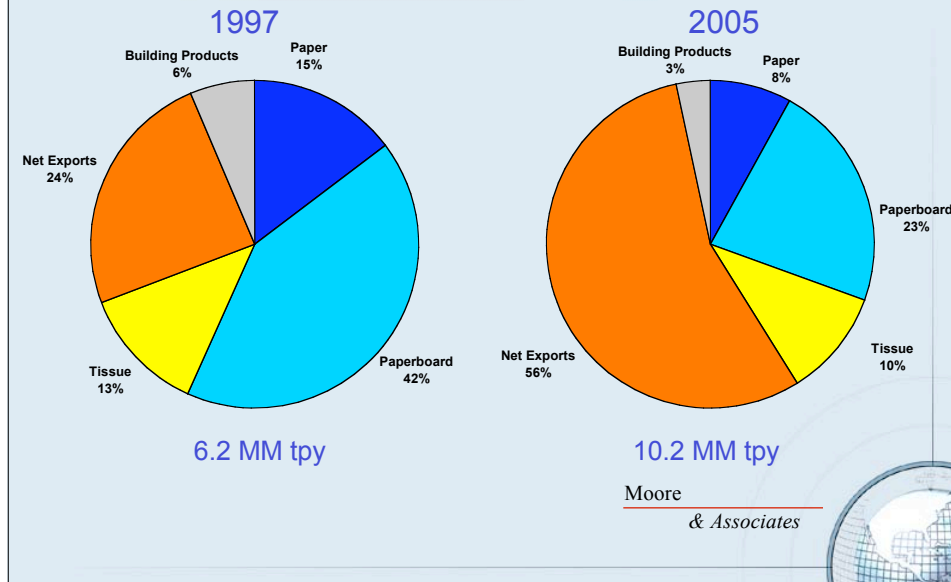
Market Trends – ONP

- Declining US newsprint supply; increase worldwide recycle capacity; steady NA recovery rates = continued price trend
- Wall Street Journal (2nd largest UR newspaper, USA Today is 1st) recently reduced it newsprint use by 15%!
- ONP Recovery is not price sensitive; public sector collection programs are “inelastic”
- Economics & efficiency are focus of public sector; policy & recycling goals of diminishing importance
- Transition to mixed collection will continue; somewhat higher recovery, lower ONP quality, more mixed fiber

US Average ONP Pricing



Mixed Paper Usage (Demand)

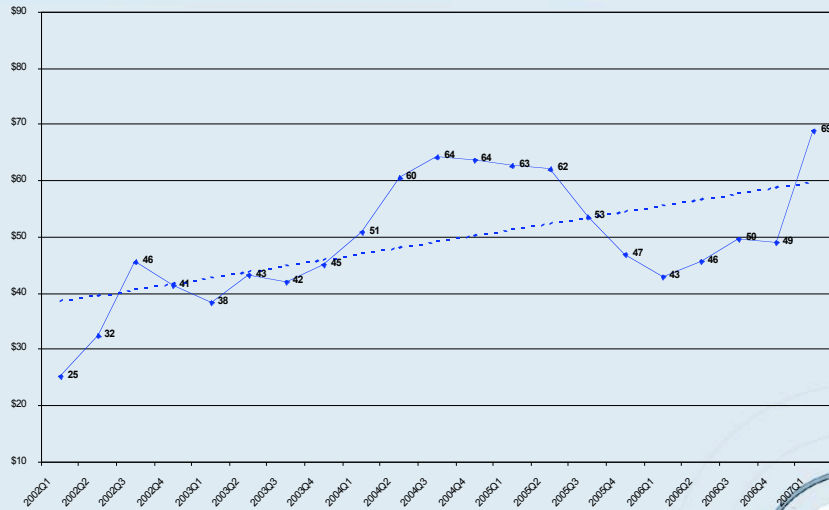


Market Trends – Mixed Paper

- **Overseas state-of-the-art mills & fiber sorting have increased demand and price.**
- **Few domestic mills can use large percentage of Mixed Paper of the current quality**
- **US recovery rate comparable to ONP in 1980s (30%);
an opportunity for new recovery strategies**
- **Mixed Paper – only remaining, under-recovered source of fiber; low value & quality concerns**

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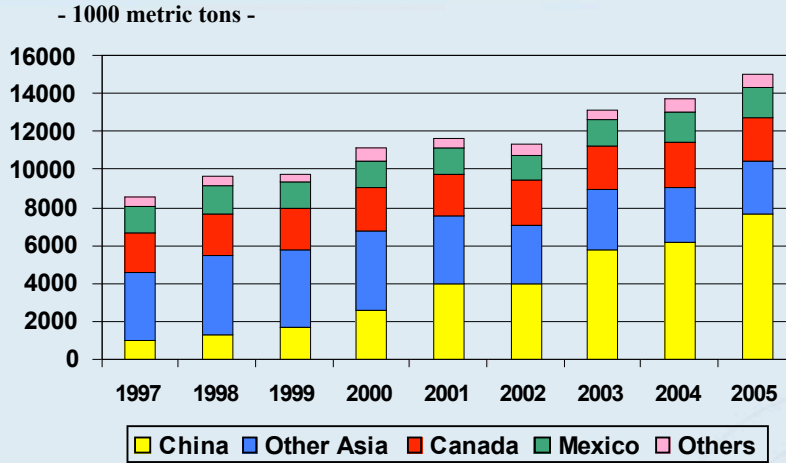
US Average Mixed Paper Pricing



Under Recovered Tons (URT)

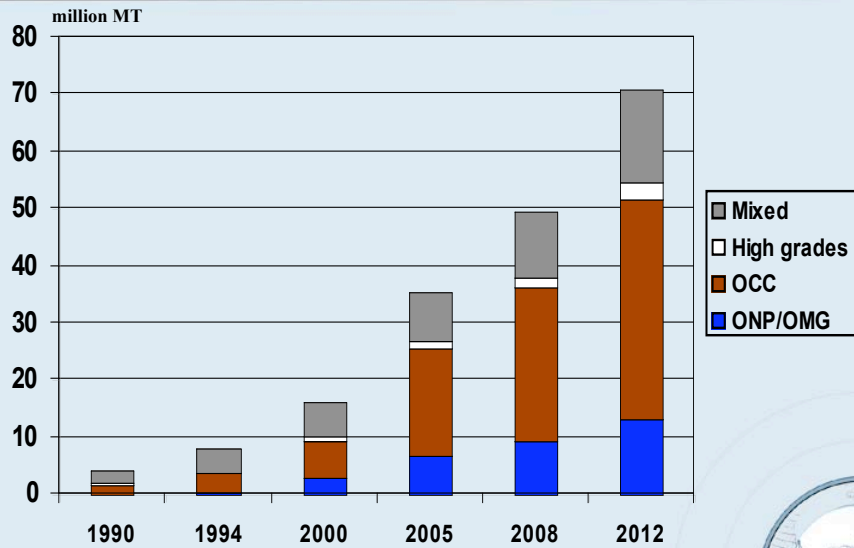
- **Large variation in recovery of paper (lbs/household/year):**
 - Philadelphia = 103
 - Baton Rouge = 151
 - Los Angeles = 231
 - Tallahassee = 304
 - Phoenix = 486
 - Seattle (South) = 505
- **Comparison of US to others:**
 - US = 231
 - Quebec = 220
 - Ontario = 300
 - Germany = 700
- **Programs have low participation, low public awareness, limited funding support, little incentive to improve when recycling is perceived as costly**

US Recovered Paper Exports by Main Destination

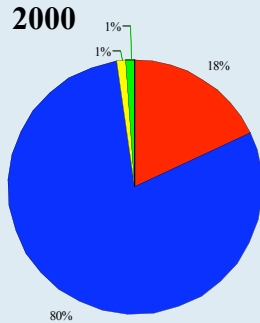


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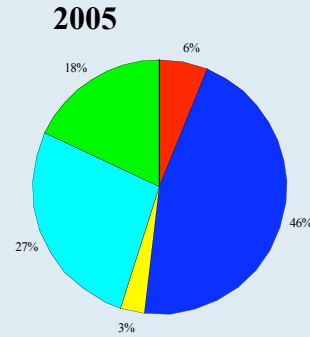
Chinese Consumption of Recovered Paper by Grade



China Recovered Paper Imports by Region



■ Asia Far E ■ N. America ■ Oceania ■ Japan



■ Asia Far E ■ N. America ■ Oceania ■ W. Europe ■ Japan

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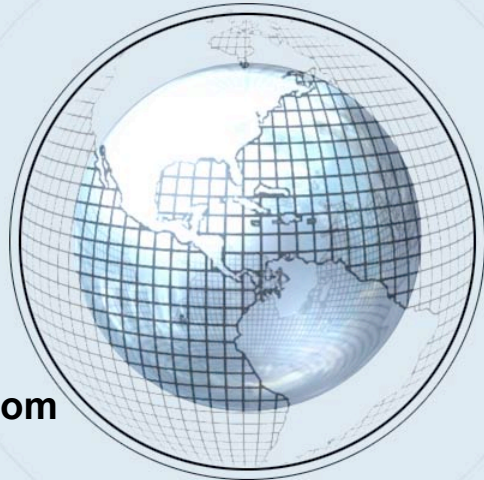
Influence of China on US Recovered Paper Market

- Now the largest importer of US recovered paper – exceeds Mexico and Canada
- More paper machines to come on line, with more planned reliance on US recovered fiber
- Over 40% of China's imported recovered paper comes from the US
- Has driven the US market for several years
- Imports more Mixed Paper than OCC

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**Thank You for Your
Attention**

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