

HALIFAX

Recycling Market Conditions

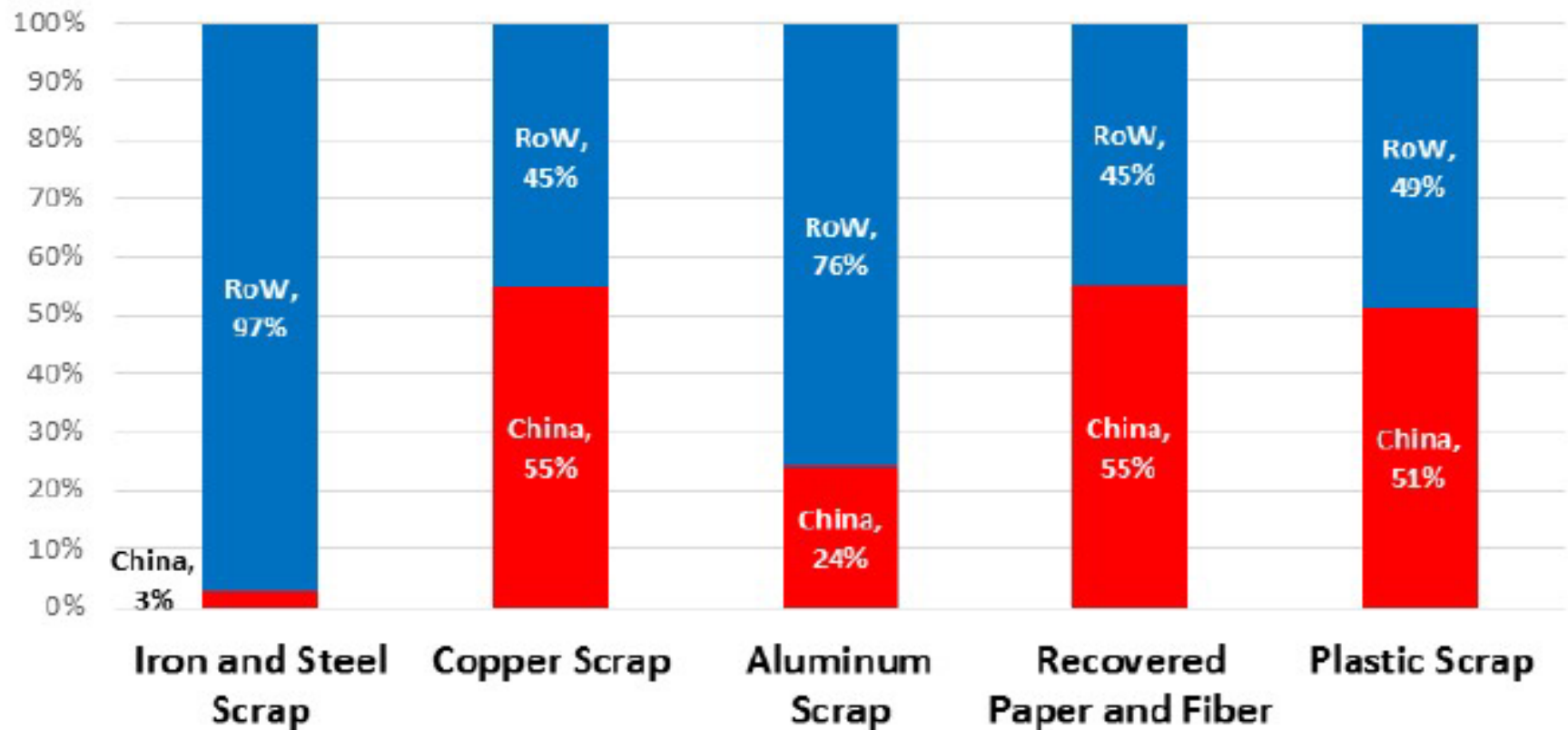
December 7, 2017

Chinese Recycling Markets

- China is an important recycling market
 - Largest paper recycler with 55% of global supply
 - Largest plastic recycler with 51% of global supply
- Operations “Green Fence” and “National Sword” initiatives
 - Target shipments which contain garbage / contaminated recycling
 - Reduce pollution, smuggling and illegal imports
- 2016/17 Halifax Recycling Revenue
 - \$2.1 million revenue from the sale of recyclables
 - \$1.6 million came from Chinese markets

Mainland China's Share of Global Imports for Selected Recycled Commodities, 2016(p)

Source: UN Comtrade Database



China Import Ban

- On July 18, 2017, Chinese officials notified the World Trade Organization that:
 - By the end of 2017, China will forbid the import of 24 kinds of wastes, including:
 - plastics waste,
 - unsorted paper,
 - textile materials.
- China has stated these sanctions are being implemented to improve their overall environmental state and domestic recycling programs.

Multi-prong strategy by China to:

1. Prohibit import of “solid waste with major environmental hazards & intense public reaction by the end of 2017”
2. Halt imports that can be replaced w/ domestic resources by end of 2019
3. Stricter contamination thresholds for importation - 0.3%
4. 100% customs inspections to reduce smuggling/illegal wastes
5. Refine laws, regulations & related systems and reduce import licenses (crackdown on non-compliant recycling operations)
6. Increase domestic recycling to develop a circular economy

Halifax to Chinese Markets

- China has been a strong market for Halifax's recyclable materials.
- 70% of Halifax's recyclable material revenue is from China.
- Halifax requires brokers to declare that receiving sites have:
 - Appropriate permits,
 - Health and safety programs,
 - and the end use for the material being sold.

Nova Scotian Context

- Nova Scotia has a landfill disposal ban on materials
 - Corrugated cardboard, Newsprint,
 - #2 HDPE non-hazardous containers (ice cream containers, plastic jugs, detergent bottles, etc.)
 - Low density polyethylene bags and packaging
- No other Province has landfill bans and therefore municipalities can dispose of materials when markets are not available.
- Nova Scotia does not have Extended Producer Responsibility (EPR) for packaging to help fund the cost of recycling collections and processing.
 - Municipalities taxpayers are responsible for all costs.
- British Columbia has EPR and is able to recycle film plastic.
 - Program is paid for by product stewards

Impact to Current Operations

- To date no materials have been landfilled.
 - Film plastic being stored on site is not marketable.
 - In August as an emergency outlet Miller Waste requested permission from NSE to landfill the degraded and unmarketable film plastic currently on site.
 - No decision has been provided.
 - If approval is not provided within the next week:
 - Seek storage options
 - Export to other jurisdictions to landfill
- Facility is at capacity
 - Health and safety concerns

Impact to Current Operations

- There is currently no impact to the service provided to residents.
 - Collections and source separation status quo
- General measures taken at the MRF:
 - Processing lines slowed to allow better quality control;
 - Additional quality control staff have been added;
 - Staff meetings to explain importance of quality sorting.
- Quality = Available Markets
- 2018/19 sales revenue budget decreased by \$800,000

What next?

- Film plastic will be moved offsite.
- Work towards highest quality product to drive demand
 - Review facility technology and processes
 - Education, Education, Education
- Continue to monitor and adapt to the Chinese market and commodity prices.
- Ultimately there is a need to be less dependent on overseas markets and use domestic facilities.
- Halifax to continue to promote the implementation of EPR.

Thank you.

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