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Environment and Sustainability Standing Committee
November 2, 2017
December 7, 2017

TO: Chair and Members of Environment and Sustainability Standing Committee

Original signed

SUBMITTED BY:

Bruce Zvaniga, Transportation & Public Works

DATE: October 12, 2017

SUBJECT: **Recycling Market Conditions**

INFORMATION REPORT

ORIGIN

This is a staff-initiated report.

LEGISLATIVE AUTHORITY

Part IV of Halifax Regional Municipality Charter, Clause 79(1) provides that "Council may expend money required by the municipality for collecting, removing, managing and disposing of solid waste".

BACKGROUND

Blue bag recyclable materials collected curbside within Halifax as well as the Industrial, Commercial and Institution sector (IC&I) collected materials are processed and marketed by Miller Waste Systems from the Halifax owned Materials Recycling Facility (MRF) in Bayer's Lake. Under the existing contract, Miller Waste is paid \$125 per tonne to process the recyclables and receives 25% of the sales revenue. Halifax receives the remaining 75%. Materials such as paper and various types of plastic are predominately sold overseas into China for recycling. In 2016/17 HRM's sale of recyclable material to China was \$1,660,000. HRM's total recycling revenues in 2016/17 were \$2,166,000. As part of Solid Waste's due diligence with the sale of recyclable materials, marketing brokers are required to provide end market declarations. These declarations contain criteria such as the receiving sites having appropriate permits, health and safety programs and the use for the material being sold. A declaration has been attached to this report.

China is an important recycling market for western countries. Within the plastic scrap and recovered fibre import market China imports 51% and 55% respectively of the global supply. China is the world's largest paper recycler. As of February 2017, China has increased inspections of imports aimed to crack down on polluting activities, smuggling and importers using illegal permits to ship waste into the county. Enforcement campaigns, known as "Green Fence" and "National Sword" have been introduced to target shipments which contain non-recyclable material (garbage) to comply with enhanced material quality standards.

DISCUSSION**Current Market Developments**

On July 18, 2017, the Ministry of Environmental Protection of the People's Republic of China issued notice to the World Trade Organization (WTO) that¹: 'By the end of 2017, China will forbid the import of 24 kinds of wastes, including plastics waste from living sources, vanadium slag, unsorted waste paper and waste textile materials.' China has stated they are implementing these sanctions to improve their overall environmental state, including domestic recycling programs and resources.

Included in the categories of materials affected by this policy are materials captured in Halifax's blue bag collection program: LDPE (film plastic) mixed plastics (rigid containers, clamshells, thermoforms) and mixed paper (newspaper, office paper, boxboard).

Recycling industry stakeholder groups have been attempting to define terms such as 'scrap' vs 'waste' with the Chinese government. Processed material (i.e. clean and dry plastic flakes) will continue to be permitted. It is the general understanding that loads containing < 0.3% contamination (up to 1.5% including residue) will be permitted. This threshold is unachievable for most MRF operations in North America to meet including Halifax's.

In addition to prohibiting material entering China, the Chinese government has not been issuing or renewing processing mill licenses. The government has also been decreasing the allowable tonnage at the existing permitted sites. This effectively reduces and may potentially eliminate the markets for imported scrap resources in China.

How is this impacting Halifax?

Halifax Solid Waste staff have been working closely with Miller Waste to prepare for the ban. Solid Waste staff are also monitoring communications from industry stakeholder groups and liaising with our municipal counterparts around the province to seek partnership market opportunities. Given the short notice and lack of detail from the Chinese government, industry is still unsure of the impact from the new measures.

Currently at the Halifax MRF approximately 71% of material processed (by weight) is fibre (paper and cardboard), 6% film plastic and 4% mixed plastic. These three items will be affected by the restrictions in China. Halifax exports 85% of our mixed paper to the Chinese market. Although the ban indicates implementation at the end of 2017, there is the possibility inspections may become more stringent, or the implementation date may change. Transporting material from Halifax to China takes approximately three months. There is a risk that material currently on route will be rejected or there will be no buyers to take the material. Container shipping line Hapag-Lloyd, the 5th largest container line, advised its customers it would stop accepting plastic and paper from Europe, US and Asia due to arrive at Chinese ports after December 31, 2017.

Solid Waste staff and Miller Waste are pursuing all contacts and avenues to find alternate markets. Domestic markets are being leveraged where possible, but with other MRFs in North America in the same situation, this is becoming a challenge. Additionally, the following general measures have been taken on all sorting lines at the Halifax MRF:

- Processing lines have been slowed down to allow for better quality control;
- Additional quality control staff have been added;
- Meetings have been held with sorting staff to explain the importance of quality sorting and the potential consequences.

¹ http://english.sepa.gov.cn/News_service/media_news/201707/t20170720_418174.shtml

LDPE (Plastic bags/shrink wrap)

Miller has been notified the overseas market for film plastic will not receive material for another 8 weeks due to the delays being experienced in China. With minimal to no markets available in North America Miller has been exploring opportunities for alternative uses (cement kiln fuel and waste to energy) instead of landfilling the material. On August 30, 2017, Miller Waste requested permission from Nova Scotia Environment (NSE) to landfill LDPE as inventory has exceeded storage capability. Permission is required as LDPE is identified as a material banned from landfill disposal in Nova Scotia. As of the date of this memo, no response has been received from NSE.

Mixed Plastic (#1-7 rigid plastic containers)

Miller is currently successfully marketing tubs and lids which are a higher-grade plastic. Similar to LDPE, other opportunities have been explored for thermoforms (clam shells), black plastic (roast chicken trays) and other non-food grade plastics.

ONP/OCC

Paper mills that accept cardboard are also being flooded with material as exports have stopped. The market conditions mean mills will demand higher quality (less contamination) and may reject any loads they deem not to be perfect. There is also the ability for mills to charge a fee to accept regions recyclable material, rather than pay for the product. Miller has started shipping to domestic markets where possible, to avoid potential penalties overseas and to ensure the product is recycled.

Solid Waste Regional Chairs

Councillor Mancini tabled a motion, which was endorsed, at the Provincial Solid Waste Regional Chairs Committee on October 20, 2017. The overall intent of the motion was for municipal and provincial staff to work collaboratively to identify and develop alternate markets and solutions to ensure materials are successfully marketed and diverted from landfill.

FINANCIAL IMPLICATIONS

Based on the current sales revenue budget of \$1,600,000 (R330 – MRF) there is no estimated net financial impact when the Chinese markets are closed. Historically staff have conservatively budgeted sales revenue figures as market conditions can fluctuate. With the continued uncertainty around marketing issues the forecast is subject to change.

If the markets are closed in 2018/19 the net financial budget impact for HRM is estimated to be between \$600,000 to \$2,400,000. The \$600,000 figure is based on lost sales revenue and alternate markets taking the material at a lower price. The \$2,400,000 figure is based on lost sales revenue and the added cost to landfill and/or send the items to processing facilities who charge to accept the materials at approximately \$50/tonne. For the 2018/19 budget in R330 the revenue sales figure is currently forecasted to be reduced from \$1,600,000 to \$800,000.

COMMUNITY ENGAGEMENT

No community engagement was conducted in the preparation of this report.

ATTACHMENTS

Attachment A - Due Diligence Questionnaire

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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Due Diligence Questionnaire for End Markets

	Question	Yes	No	Comments
1	Will the recyclable materials be exported out of Canada? If yes, then name country of destination in comments section.			
2	Will the importer of the recyclable materials be recycling the material directly? If no, explain who will be recycling the material.			
3	Is the receiving facility licensed and permitted by the relevant local regulatory authorities?			
4	Does the receiving facility conform to international labour laws? (e.g., ILO) standards?			
5	Does the receiving facility have a health & safety program?			
6	Are the workers at the receiving facility protected from unsafe work practices?			
7	Is the receiving facility environmentally responsible? (e.g., waste water discharges, air emissions; is waste from the recycling process disposed of in a responsible manner, etc?)			
8	Does the receiving facility employ any child labour (workers under the age of 15 years old)?			
9	Does the receiving facility use forced labour in any way? (e.g., prison labour, debt bondage, etc.)			
10	What happens to the material once it reaches end market, what types of materials are manufactured from this product?			

Name of Company Purchasing Recycling Material

_____ Position _____

Signature of Authorized Person Signing for Company