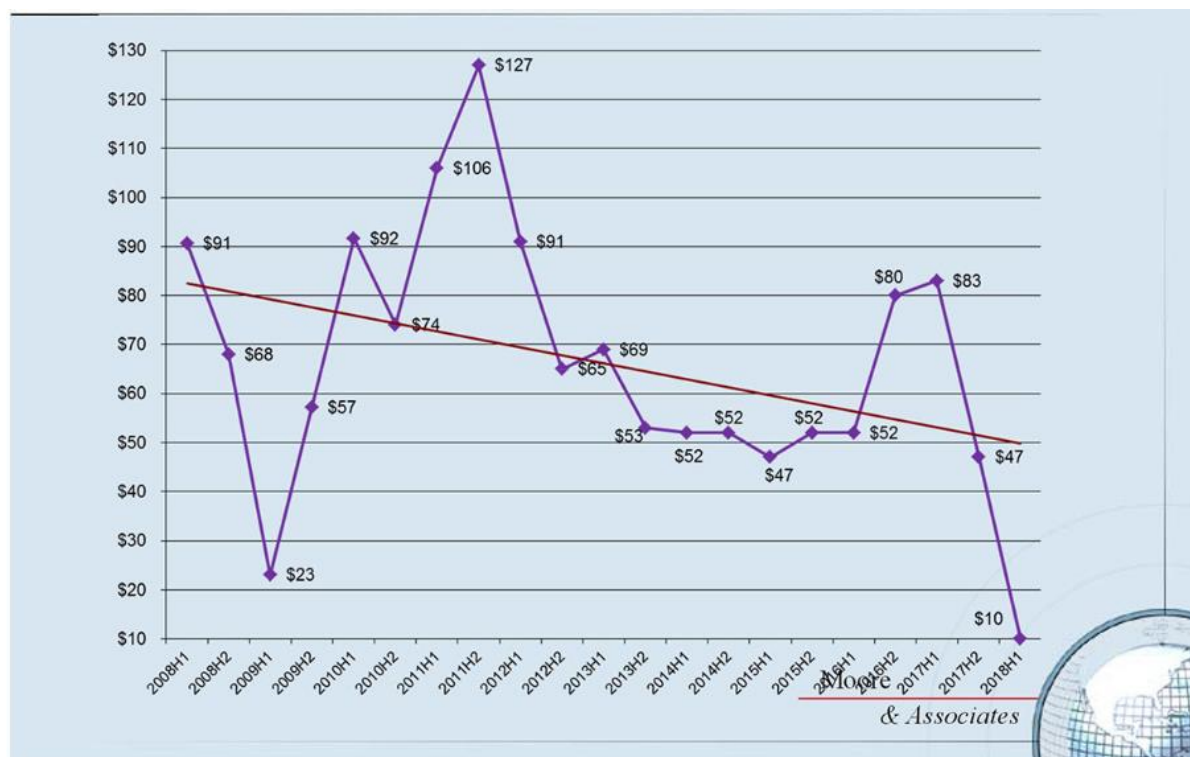


## Recycling Materials and Markets

### Cardboard and Mixed Paper

The biggest impact of new policy from China has been the disruption of recovered paper fibre markets, which constitutes the largest amount of marketed material by weight in most curbside programs. In the last year, the average price per tonne for cardboard has declined by up to 45%, and for mixed paper by close to 200%. An Industry Post-consumer Pricing Index had mixed paper at an average low of \$1.56 per ton, down from \$71 per ton one year ago<sup>1</sup>. Figure 1 shows US industry trends from 2008 to 2018.

Figure 1: US Average Mixed Paper Prices (Baled - \$/ton)<sup>2</sup>



### Plastic

Due to low oil prices, market prices for plastics have fallen significantly as using virgin materials has become consistently more cost-effective than sorting and processing recycled material. The only plastic with value as of June, 2018, was HDPE (Plastic 2)<sup>3</sup>.

<sup>1</sup> Resource Recycling . (2018, August 14). *The latest pricing for baled paper and plastics*: <https://resource-recycling.com/recycling/2018/08/14/the-latest-pricing-for-baled-paper-and-plastics/>

<sup>2</sup> Waste 360. (2018, July 26). *The Current State of Recovered Paper Markets*: <https://www.waste360.com/financials/current-state-recovered-paper-markets>

<sup>3</sup> Recycling Council of Alberta. (2018, June <https://recycle.ab.ca/resources/market-updates/>). RCA.

Plastic film and black plastic are the lowest value commodity plastic items. Issues and information about the decision to remove plastic film from Saskatoon's recycling program are further described in Attachment 3. Black plastic comprises about 0.25% of the material stream. It is currently being landfilled due to no viable recycling options. A decision on whether to continue to include this material as an acceptable item will be considered at the end of the current contract term with Loraas. As is shown in the table below, most municipalities have not removed black plastic from their programs as the education effort is not worth the small amount that is received.

Table 1: Municipal Scan of Acceptable Material in Curbside Programs:

	Glass	Plastic Bags and Film	Black Plastic	Contamination Rate <sup>4</sup>
Saskatoon	Yes	No*	Yes	10%
Regina	Yes	No	Yes	11%
Winnipeg	Yes	No	Yes	13%
Calgary	Yes	Yes	Yes	13%
Strathcona County	No	No**	Yes	
Toronto	Yes	Yes	No	26%

\* Removed from program on April 1, 2018

\*\*Taking effect on September 10

## Saskatoon Curbside Recycling Material Characterization

Table 2 shows a breakdown by material of tonnages in the curbside recycling program from 2013 to 2017. Contamination is defined as non-recyclable material (such as garbage) placed in the recycling cart by the resident. Residual materials are recyclable but cannot be captured during the sorting process, often because they are too small. As shown, paper and cardboard make up over 70% of total material.

<sup>4</sup> Chung, E. (2018, April <https://www.cbc.ca/news/technology/recycling-contamination-1.4606893>). CBC News.

Table 2: City of Saskatoon – Curbside Recycling Material Breakdown  
(Using program characterization information from 2013 to 2017)

<b>Material</b>	<b>Percent % (by weight)</b>
Cardboard and Paper Total Newspaper (26.5%) Cardboard (21%) Mixed paper (25.8%)	73.3%
Metal Total Tin (1.85%) Aluminum (0.30%)	2.2%
Plastic 1-7 Total Plastic 1 (1.47%) Plastic 2 (1.85%) Plastic (Mixed) 3, 4, 5, 6, 7 (1.56%) Plastic Film (1.77%)	6.7%
Beverage Deposit	1.5%
Glass Total Unbroken glass (0.6%) Broken glass Total (3.3%)	3.9%
Contamination	8%
Residuals	4.4%
<b>Total</b>	<b>100%</b>