



## **Recycling is Broken**

*The need for change...*



# Today's Agenda

- China Sword Explained
- Impacts
- Immediate Actions Needed
- Partnering for Long Term Success

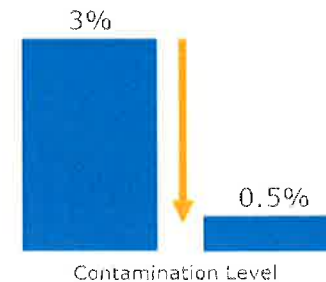
Replacing a fundamentally broken business model with a durable and transparent partnership

# China Sword Explained

For decades, China has been the largest importer of the world's recycled commodity, and the U.S. was 40% of the inbound stream.

In 2017, China announced efforts to clean up the country, which included dramatic changes for acceptance criteria of imported recyclables.

- A significant reduction in acceptable contamination levels (From ~3% to 0.5%) in any recovered paper and plastic grades.



- Additionally, China banned all mixed paper from import, regardless of contamination levels. (20% of historical stream).

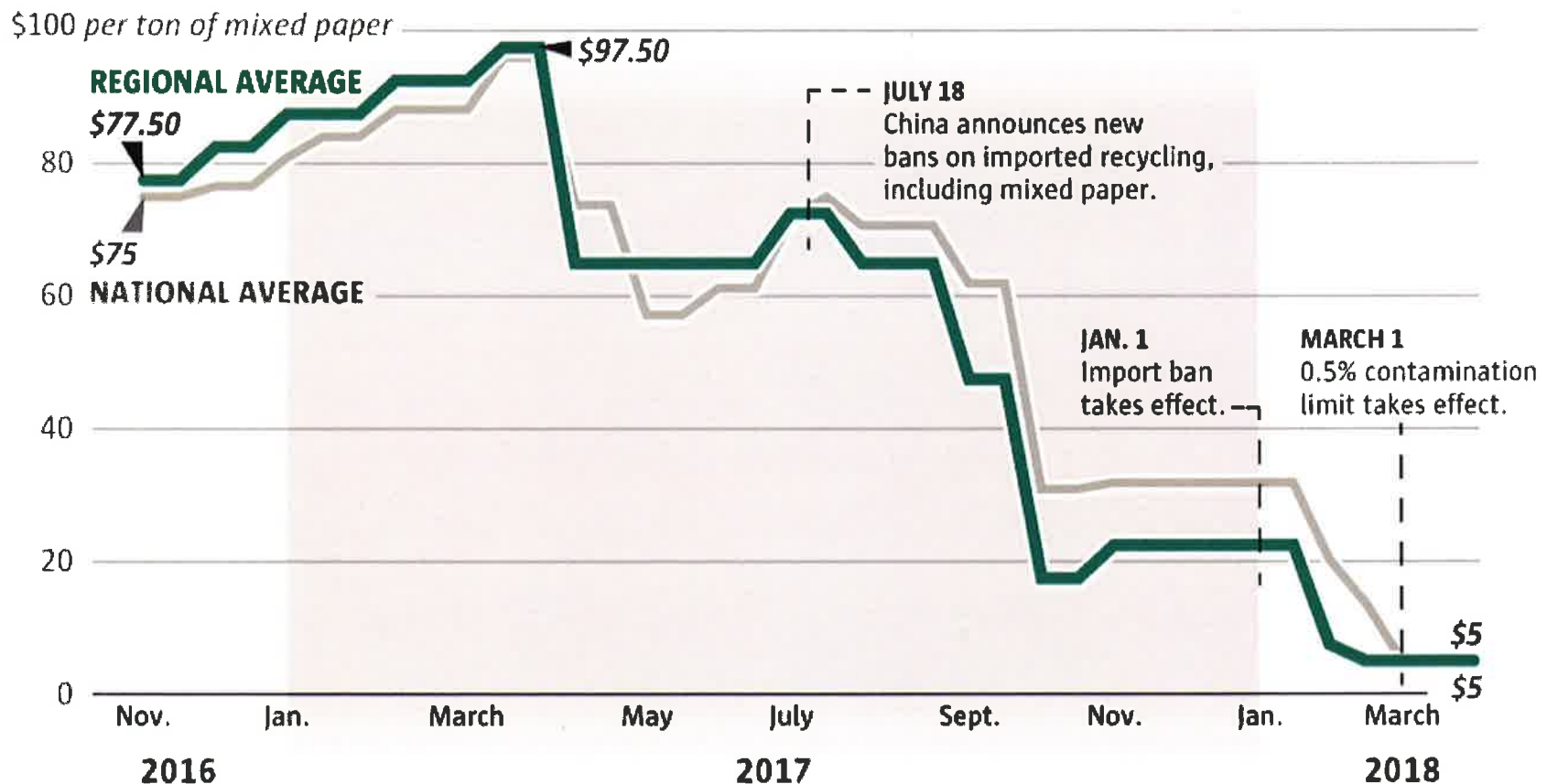


Reductions took effect in March 2018, and drive costs and changes at most recycling facilities in the country to meet new standards

# Market Impacts of China Sword

## China closes the door, prices crash

The average price paid to recyclers for a ton of mixed paper in the Pacific Northwest and across North America has plummeted in the last year.



Source: RecyclingMarkets.net

EMILY M. ENG / THE SEATTLE TIMES

# China Sword Immediate Impacts

- Adjusted processing speeds to improve quality of sorted material
  - As a result, some facilities are unable to handle daily material volume
- Adding human resources to our sort lines, and increasing self-inspections to further reduce contamination
- Exploring investments in newer, more accurate sorting technology (in select markets)
- Actively exploring other domestic and international markets
  - Many are flooded by the global industry shifting away from China



Jan 2018 – Processed bales in Northwest, without market buyers, deteriorated by weather

While we continue to process mixed paper and old newsprint, we are proactively evaluating the need to dispose of excess material that deteriorates beyond the point of commercial value, or poses safety risks



# Long Term - Public Education

## 1. Public Education – *WHAT* to Recycle

ALWAYS Recyclable	NEVER Recyclable	SOMETIMES Recyclable (Select Markets)
<p>Paper</p>  <p>Plastic</p>  <p>Metal</p>  <p>Cardboard</p> 	<p>Diapers</p>  <p>Garden Hoses</p>  <p>Shoes/Clothing</p>  <p>Food Waste</p>  <p>Yard Waste</p> 	<p>Plastic Bags</p>  <p>Glass</p> 

## 2. Public Education – *HOW* to Recycle

**Empty.** Remove any remaining food or liquid contents from your recyclable item before placing it in a recycling container;

**Clean.** Lightly rinse the recyclable item to remove any remaining residue; and

**Dry.** Gently shake out excess water or let the recyclable item air dry before placing it in a recycling container.



Empty.



Clean.



Dry.

# Long Term - Reassessment of Accepted Materials

- Programs have drifted to focus on total diversion rates, rather than what materials are truly beneficial to recycle
- Some collected materials are recyclable, but lack local end markets, or have a negative recycling value. These realities render the processed materials unmarketable
- Municipalities need to shift program focus to Sustainable Materials Management-based views, which looks at the overall benefits of each accepted material in the stream.



Glass has a negative value to recycle



Some packages have evolved to less marketable materials

Recycling programs must focus on Sustainable Materials Management, not simply diverting material that may have no beneficial use

# New Recycling Business Model

## The Cost of Recycling

Collection	Processing	Residual	Commodity Sales
<ul style="list-style-type: none"><li>• Cost to provide truck, driver, container and scheduled collection service on contracted basis</li><li>• Collected material transported to processing facility</li></ul>	<ul style="list-style-type: none"><li>• Capital &amp; labor intensive process</li><li>• Comingled material sorted into separate products, removing contamination</li><li>• Clean products baled and prepared to ship</li></ul>	<ul style="list-style-type: none"><li>• Contaminated or non-recyclable material</li><li>• No marketability</li><li>• Must be transported and disposed at landfill for a cost</li></ul>	<ul style="list-style-type: none"><li>• Processed material transported and sold to end markets</li><li>• Subject to quality standards</li><li>• Product mix and quality drives value</li><li>• Some material may have negative value</li></ul>
Monthly Collection Charge	+ Net Processing Fee (Commodity sales – processing costs – residual cost)		

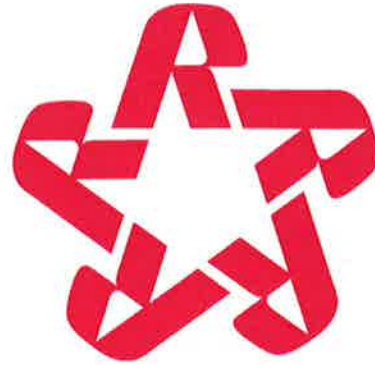
The cost of a recycling collection program is the sum of the **Collection Charge** and the **Net Processing Fee**



## Next Steps

- Reassess Rate Structure to address shortfall due to increased processing costs that are no longer covered by commodity revenues
- Reassess Equipment Enhancement and Timetable
- Enhance Public Education programs to inform residents what to recycle and how to recycle – clean up the contamination in the stream and reduce moisture

The decades old recycling model is no longer executable or viable. Immediate partnering is needed, as well as a new business model



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