

# **Scott Pasternak**

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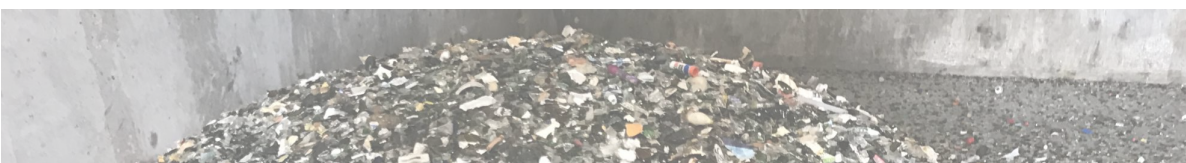
# CURC Campus Recycling Workshop

**Scott Pasternak**

October 15, 2017







# Presentation Overview

- Introduction
- Economic Drivers
- Market Drivers
- Material Recovery Facility (MRF) Technology Impacts
- “Super Size Me” Effect
- Findings & Recommendations



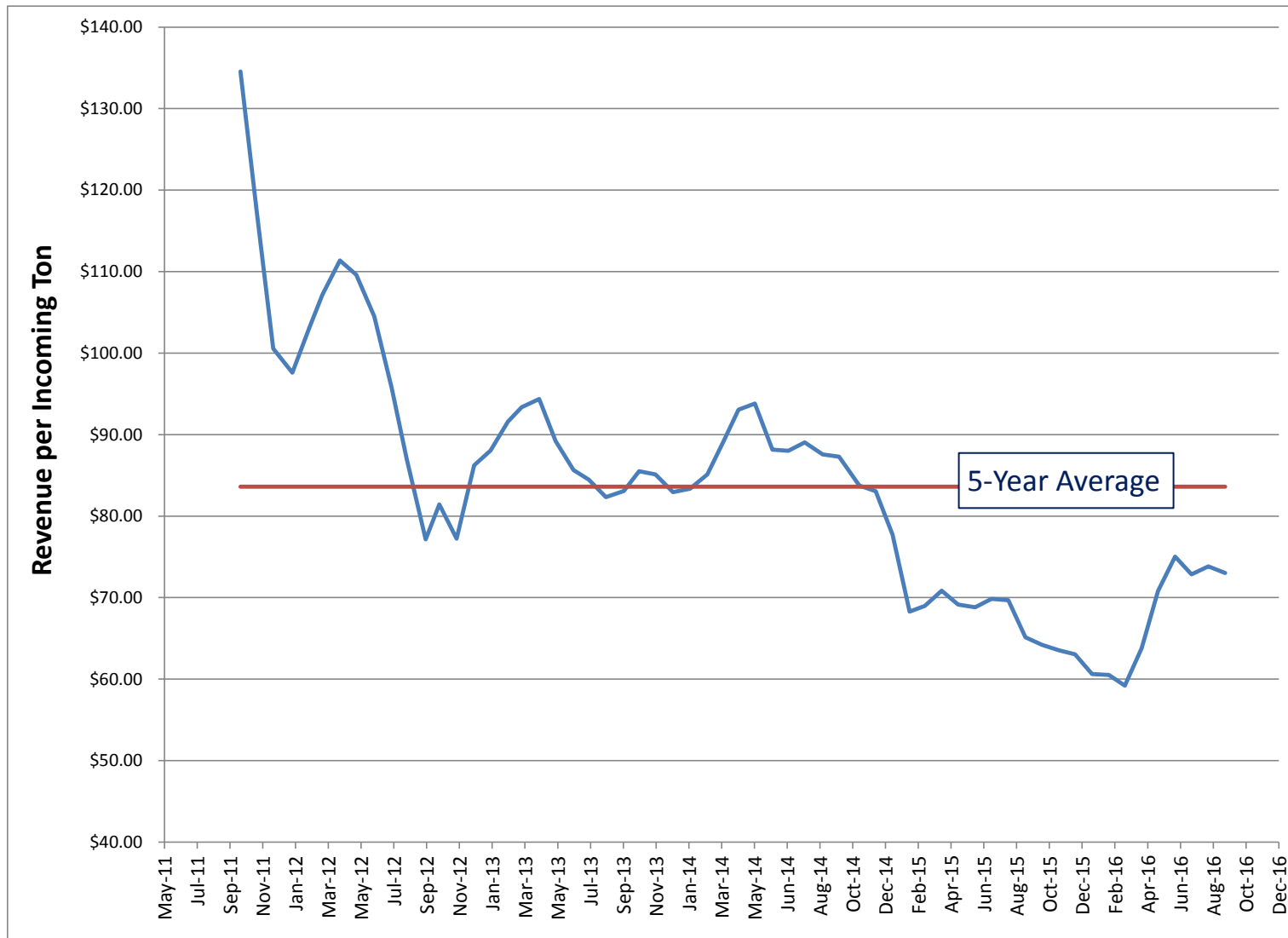
# Economic Drivers

# 2008-2009 Market Crash: Long-term Financial Impact

- ▶ Commodity values plummeted from all time highs to historic lows in a matter of weeks
- ▶ Crisis drove recycling processors to reconsider their financial approach to allocate more risk to local governments
- ▶ Financial benefits to local governments have decreased due to lower trending commodity values and higher processing fees



# Commodity Values Create Economic Pressure



# The Cost of Contamination

Financial terms often include a processing fee and revenue share

- ▶ **Processing fees increasing:**  
compensate processors for cost to provide service, current typical range of \$60–90 per ton; compared to \$30 – 40 prior to 2008
- ▶ **Revenue share increasing:**  
Based on market prices for recyclable materials, typical range of 40–90 percent; but values typically less than in 2008

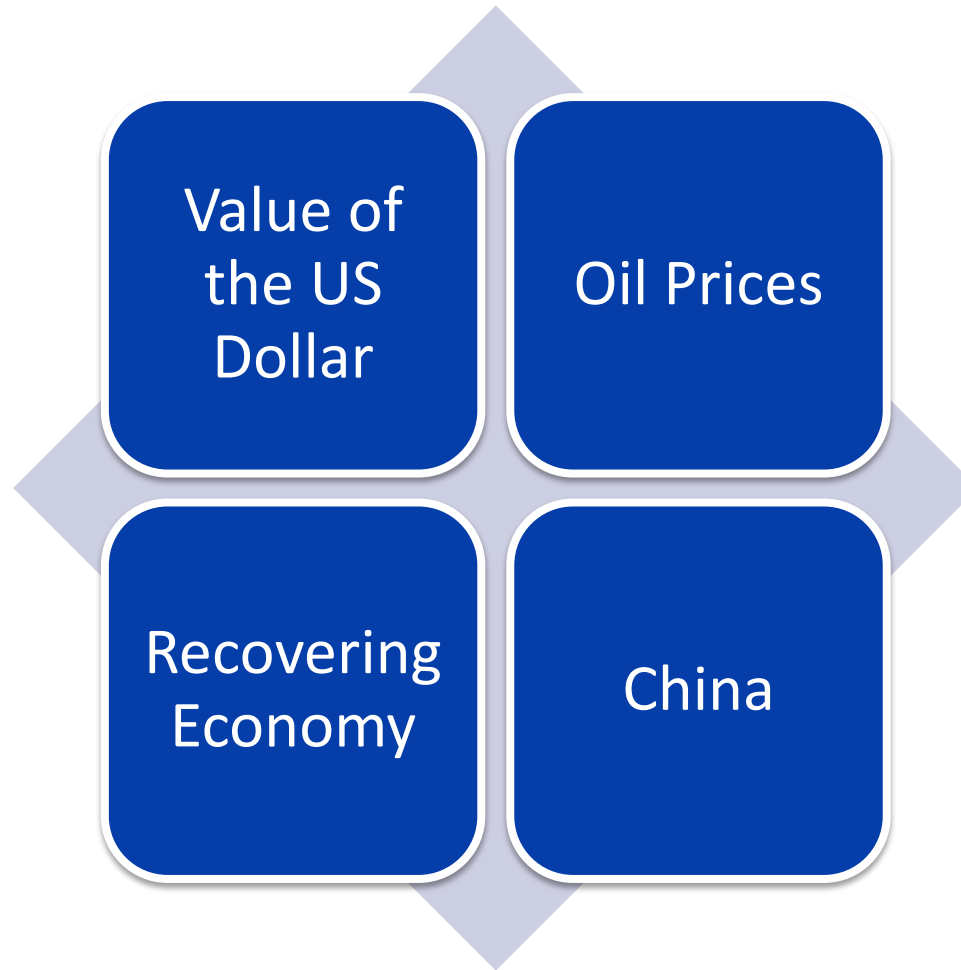
## CONTAMINATION IS EXPENSIVE

- \$ Paying \$60 – \$90 per ton to process trash
- \$ Zero revenue is generated from contamination
- \$ Costs to transport to landfill and dispose

# Market Drivers



# Factors That Impact Commodity Values



# What is Happening in China?

- ▶ **National Sword:** China proposed to ban 24 material types by December 31, 2017
  - “Plastic waste from living sources”
  - “Unsorted waste paper”
- ▶ No one really knows what will happen - lots of speculation and guessing

Material	Percentage of U. S. Material Shipped to China in 2015
Paper	25%
Plastic Bottles	20%
Non-bottle Rigid Plastics	33%

# Perspective on Recycling in China

Only 2 percent of material currently recycled in China = lots of potential for China to develop domestic sources

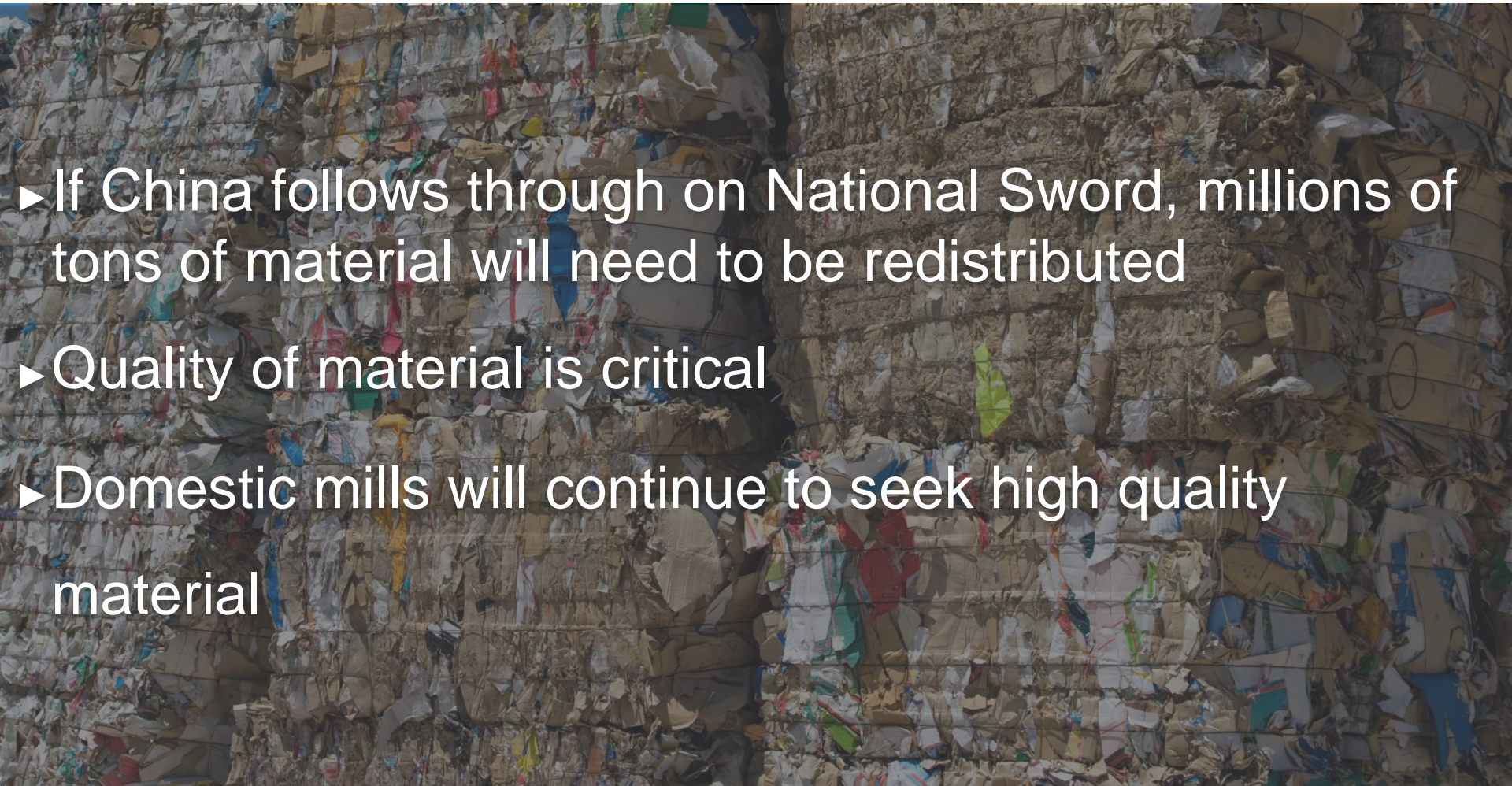
China developing more process capability in long term

China mills presently buying domestic paper at \$500 per ton; unhappy with National Sword

US pricing for same material has ranged from \$100 – \$230 in 2017

Government driven, not market driven

# Perspective from a Large MRF Operator



- ▶ If China follows through on National Sword, millions of tons of material will need to be redistributed
- ▶ Quality of material is critical
- ▶ Domestic mills will continue to seek high quality material



# Impacts on U. S. Solid Waste and Recycling Companies

Perspective from Michael Hoffman, Stifel

- 
- ▶ Downgraded almost all of the publicly traded service providers to "hold" after an extended period of recommending "buy"
  - ▶ China's new trade policies were cited as a key factor
  - ▶ Multiple companies shares decreased by 3.7 – 8.0%



# MRF Technology Impacts





A large pile of crushed glass and other debris, likely from a recycling facility. The pile is composed of many small, dark, irregular fragments of glass, interspersed with bits of plastic, paper, and other materials. The pile is situated in a concrete-lined area, possibly a hopper or a conveyor system. The text "Super-Clean" Glass is overlaid on the image, indicating the high purity of the recycled glass.

**“Super-Clean” Glass**



# Shredded Paper Impacts



# **“Super Size Me” Effect**



# The Quest to Recover More

- ▶ Single-stream processing = game changer
- ▶ Programs focused on recovering more and more and more
- ▶ Examples
  - City and MRF contracts: continue to expand material types
  - Paper: “anything that tears”
  - Plastics: expanded from plastics 1 and 2 (soda bottles and milk jugs) to plastic bottles 3 – 7

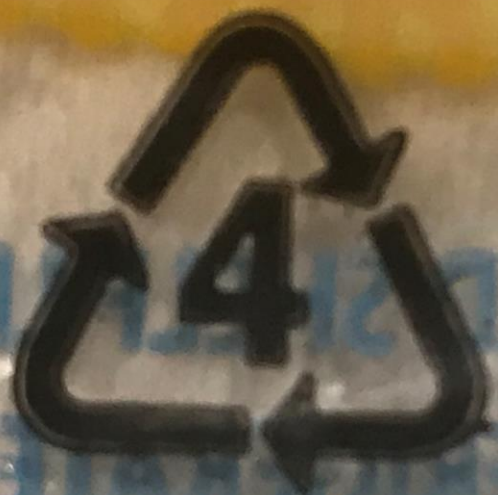
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# CORN & WHEAT TORTILLAS

LOW CORN TORTILLAS, WITH A  
END OF CORN & WHEAT.

FAT WITH 14 GRAMS  
WHOLE GRAINS  
PER SERVING\*  
8 COUNT

WT. 11.57 OZ (328g)



LDPE.

SELL BY  
0418

# CORN & WHEAT TORTILLAS

LOW CORN TORTILLAS. WITH A  
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FAT WITH 14 GRAMS  
WHOLE GRAINS  
PER SERVING\*

8 COUNT

NET WT. 11.57 OZ (328g)

FOR EXTENDED SHELF LIFE  
PLEASE REFRIGERATE











# Benefits of Removing Plastic Bags





# Findings & Recommendations

# Keys to Successful Campus, Multi-Family and Commercial Recycling Programs

- ▶ Public education
- ▶ Convenient access
- ▶ Performance measures
- ▶ Management buy-In
- ▶ Conduct waste audits and workshops for businesses to focus recycling programs



# Organics

- ▶ Contamination allowance much lower for organics, compared to single stream
- ▶ Decide whether to focus on pre-consumer vs. post consumer
- ▶ Some compost operators have stopped servicing customers with high contamination levels
- ▶ Use of visual aides critical



## Food Waste Recycling Pilot Program

What is acceptable in the food waste recycling cart?

### YES

Bread, Grains, and Pasta 	Dairy and Eggshells 	Fruits, Vegetables, and Herbs 
Meat without Bones and Meat with Small Bones (i.e. chicken) 	Coffee Grounds 	Flowers and Floral Trimmings 

### NO

✗ Meat with Large Bones (i.e. ribs)	✗ Aluminum Foil or Trays
✗ Liquids or Ice	✗ Cooking Oil or Grease
✗ Plastic Bags, Wrappers, or Film	✗ Paper Products
✗ Styrofoam or Other Plastics	✗ Latex / Food Prep Gloves

For additional information, please contact Nancy Herod at (940) 349-8027, or [Nancy.Herod@cityofdenton.com](mailto:Nancy.Herod@cityofdenton.com).

**LET'S START A  
NEW LIFE  
TOGETHER, SWEETIE.**



**FOOD SCRAP RECYCLING. MAKE IT SECOND NATURE.**

**STOPWASTE.ORG**

# Questions?

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