



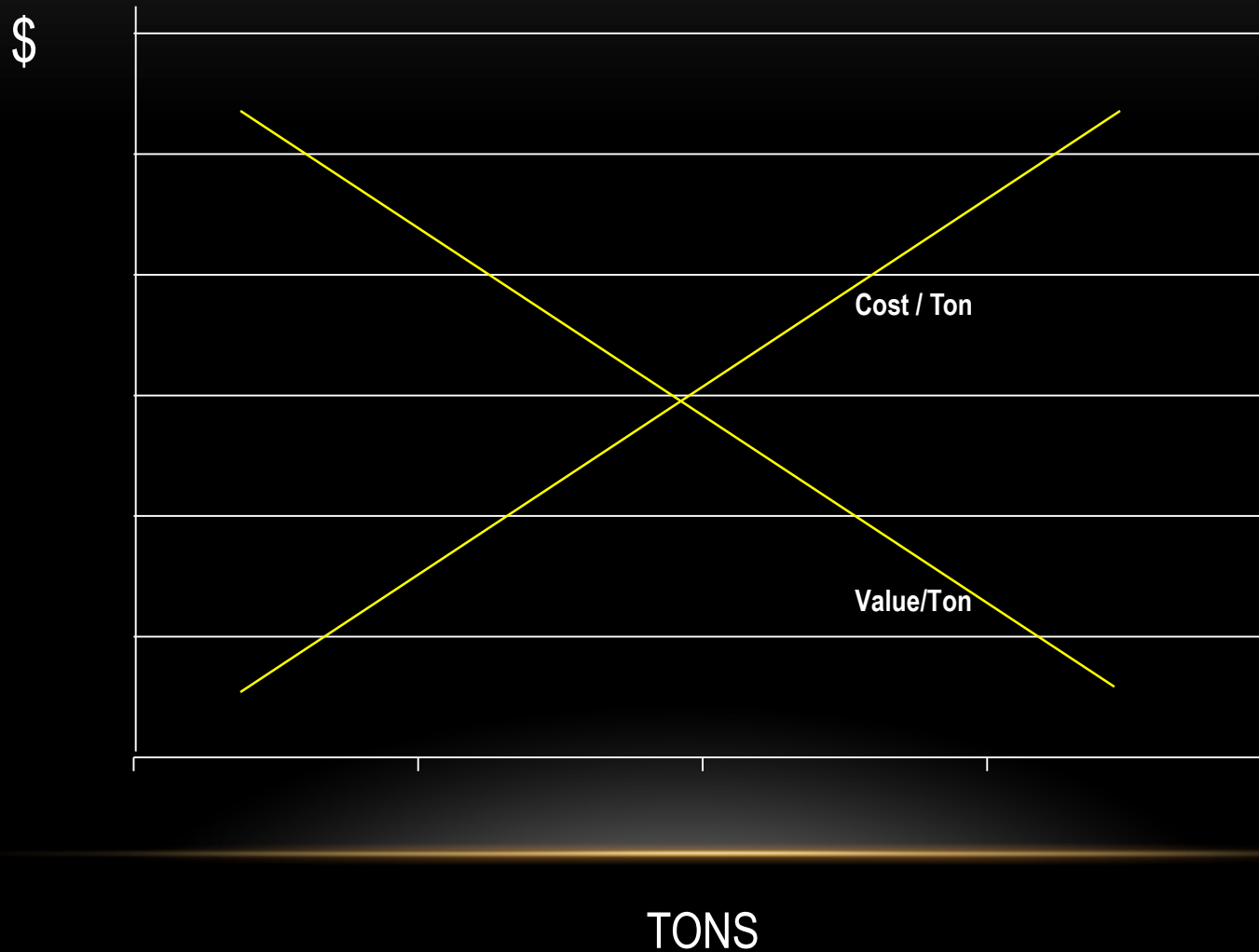
# ECONOMICS OF RECYCLING MARKETS AND PROCESSING

Council of Governments

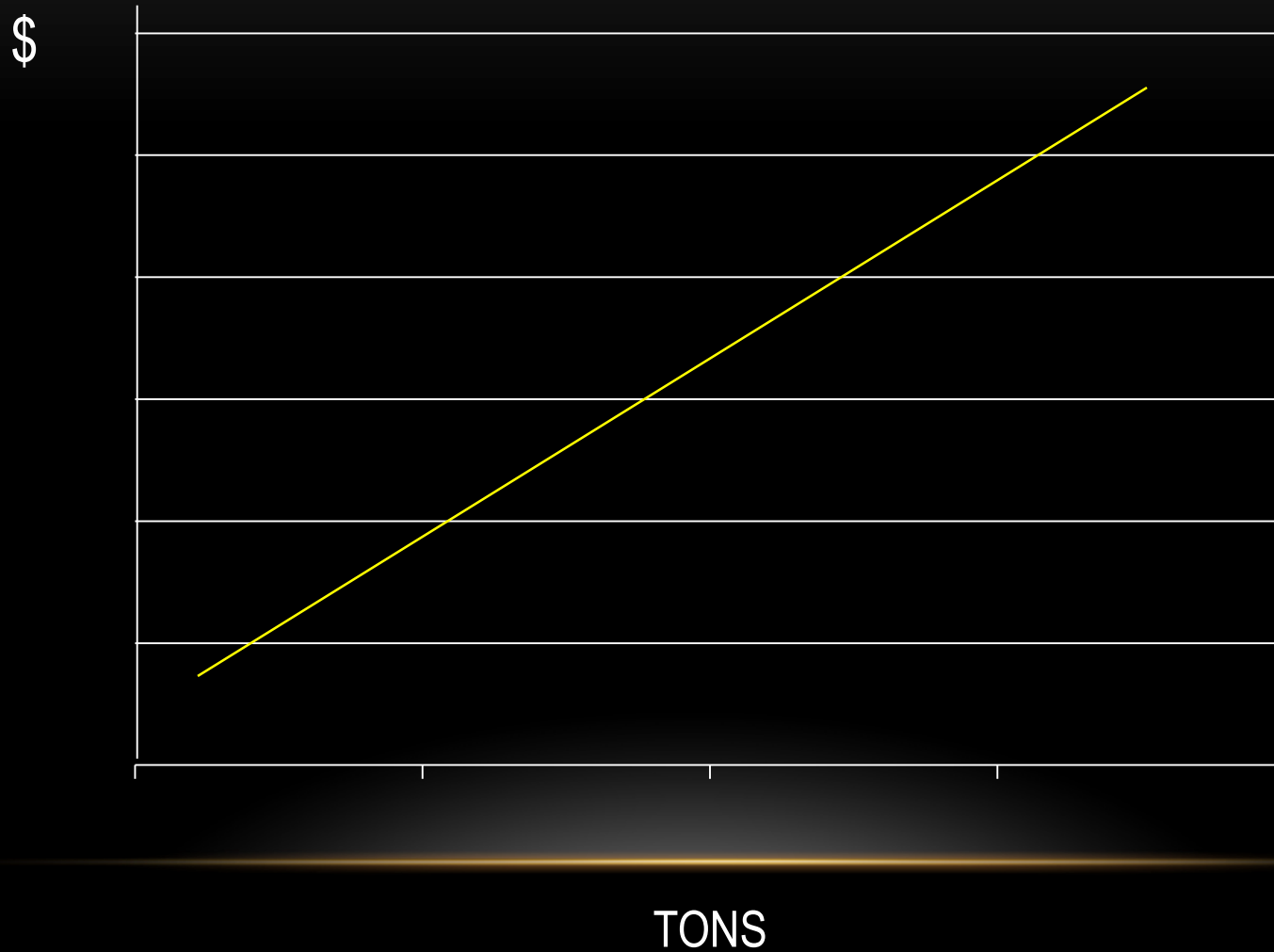
December 3, 2015



# PROCESSING COSTS VS. MATERIAL VALUE



# PROCESSING COSTS STEADILY RISING



# REASONS FOR INCREASED COST

- Contamination
  - New Packaging
  - Changing Composition
  - Aging Equipment
  - Quality Requirements from End Markets
  - Labor Costs
-

# CONTAMINATION

- How is it defined?
  - “Trash”
  - Recyclable material that isn’t captured
  - Certain packaging – consumer driven, but has “the arrows”
  - Glass
- What is the real impact on processing?
  - Additional Costs
  - Labor
  - Repair & Maintenance

# WHERE SHOULD THIS BE RECOVERED?



# CHANGING PACKAGING



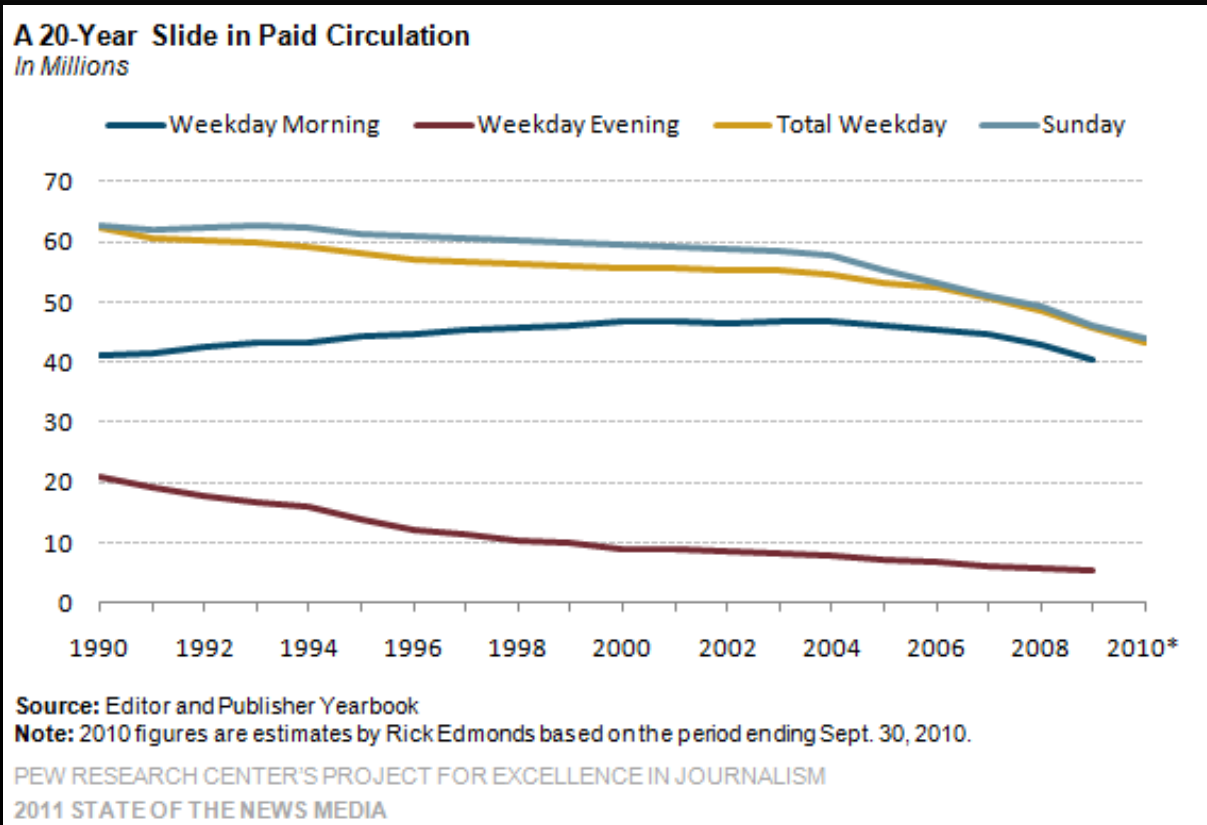
At 7.95g, the Sidel RightWeight bottle weighs 34% less than the average commercial PET water bottle.

# ALTERNATIVE PACKAGING - WINE IN A POUCH



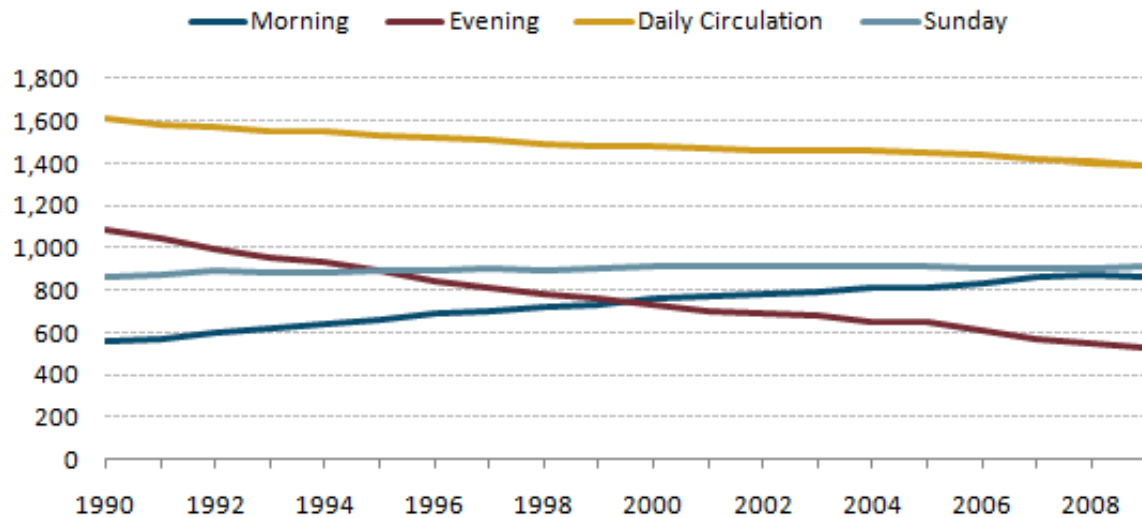


# CHANGING COMPOSITION LESS FIBER, MORE OCC



# EVEN FEWER PAPERS PRINTED

**Number of Daily U.S. Newspapers Continue Decline**  
*Weekday and Sunday Editions in Yearly Increments*



Source: Editor and Publisher Yearbook data

PEW RESEARCH CENTER'S PROJECT FOR EXCELLENCE IN JOURNALISM

2011 STATE OF THE NEWS MEDIA

# RESIDENTIAL FIBER – NOT CREATED EQUAL



# RESIDENTIAL FIBER



# OCC FROM SINGLE STREAM



# OCC FROM SINGLE STREAM



# MATERIAL VALUE

- Local Supply in a Global Market
- Significant Worldwide Economic Factors
  - Slowdown in China Economy
  - Stricter Quality Requirements
  - Strength of US \$
- Changing Demand Characteristics
  - Less ONP generated and consumed
  - US Newspaper Readership declining
  - Developing Countries becoming more Digital

# SINGLE STREAM APRIL 2011

APRIL 2011 Market Price Index			
<u>Commodity</u>	<u>% by weight</u>	<u>Buy Price<sup>1</sup></u>	<u>Index</u>
News	53.97%	\$150.00	\$80.96
OCC	9.90%	\$140.00	
Glass	20.13%	(\$45.00)	(\$9.06)
Steel Cans	1.61%	\$117.50	\$1.89
Aluminum Cans	0.91%	\$1,890.00	\$17.28
PET	2.84%	\$740.00	\$20.98
HDPE Natural	0.90%	\$810.00	\$7.27
HDPE Colored	1.67%	\$656.00	\$10.93
Residue	8.07%	(\$45.00)	(\$3.63)
	100.00%		\$126.62



# SINGLE STREAM APRIL 2013

APRIL 2013 Market Price Index			
<u>Commodity</u>	<u>% by weight</u>	<u>Buy Price<sup>1</sup></u>	<u>Index</u>
News	53.97%	\$80.00	\$43.18
OCC	9.90%	\$120.00	\$11.88
Glass	20.13%	(\$45.00)	(\$9.06)
Steel Cans	1.61%	\$115.00	\$1.85
Aluminum Cans	0.91%	\$1,590.00	\$14.54
PET	2.84%	\$416.00	\$11.79
HDPE Natural	0.90%	\$650.00	\$5.84
HDPE Colored	1.67%	\$516.00	\$8.59
Residue	8.07%	(\$45.00)	(\$3.63)
	100.00%		\$84.99

# SINGLE STREAM OCTOBER 2015

October 2015 Market Price Index			
<u>Commodity</u>	<u>% by weight</u>	<u>Buy Price<sup>1</sup></u>	<u>Index</u>
News	53.97%	\$60.00	\$32.38
OCC	9.90%	\$100.00	\$9.90
Glass	20.13%	(\$45.00)	(\$9.06)
Steel Cans	1.61%	\$35.00	\$0.56
Aluminum Cans	0.91%	\$1,080.00	\$9.88
PET	2.84%	\$70.00	\$1.98
HDPE Natural	0.90%	\$540.00	\$4.85
HDPE Colored	1.67%	\$410.00	\$6.83
Residue	8.07%	(\$45.00)	(\$3.63)
	100.00%		\$53.70

# MARKET CONDITIONS

- Domestic – relative stability
- Export – more volatile
- China – Dependency continues with changed market dynamics
- What has changed?
  - Plastics – Oil @ \$40 per barrel
  - Metals – UBC, Fe
- Composition – less fiber, more residue. Push to “recover” more

# CONCLUSIONS:

- We are a cyclical, commodity driven business
- Dramatic reduction in MPI
- Composition will continue to evolve
  - Changing Characteristics
    - Fiber
    - Contamination
    - Type of Packaging
- Costs to Process will rise

# QUESTIONS?

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