



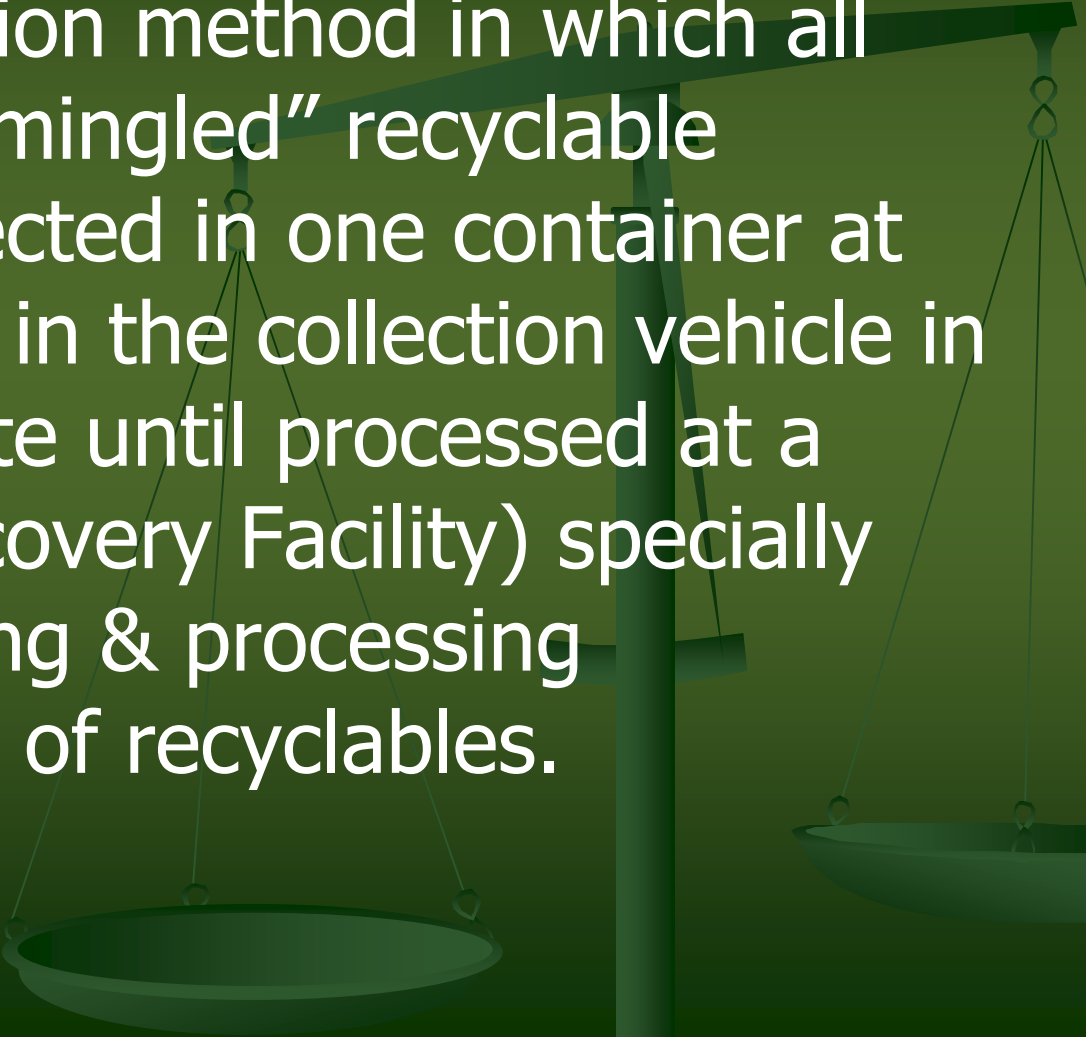
Single Stream Recycling

What Questions Should You Be Asking?



Single Stream Recycling (SS)

A recycling collection method in which all unsorted or “Commingled” recyclable materials are collected in one container at the curb & placed in the collection vehicle in a commingled state until processed at a MRF (Material Recovery Facility) specially designed for sorting & processing commingled loads of recyclables.






Single Sort Recycling Advantages & Disadvantages

Advantages

- Collection Cost Savings
- Customer Convenience – ease in home and at curb
- Potential Increased Customer Participation
- Potential Gross increase in Materials Collected
- Potentially Higher Diversion Rates
- Reduced Worker Compensation Claims
- Potential for Adding More Material Types
- Shorter Stops and Every-Other Week Collection – Less Wear and Tear and Fuel Savings
- Fuel Savings
- Competitive Advantage for Providers Offering this Service (Marketable Service)
- Less Litter

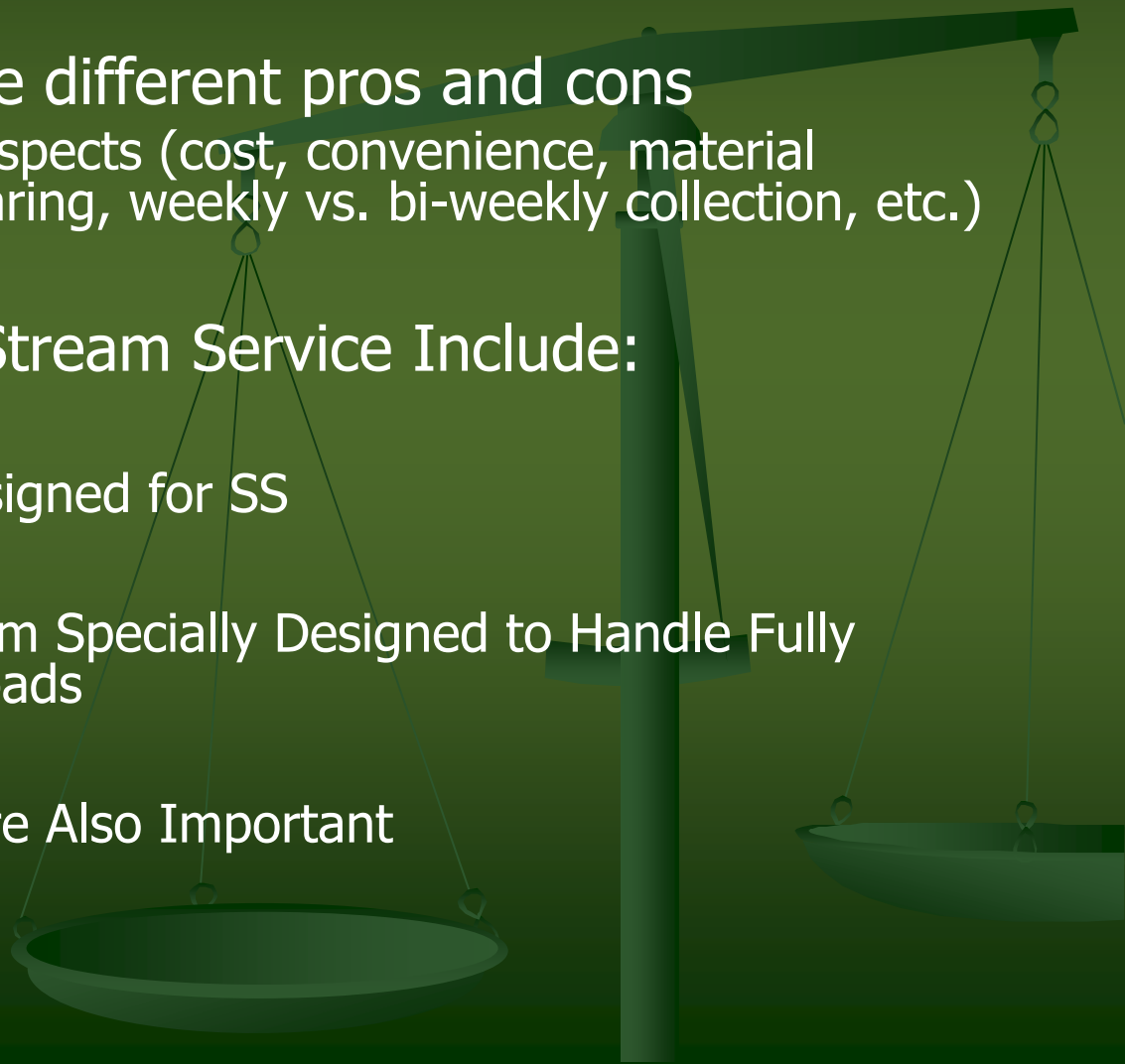
Disadvantages

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- Initial Capital Costs for:
 - New Carts,
 - Different Collection Vehicles,
 - Processing Facility Equipment
 - Education of Residents;
 - Processing and Overall Contract Costs may Increase
 - Potential Reduced Commodity Prices from Contamination
 - Increased “downcycling” of paper
 - Increased Residual Rates
 - Potential for Less Net Material Recovery
 - Can Lead to Public Confusion – Blurring the Lines Between Garbage & Recycling
 - Competitive Disadvantage for Small Haulers Unable to Offer Single Sort
 - Difficult to Go Back
 - Potential Reduced Personal Commitment to Recycling



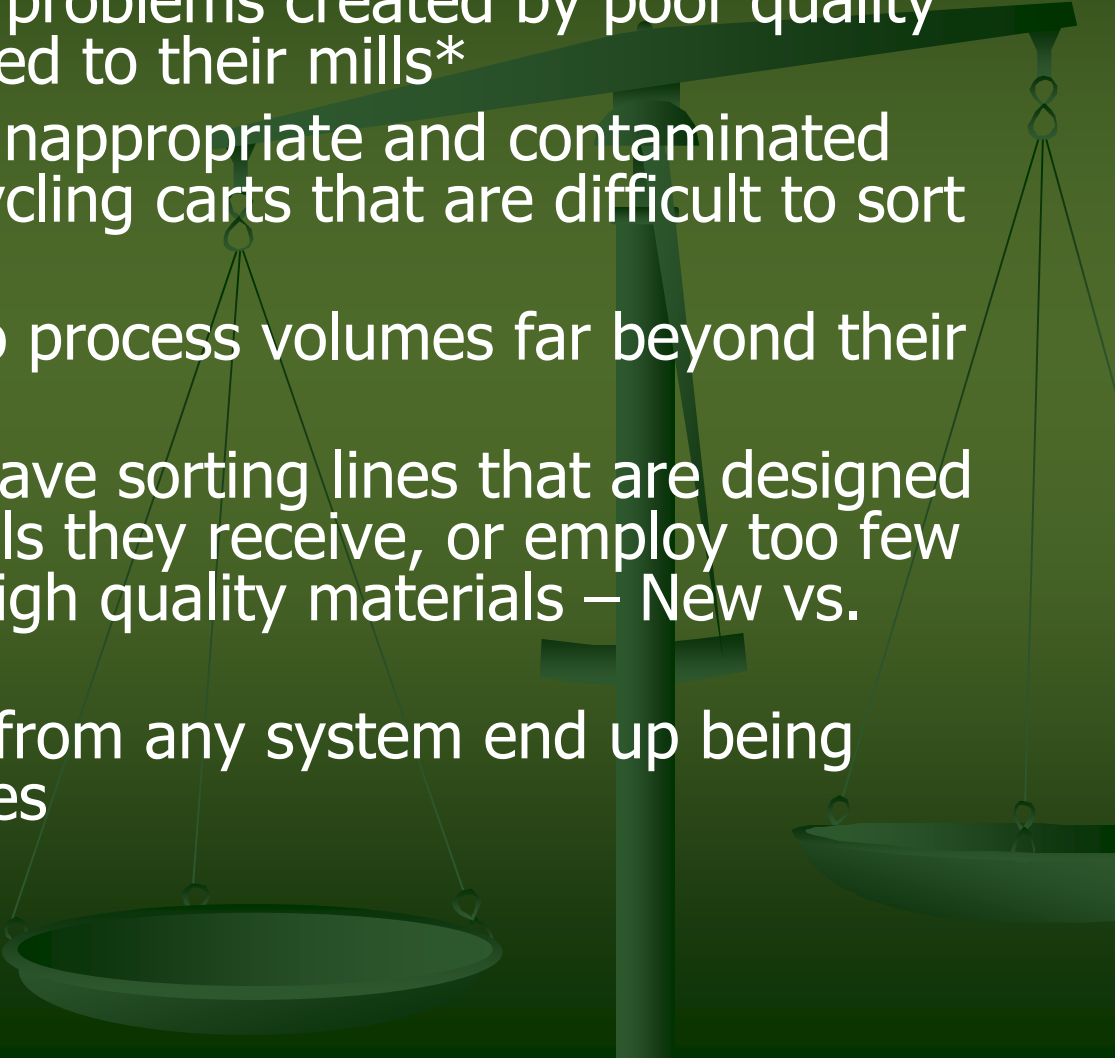
Compare Different Approaches

- Different systems have different pros and cons
 - Need to consider all aspects (cost, convenience, material recovery, revenue sharing, weekly vs. bi-weekly collection, etc.)
- Necessities of Single Stream Service Include:
 - Collection System Designed for SS
 - MRF Processing System Specially Designed to Handle Fully Commingled Mixed Loads
 - Economies of Scale are Also Important





Material Problems?

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- Manufacturers report problems created by poor quality materials being shipped to their mills*
 - Residents may place inappropriate and contaminated materials in their recycling carts that are difficult to sort out at the MRF
 - Processors attempt to process volumes far beyond their facility's capacity
 - Processors may not have sorting lines that are designed to handle the materials they receive, or employ too few workers to produce high quality materials – New vs. Retrofitted Facilities
 - Residual Recyclables from any system end up being landfilled in most cases

MPCA Study on Collection

- Goal to understand impacts to residents, haulers, MRF's and end-markets
 - Focused on MRF and end-market impacts
 - Majority of end-markets have seen impacts on quality in past 5 years (some quantity reductions)
 - Variety of contaminants: glass, plastic, etc.
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End-Market Questions & Answers

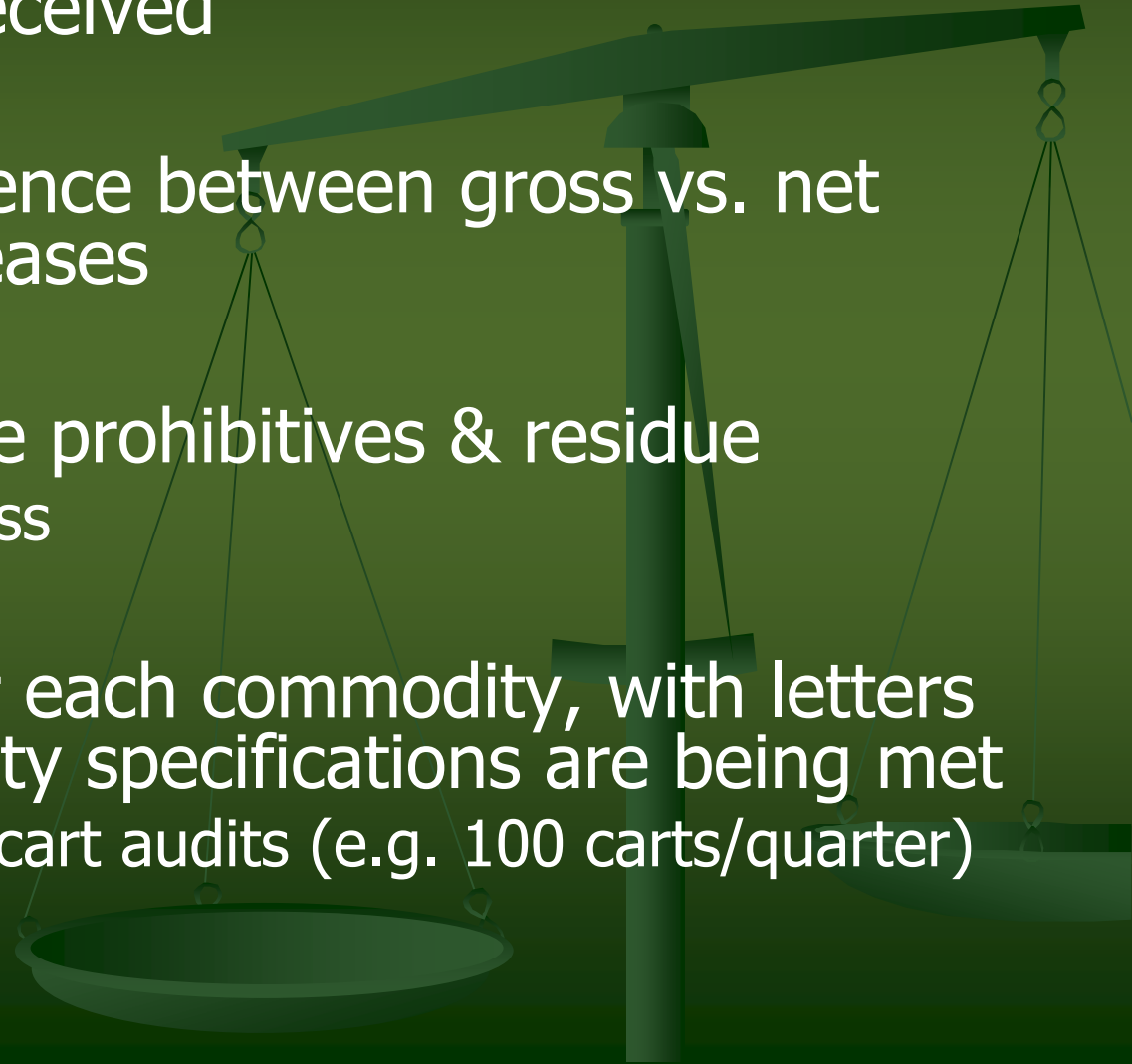
- ❖ End markets are seeing more contamination over the last five years; glass a drop in quantity received
 - ❖ Optical sorting a potential solution
- ❖ Both single and dual stream showing some level of contamination but education important either way
- ❖ What types of contaminants are the most problematic for your operation?
 - ❖ Paper Mills
 - Plastic bags/film, glass, plastic-coated paper, other paper grades
 - ❖ Glass Recycler
 - Ceramics, pottery, Pyrex, mixed glass
 - ❖ Plastics Recyclers
 - Other plastic grades, metal, glass

How to Avoid Failure...




Reporting Requirements are Critical

- Number of tons received
- Understand difference between gross vs. net increases or decreases
- Composition of the prohibitives & residue
 - Consider Your Glass
- Market reports for each commodity, with letters stating if the quality specifications are being met
 - Consider periodic cart audits (e.g. 100 carts/quarter)

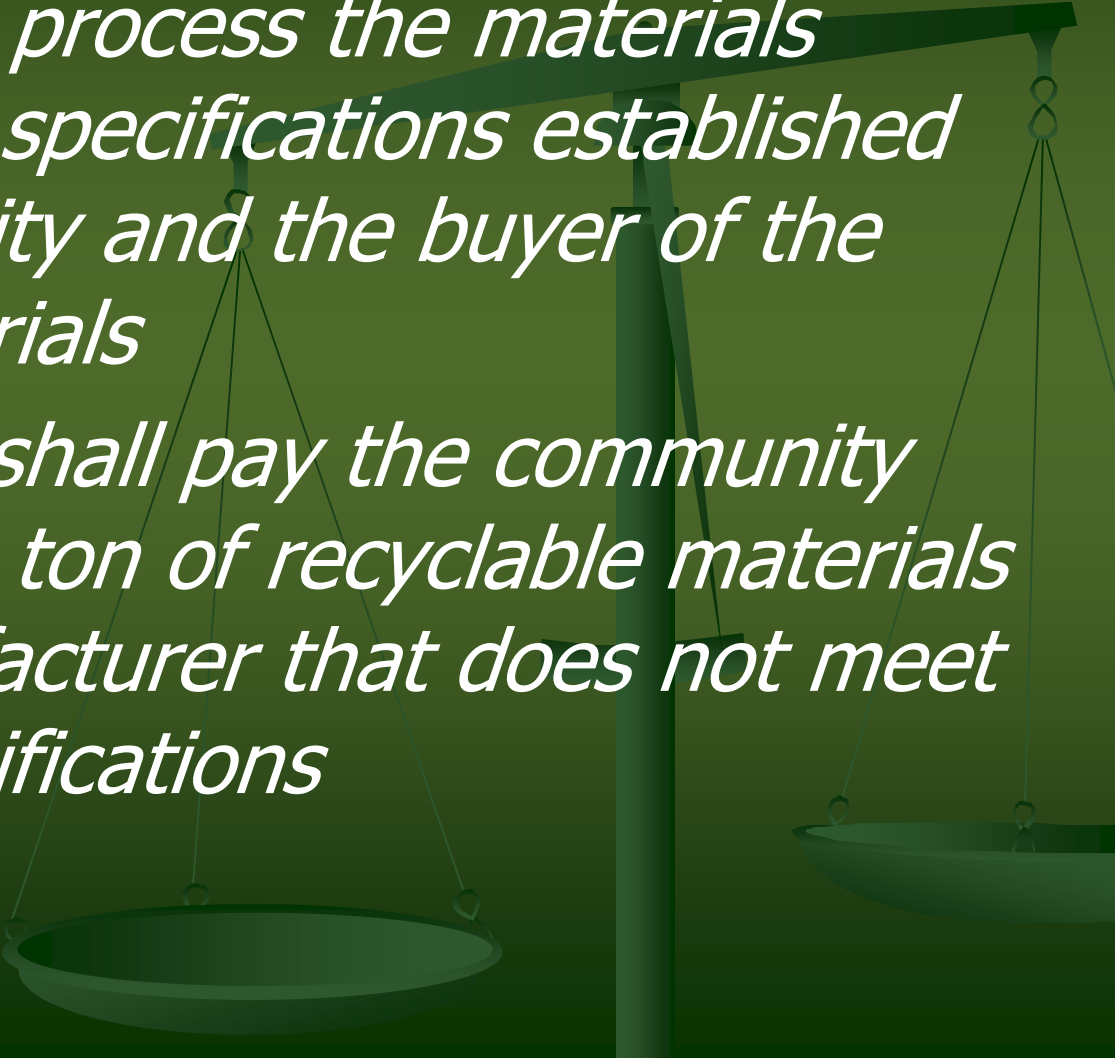


Contracting for Services

Processing contract should specify the terms of processing & include:

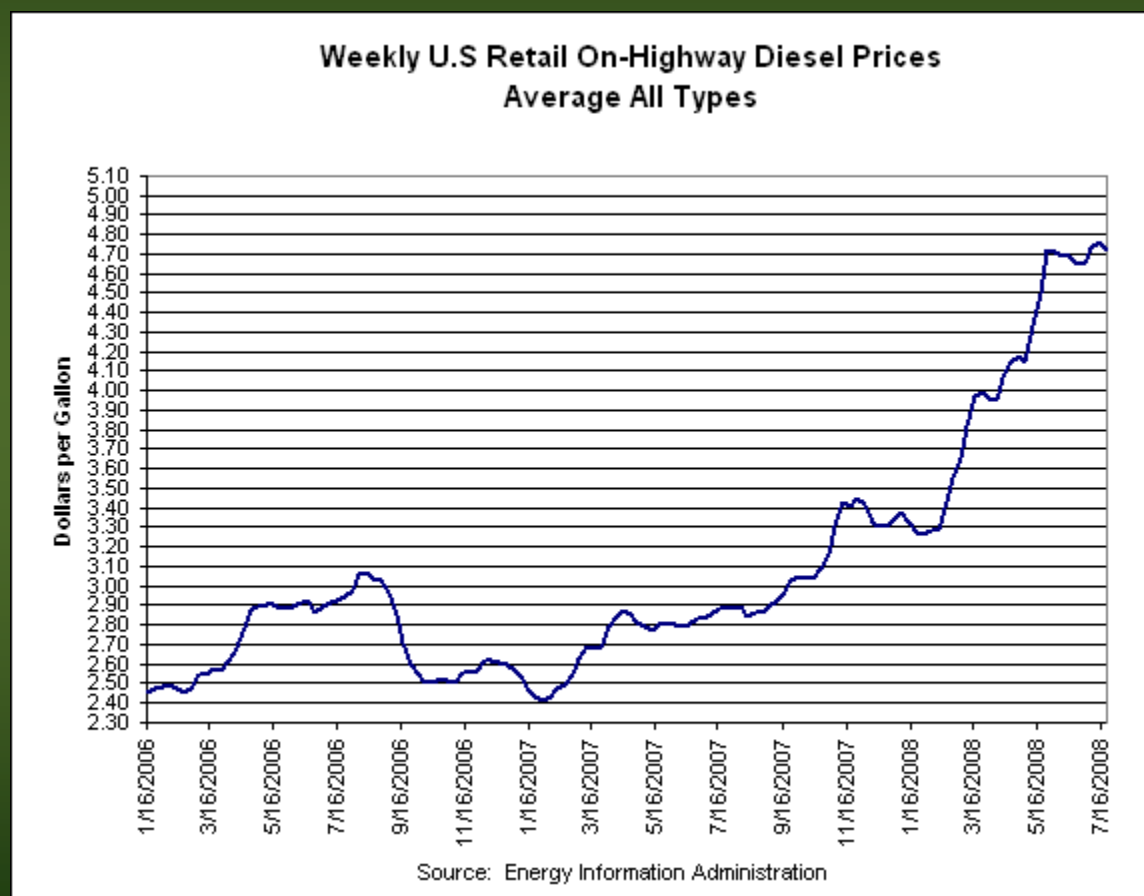
- **Specifications on types and quantities of materials to be collected & commodity types to be processed and marketed**
 - **The quality of each of the commodities to be marketed**
 - **Details on how the recovered materials will be marketed**
 - **Allowable residue rates from recyclable materials not marketed**
 - **85/15 Rule**
 - **Resolution for disputes over the quality of the incoming materials**
 - **Requirements for maintaining records of materials from each community**
 - **Penalties for not achieving & Incentives for exceeding the required specifications**
 - **Revenue sharing**
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Quality Specifications Example

- *Contractor shall process the materials collected to the specifications established by the community and the buyer of the recyclable materials*
 - *The Contractor shall pay the community \$20.00 for each ton of recyclable materials sold to a manufacturer that does not meet the quality specifications*
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Don't Forget to Address Fuel Costs



And Contamination Reporting





And Don't Forget the Education!



Enforce Your Contract, It's only as Strong As YOU
Make it!



Remember, Don't Throw it Out
RECYCLE!

