

Municipal Recycling Market Update

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**NEW ENGLAND STATES GOVERNMENT
FINANCE OFFICERS ASSOCIATION
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Paraphrasing Mark Twain

The reports of recycling's death are greatly exaggerated.

Topics

- How recycling works
- Recycling end-markets – what are they & what has changed
- Impact on recycling economics & residential recycling programs
- Recommendations to minimize impact

What is NERC

- Non-profit organization focused on minimizing waste, conserving natural resources, & advancing a sustainable economy through collaboration & action
- 11 states traditional area of focus: New England, New York, New Jersey, Maryland, Pennsylvania, & Delaware
- *Membership organization:* state, municipal, regional government, nonprofit & private sectors – **Consider Joining!**



The Recycling Loop

- You recycle – put in bin on curb or drop-off
- Taken to Materials Recovery Facility (MRF) by hauler
- MRF sorts and separates materials, & sells to processors/recyclers (end-markets)
- End-markets turn materials into value-added commodity for use in a new product
- Buying products with post-consumer content is essential



Why the Current Concerns About Recycling

- Chinese import policies changed
 - Demanding higher quality material
 - Paying less
 - “No” mixed paper, mixed plastics
- Direct impact on MRFs
 - Higher operating costs, lowered revenues

Our Role in This

- Sloppy/"wishful" recycling
- Lack of education
- Lack of investment
- Dismantling domestic recycling infrastructure
- Creating myth that recycling is free

The Big Picture

- U.S. closed significant percentage of end-market infrastructure in 1980's when China became major player
- Became largely dependent on China as end-market
- Bad recycling, bad quality but still being paid

Overall Dynamic

- Slow down in Chinese economy = producing & buying less
- Domestic investments in end-market capacity
- Biggest impact on MRFs & their operations

Impact of Changes

Cost to recycle has gone up – but has always had a cost

- Lost /decreased revenues
- Municipal contract costs increasing/revenue sharing decreasing
- Contamination fines
- Program changes

Impact of Changes

Haulers/MRFs are losing money on recycling

- Slowed down lines, added staff, investing in equipment
- Contract renegotiations for hauling, trash & recycling fees

Impact of Changes

- Some programs stopping accepting some materials
 - Glass & plastics #3 – 7, in particular
 - Added source separation for glass
- Going back to dual-stream
- Dropping curbside, going to drop-off or subscription only

New - Recycling Tipping Fees

| | |
|---------------|------------------|
| Connecticut | \$0 - \$65/ton |
| Maine | \$75- \$140/ton |
| Massachusetts | \$30 - \$100/ton |
| New Hampshire | \$82/ton |
| Rhode Island | Law forbids |
| Vermont | \$55/ton |

Tipping Fees for Trash

| | |
|---------------|-----------------|
| Connecticut | \$60 - \$85/ton |
| Maine | \$65 - \$85/ton |
| Massachusetts | \$95/ton |
| New Hampshire | \$80/ton |
| Rhode Island | \$90/ton |
| Vermont | \$100 - 130/ton |

New - Contamination Fees

- Maine - \$70.50 per ton > 5% contamination
- Massachusetts – \$150 - \$225/ton > 10% contamination
- Rhode Island – \$4.50/ton penalty
 - Providence was paying more than \$40,000 per month in fees

Increased MRF Processing Costs

| | |
|---------------|------------------|
| Connecticut | ?? |
| Maine | \$70 - \$115/ton |
| Massachusetts | \$70 - \$115/ton |
| New Hampshire | No MRFs |
| Rhode Island | \$65 - \$110/ton |
| Vermont | \$65 - \$100/ton |

Revenue Sharing

Why it looked like recycling was free

End-market revenues covered
costs of collection & processing

“Recycling costs more, but you get more. You get the environmental benefits from recycling, as well as ten-fold more jobs and economic benefits.” Dylan de Thomas, The Recycling Partnership

Paper Collected for Recycling

- Cardboard boxes
- Fiberboard
- Newspaper
- Office paper
- Magazines
- Colored paper
- Junk mail
- Envelopes
- Pizza boxes (clean)

Paper Recycling

- Goes to paper mill for processing
 - De-inking and pulping
- Cardboard boxes, mixed paper (container board, newspaper, tissue, egg cartons, writing paper, etc.)

Paper End-Markets

- Cardboard was & is going to China, also domestic end-markets
- Mixed paper was going to China, now finding additional US-based processors



Issues with Paper

- Mixed paper as much as 70% by weight in bottle bill states
- Easily contaminated in single-stream
 - Gets wet
 - Glass
 - Food waste
- Value of mixed paper, decreased from \$75+/ton to \$5/ton or less

Plastic Collected for Recycling

- # 1 & 2 – PET & HDPE
 - Soda and water bottles (#1)
 - Laundry soap containers (#2)
- Polypropylene (#5)
 - Yogurt cups
- # 3 – 7 (mixed plastic)
- Film
 - Grocery bags, toilet paper wrapper, bread bag, dry cleaning bags

Plastic Recycling

- Ground up into pellets
- Melted
- Reformulated
- Some chemical recycling



Plastic End-Markets

- Beverage & food containers
- Carpeting
- Car parts
- Clothing
- Pallets
- Culverts & drainage pipes
- Gardening supplies & furniture
- Plastic lumber & construction materials

Issues with Plastic



- MRFs sort for #1 & 2's – high value
- # 3 – 7 combined in low value blend
- Over abundance of film collected for domestic end-markets
 - Not enough purchasing/not enough products using it

Glass Collected for Recycling

- Beer & wine bottles
- Spaghetti sauce, etc.

Glass Recycling

- Sorted by color
- Ground into cullet or fines
- Melted or ground up into new products



Glass End-Markets

- Beverage containers (beer & wine)
- Fiberglass
- Concrete products
- Construction products
- Reflectors in highway paint
- Infrastructure (road beds, engineering applications, erosion control)

Issues with Glass

- Breaks & contaminates other materials
- Low value
- Heavy
- Only glass to glass bottling facility in region closed
- Lost key “beneficiator” – only 1 in region

Metal Collected for Recycling

- Aluminum & steel
 - Beer & soda cans
 - Pet food, soup, vegetable cans

Metal Recycling

- Sorted by type (metal or steel)
- Melted in smelters

Metal End-Markets

- Beer & soda cans
- Pet food, soup, vegetable cans
- Paint cans
- Construction materials
- Cars

Issues with Metals

- Not many . . . Overall in good shape
 - Subject to market fluctuations as are all commodities

Residential Recycling

Emphasis on decreasing contamination – addressing “wishful” recycling

- Plastic bags & putting recycling in plastic bags
- Hoses & wires
- Diapers
- Food/dirty containers
- Batteries & electronics



Think Beyond the Bin!

Do your part to ensure long-term recycling success in your community!

| Recycle - in the Bin! | Check - before putting in bin | Recycle - But not in the bin | Compost | Reuse or Donate. If not, its garbage | Special Handling - check locally | Always Garbage |
|--|--|---|--|---|---|---|
| <ul style="list-style-type: none"> Aluminum cans Cardboard - cereal, pizza, & shipping boxes Metal food & drink cans Paper - envelopes, writing paper, junk mail, newspapers, & magazines Plastic bottles & milk jugs with lids <p>*remove excess food</p> | <ul style="list-style-type: none"> Aerosol food cans Food & drink cartons Glass bottles & jars K-cups Plastic food containers including yogurt cups | <ul style="list-style-type: none"> Appliances Batteries Carpeting Cell phones / Electronics Clothing & Textiles Latex paint Mattresses Plastic shopping & dry cleaner bags Tires | <ul style="list-style-type: none"> Coffee filters & grounds Food waste Grass clippings/leaves Small amounts of dairy Soiled napkins, paper towels, shredded paper Tea bags - organic | <ul style="list-style-type: none"> Area rugs Cans of latex paint Eyeglasses Garden hoses Furniture Holiday lights / electrical cords Kitchenware & ceramics Plastic containers / large plastic toys / furniture | <ul style="list-style-type: none"> Aerosol nonfood cans Cleaning & pool chemicals Fluorescent lamps & mercury containing devices Medications Motor oil Needles & Sharps Oil-based paint & paint thinners, varnish Pesticides Propane tanks Rechargeable Batteries | <ul style="list-style-type: none"> Dirty diapers Pet litter |

For locations to recycle: www.kab.org/wheretorecycle



So, should we bother recycling?

- *It creates jobs, taxes, state & local revenues*
- It saves resources, conserves energy, reduces dependence on landfills & incinerators
- Climate change benefits - reduce greenhouse gas emissions, & lower carbon footprint

*It's a public good – like schools,
public transit, parks, & clean air.*

*You can't put a dollar value on the
benefits for our community,
because they're invaluable &
irreplaceable.*

Recommendations

- Recycling education - reduce contamination
- Contracting – pay attention!
 - Collective bidding
 - Transparency
 - Tie revenue to fixed index
- Legislation
 - Pay as you throw (PAYT)
 - Extended Producer Responsibility (EPR)
 - Minimum content requirements
- *Don't* drop materials
 - Source separation for some materials

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- HRRRA, Connecticut
- Institute of Scrap Recycling Industries (ISRI)
- Maine DEP
- Maine Resource Recovery Corporation (MRRA)
- Maine Town & City Magazine
- Massachusetts DEP
- Norwalk Hour
- Resource Recycling Magazine
- Rhode Island Resource Recovery Corporation (RIRRC)
- RSE USA
- SCRARRA, Connecticut
- Town of Madison, Connecticut
- Vermont Agency of Natural Resources
- Waste Dive Magazine

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