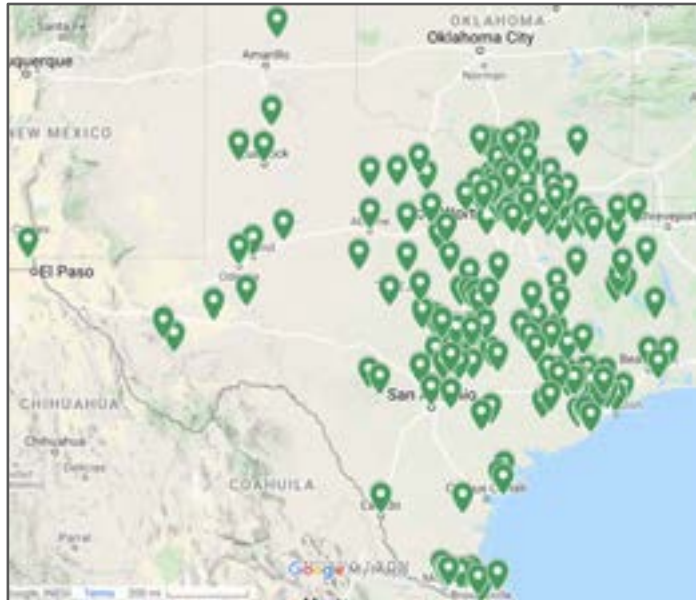


HGAC Recycling Webinar – May 24, 2020

The Evolving Ton & the Effects of Contamination on Community Recycling Programs



About Keep Texas Beautiful



Litter Prevention

- Cleanups
- Education
- Awareness



Beautification

- Plantings
- Restoration
- Graffiti

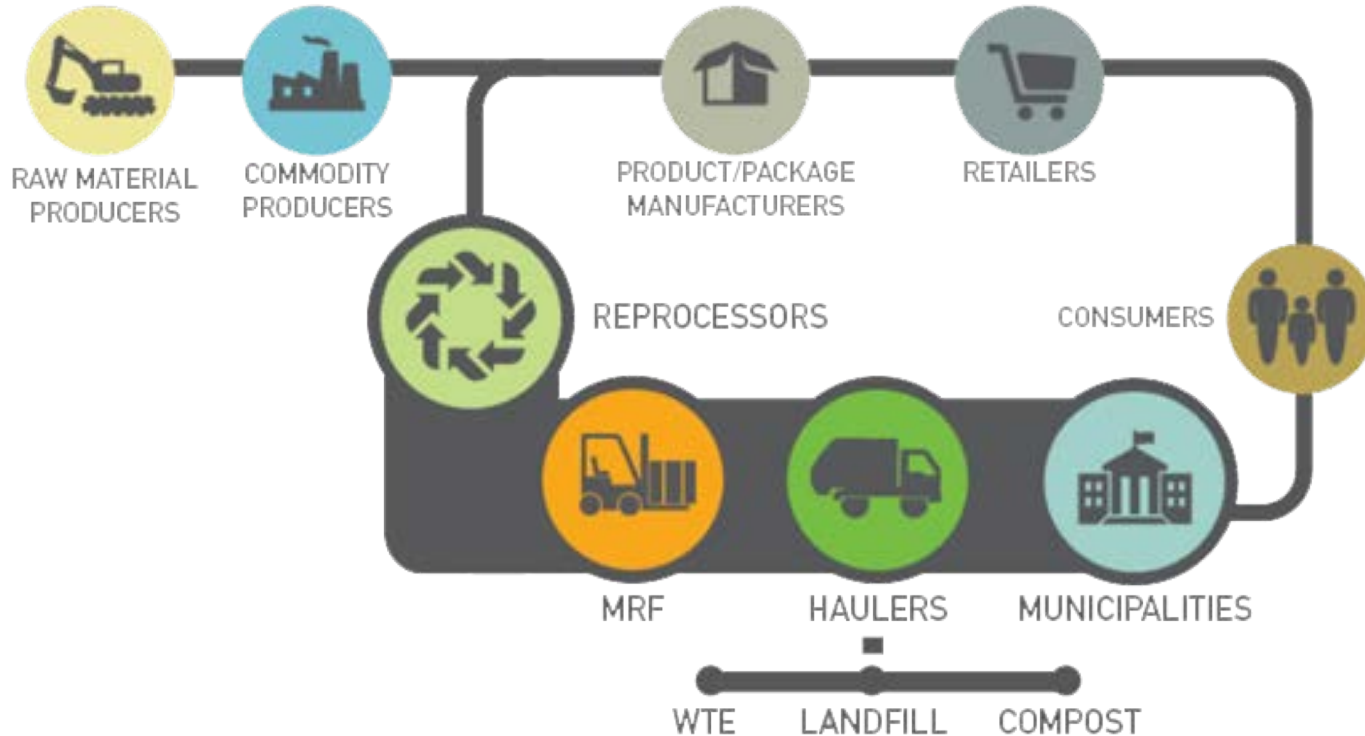


Waste Reduction

- Recycling
- Landfill Diversion
- Reuse

Mission: To inspire and empower Texans to keep our communities clean and beautiful.

Recycling Value Chain: Closing the Loop



Source:
Resource
Recycling
Systems

What Makes Something Recyclable?

- **Collection:** What can the infrastructure handle? What kind of volume? What materials? Innovations? Education?
- **Processing:** Contamination/quality, advanced sorting technology, this is where the cost is to sort and bale material
- **End markets:** Materials aren't actually recycled until they make it to a market!



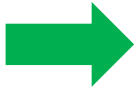
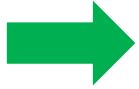
Trends in Recycling

The times they are a changin'

- Shift on the national level in past few years to materials management: many states adopting
- Sustainable materials management: a systemic approach to using and reusing materials more productively over their entire lifecycle (*EPA definition*)
- Life cycle assessment (LCA): technique to make more informed decisions through a better understanding of human health and environmental impacts of products, processes and activities (*EPA definition*)



Trends in Packaging



Nestle Waters North America

on light-weighting

“The light-weighting of the plastic bottle has probably been one of the most impactful changes over the past 20 years. With a reduction in the resin content of the bottle of over 60% since 2007, we have optimized over 65 million pounds of plastic out of the equation. Plus, the energy and GHG reductions associated with this innovation is staggering, such as the 770,000 tons of avoided CO₂e. **Still, the bottle is a challenge as recovery rates in the US are still at the lowest of western nations.**”

-Nelson Switzer, VP & Chief Sustainability Officer

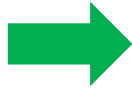


The Industry Needs...More

- The single-stream debacle
 - With increased recovery = more contamination
 - “Wishful recycling”
- Educate, educate, educate!
 - Difficult when different communities all take different material
- Trade association leadership & commodity representation
- State/Federal government leadership/policy
- Public/private partnerships



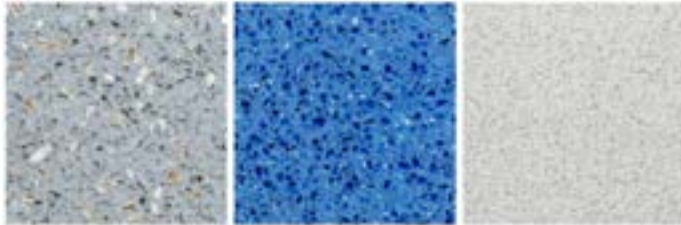
The Industry Needs...More Innovation



Source: austinfootwear.com



Source: rewallsolutions.com



Source: icestoneusa.com

Who is Keep Texas Recycling?

- Formerly known as CTRA, mission unchanged- to implement and expand recycling programs throughout Texas with a focus on rural and underserved communities.
- Provide technical assistance, consulting, and special projects with various entities.
- In the last 25 years, KTR has helped members recycle over 141,270 tons of material which has saved 430,570 cu yards of landfill space.
- 2020 Texas Commission on Environmental Quality (TCEQ) Environmental Excellence Award winner
- 2017 National Recycling Coalition Outstanding Non-Profit Award

Why Isn't Recycling Easier?



- Requires volume and close proximity to market-trucks, fuel, staff can be expensive!
- Recyclables eventually need to be separated out by different grades to go to the mill.
- Recycling is in a state of constant change, packaging, how to prepare recyclables etc.
- Every community's recycling program can be different.
- Don't be afraid to educate on a higher level!

How Does Contamination Affect Local Programs?

- Material **MUST** be clean
- Separated material most desirable, less separated = less revenue
- Some material unmarketable
- Material **MUST** be clean, contamination charges \$75-150/ton
- Safety!



News Around the Country

Evaluate Program Efficiency Now

Salem, OH

Site closed after animal remains found for the 3rd time in recycling dumpsters

Kent County, MI

Illegal dumping issues at 24/7 site, residents crawling into bins to scavenge metals

Ogle County, IL

25 year old recycling program closes: cites contamination hurting already low prices for material

Portland, ME

City closes two 24/7 drop-off sites, two remain that have restricted hours. Cite illegal dumping and use by non-residents as an issue.

Recycling Challenges Contamination = Costs

Top offenders:

- Diapers
- Soiled food boxes
- Styrofoam egg cartons
- Plastic film of some sort
- Paper towels, toilet paper
- Food/beverages not rinsed out of bottles/cans/containers

*Non-recyclables = Trash =
Increased costs for the program*



Member Case Study- Challenge Contamination & Education



- Recycling center open 24/7, longtime center
- Receive high volume of contaminated materials
- Signage/onsite support
- How to talk to patrons
- Working to educate the community to decrease contamination

Member Case Study- Redesign Challenge Contamination & Efficiency

- 4 drop-off points located throughout the county in conjunction with county trash compactor sites.
- 1 baler for all materials. All cost, no revenue.
- Sheriff's office provides trustees & community services for processing, pick up at all 3 precincts, take to one.



Member Case Study- Redesign Design Contamination & Efficiency

- In 2015 changed to just 2 drop-off points in the most populated areas.
- Increased equipment from one to three balers to specifically bale plastic, aluminum and cardboard. Direct mill options, revenue increase.
- Residents and businesses in the county willing to drive up to 30 miles to take material to central drop-off, obey by days/hours set. Not 24/7.
- Clean product, limited contamination because site is monitored at all times when open.



Member Case Study- Successes Overcoming Limitations

- Wanted to increase plastic recycling.
- Geographic limitations on what end markets are available.
- Created a K-12 Earth Day collection challenge in schools.
- Brought awareness & education to the community.



Thank you!

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Keep Texas
Beautiful

