

Hello and introductions

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/hat we're talking about















Today we will cover:

- A bit about NRRA, the recycling nonprofit that put this presentation together
- Solid Waste in NH
- Recycling in NH
- Recycling in your Town
- Recycling by Type
- Next Steps



NRRA is the oldest and largest cooperativemodel recycling non-profit in the country.

Our mission is to partner with members to make recycling strong through economic and environmentally sound solutions.

We mainly support small, rural communities in NH, as well as VT and MA, with cooperative marketing, education, and technical assistance.

TORTHEAST RESOURCE RECOVERY ASSOCIATION

Our Impact

Fiscal Year 2022



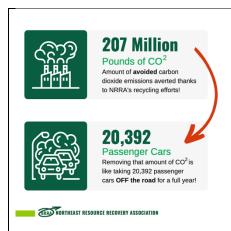
\$2.98 Million (\$2,982,771) The dollar amount NRRA returned to members in 2022, thanks to recycling



81.5 Million
Pounds of Material
Amount of solid waste NRRA
helped our members recycle
and manage in 2022.

In Fiscal Year 2022:

- NRRA returned nearly \$3 million dollars to their members, thanks to recycling.
- They did that by helping their members manage over 81.5 million pounds of solid waste!



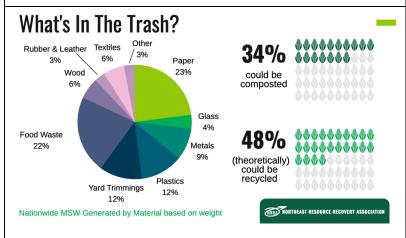


The Environmental impact of that waste diversion was huge:

- Thanks to recycling, nearly 207 million pounds of carbon dioxide emissions were avoided.
- That's like removing over 20,000 passenger cars from the road for a full year!



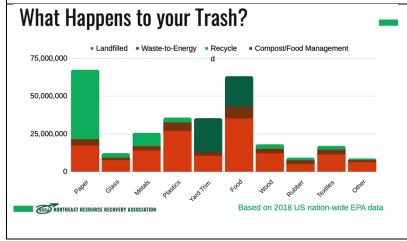
A nationwide look at solid waste



This is amount of NATIONAL municipal solid waste generated by material based on WEIGHT.

HIGHLIGHTS:

- Food Waste is the heaviest, followed by plastic and paper.
- 34% could be composted (food waste and yard trimmings)
- 48% could THEORETICALLY be recycled



What Happens to your Trash (again, Nationwide):

- Paper recycling is doing ok
- Need to improve glass, metals, and plastics
- In NH, Yard Waste is banned from being disposed of in a landfill.
- Need to continue to improve food waste diversion.



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- 3 public landfills
- 3 private (limited service area) landfills

Waste-to-Energy Incinerator energy facility.

Materials Recovery Facility A "MRF" mechanically separates single-stream or zero-sort recyclables

Anaerobic Digester

An "AD" breaks down food waste into fertilizer and biogas composted mostly of methane. Biogas can be burned for energy or processed into natural gas and fuel.

3 unlimited service areas:

- Mt. Carberry in Success; North Country **Environmental Services in Bethlehem; Waste Management Turnkey in Rochester**

3 limited-service areas:

- Conway, Lebanon, Nashua Wheelabrator waste-to-energy incinerator in Concord

NO MRFs.

NO anerobic digesters.

This means all single stream must be sent out of state to be processed.

How much waste disposed of in New Hampshire comes from out of state?



Ask: How much waste disposed of in NH comes from out of state? By a show of hands, is it:

- 15%?
- 28%?
- -50%?

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How much waste disposed of in New Hampshire comes from out of state?





50% of waste disposed of in NH comes from out of state!

The majority of out of state waste comes from MA. aHowever, NH does send some of its solid waste over the border as well, especially from towns in NH that border VT.



State-wide look at recycling in NH



What Recycling Program does your community have?



Single Stream

All recyclables go into one bin and are separated after collection.



Dual Stream

Paper & cardboard and recyclables containers (plastic, metal, glass) are put in separate bins prior to collection



Source Separated (multi-stream)

Recyclables are separated by material prior to collection OR at the drop off center (transfer station).

AUDIENCE INTERACTION SLIDE (IF YOU HAVE MULTIPLE TOWNS REPRESENTED)!

Ask: What recycling program does your community have?(try to jot down or remember)

By a show of hands, do you have:

- Single Stream
- Dual Stream
- Source Separated

Ask: For folks who have single stream or dual stream, what size is your town or city? (show of hands)

- Under 5000 people?
- Over 5000 people?

Ask: For folks who have source separated recycling, what size is your town or city? (show of hands)

- Under 5000 people?
- Over 5000 people?



Go over the pros and cons of both source separated and single/dual stream recycling as presented on the slides.

YOU MAY BE WONDERING, IS MY RECYCLING *REALLY* BEING RECYCLED OR JUST BEING TRASHED?

Great question! This is something we more often hear from communities with singlestream recycling, where all recyclables are put together into the same bin and hauled away to a "magic" recycling facility.



(continued) The short answer is YES, the vast majority of your recycling IS being recycled. There will of course be cases where recycling CONTAMINATION creeps in and ruins a small percentage of the recyclable material. (This is why we talk about contamination so much - when in doubt, throw it out!)

But again, the majority of recyclables sent to a transfer station or recycling center ARE recycled.

If you think about it strictly from a money-making perspective, it's easy to see why recycling the recyclables (versus landfilling or incinerating them) makes sense. It costs money to build, run, and maintain a transfer station or recycling center - from staffing to building and grounds to the machinery required - recycling centers need to make a revenue to support themselves, just like any other manufacturer. (And remember, recycling IS a manufacturing process!) Communities want to be sure as much is being recycled as possible so they can avoid landfilling or incineration costs.

What percentage of communities in NH have their own municipal recycling facility?





AUDIENCE INTERACTION SLIDE!

Ask: What percentage of communities in NH have their own municipal recycling facility?

By a show of hands, is it:

- 72%?
- 85%?
- 91%?

(Click to pull in answer on next slide)

What percentage of communities in NH have their own municipal recycling facility?



85%

85% of communities in NH have their own municipal recycling facility!

State law requires that, "Each town shall either provide a facility or assure access to another approved solid waste facility for its residents." That's why you can find transfer stations in some of our smallest communities across the state!

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Recycling Processing

Materials Processed in New Hampshire



Electronics

Processed in Dover, NH

Electronics are sorted, dismantled, and mechanically separated. Valuable materials such as gold, copper, glass, and aluminum are then recovered to be reused.



Cardhoard

Processed in Claremont, NH
Cardboard is made into large
sheets of kraft paper for brown
paper grocery bags, lawn bags,
and packing material.

Wondering where your recycling is being processed?

Recycling is a global market. This means that some, but not the majority, of recycling is sent overseas to be processed. In fact, over the past 5 years, less and less has been sent abroad to be processed and is instead processed closer to home.

Most NRRA recycling vendors – the folks who process your recycling - are based in New England. In NH, there is processing for electronics in Dover, NH and cardboard in Claremont, NH



What it Takes to Become a Solid Waste Operator

In New Hampshire



Ongoing Training

All operators must renew their certification annually, which includes at least 2.5 hours of continuing professional development within the previous 12 months.



Permitted Facility

With few exceptions, solid waste management facilities must obtain a permit to construct, operate, and permanently close.

- Since 1988, NH state law has REQUIRED persons who operate solid waste facilities to be trained and certified by NHDES.
- There are over 1400 certified solid waste operators in New Hampshire!!
- Operators that understand the requirements are in a better position to properly maintain their facility, control operating costs, and protect public health and the environment.
- IN ADDITION, solid waste management facilities must be permitted, including the specific type of waste they are allowed to accept.



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Permitted Facility

With few exceptions, solid waste management facilities must obtain a permit to construct, operate, and permanently close.

(cont.) ADDITIONAL INFO:

The solid waste permitting system provides regulatory controls to assure proper construction, operation and closure of solid waste facilities, which protects the environment, public health and safety. Approvals are also required for certain solid waste management related activities, including the production and use of wastederived products.

Solid Waste Operator Training (SWOT) increases awareness of and compliance with RSA 149-M and the New Hampshire Solid Waste Rules through education and training.



Recycling in your Town



Which of the following town departments generate revenue?



Economic Development

Police

Fire Station

Human Services

Recreation

Town Clerk/Tax Collector

Sewer

Transfer Station

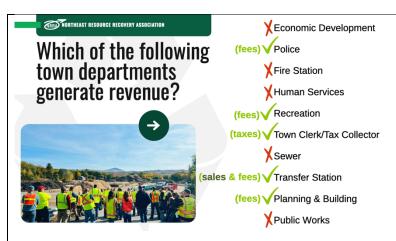
Planning & Building

Public Works

AUDIENCE INTERACTION SLIDE!

Ask: Looking at this list, which of the following town departments generate revenue? Shout them out!

(Click to pull in answers on next slide)



You can see that the Transfer Station is one of a few departments that brings in revenue, and the only department that brings in revenue through the sale of recyclables.

**Revenue is the total amount of money generated by the sale of goods or services, while income is earnings or profit—revenue minus expenses.



- Revenue is EARNED and Disposal Costs are AVOIDED.
- Disposal costs are how much it costs for waste to be landfilled or incinerated.
- Waste diversion can help avoid the higher cost of municipal solid waste disposal. (Though not always true with single and dual stream recycling when markets are down.)
- The cost of landfilling and incineration will continue to rise, so diversion is key.

EXAMPLE:

Typically, the cost to recycle is less than the cost to throw that material away. Waste may cost \$100 a ton to landfill or incinerate. A recyclable may sell for \$140 a ton revenue. So if you recycle it, you would BOTH get the \$140 for the sale of the recyclable, PLUS \$100 to avoid landfilling. So now that recyclable is worth \$240!



In addition to saving money or generating revenue, waste diversion saves energy and natural resources. It's important to recycle whenever we can, because recycling helps to save valuable landfill capacity for waste that cannot be diverted. Aluminum recycling is one of the best examples, since it can be recycled over and over again an infinite amount of times without breaking down.

*Go over slide as presented



Why doesn't my town recvele EVERYTHING?

You need 3 things to decide:



II Location

Transportation & Processing: Where is the location of the processing facility in relation to the community?



Markets & Materials: Are you offering high quality materials

Recycling is a manufacturing process. Machinery is used to create new items on a large scale.

NEED:

- Amount (economy of scale): do you have enough of a recyclable to make it economically beneficial to recycle?
- Location (transportation and processing): how far does the recyclable have to travel in order to be processed? Hauling and transportation is expensive. You also need to consider the environmental impact of the amount of CO2 emissions released from long hauls. Depending on how far the recyclables may need to travel it may not make economic or environmental sense to recycle.
- Cost (look at the market and the quality of the materials): recycling markets are like any other markets – they go up and they go down. However, even when the markets are down, so that it costs money to recycle rather than making a revenue, it STILL might make sense to recycle! The cost of recycling may still be lower than the cost of sending waste to a landfill or incinerator.

A Note on **Contamination**

Recycling is a manufacturing process - machinery is used to create new items on a large scale. When can then better understand why contamination is such a problem. Just as you wouldn't want contamination in other manufacturing, contamination in recycling is also problematic.

Percent of Contamination Found:

Source Separated Recyclables

Single and Dual Stream Recyclables



Recycling is a manufacturing process. Machinery is used to create new items on a large scale.

Just as you wouldn't want contamination in consumable items you use daily, you don't want contamination in the raw materials being recycled back into a usable item.

Contamination tends to be much lower in source separated recyclables opposed to single/dual stream recyclables (eg. clamshells, Dunkin Donuts cup, etc.)



Types of Recycling - Materials

When does recycling happen?

Hint: Probably not when you think!



AUDIENCE INTERACTION SLIDE!

Ask: When does Recycling happen?
Can either solicit several answers, OR ask...

By a show of hands, is it:

- When you throw an empty can into the recycling bin?
- When a plastic bottle is turned into a shirt?
- When recyclables are dropped off at the transfer station?
- When containers are baled and shipped to a processing plant?

(Click to pull in answer on next slide)

When does recycling happen?

Hint: Probably not when you think!

Recycling doesn't happen when items are tossed in the recycling bin or dropped off at the transfer station. Recycling happens when materials are turned back into products that people use.





Recycling doesn't happen when items are tossed in the recycling bin or dropped off at the transfer station.

Recycling happens when materials are turned back into products that people use.

Be sure to close the loop and fully recycle by

Be sure to close the loop and fully recycle by purchasing items made with recycled content.

"post-consumer recycled content" means that your item used to be another item, was used, brought back to a recycling center, processed, and turned into the new item you are purchasing

"recycled content" means that though the item is made from recycled material, that material didn't necessarily come from products used by the public. For example, the cutoffs from making newspapers are gathered and recycled to make more newspaper, without ever leaving the newspaper production plant.



Magazines become:

- paperboard
- telephone directories
- newspaper

Paperboard, Mixed Paper, and Junk Mail become:

- paper backing on roofing shingles
- paper towel and toilet paper rolls
- new paperboard packaging



Cardboard Becomes:

- Paper bags
- New cardboard
- Paperboard
- Cardboard Medium (the corrugated middle part)

Notebook & Computer Paper:

- paper towels
- facial tissue (kleenex)
- toilet paper
- napkins
- new notebook paper
- new computer paper



Tin (steel) Cans:

- bike parts
- rebar
- car parts
- steel beams
- appliances
- new cans

Aluminum:

- new aluminum cans



Glass can become:

- new glass bottles
- new jars
- fiberglass
- sand used in construction projects (PGA processed glass aggregate)

Plastics can become:

- carpet
- backpacks
- polar fleece
- sleeping bag & ski jacket insulation
- plastic lumber for decking, docks, and outdoor furniture
- play sets
- new plastic bottles
- buckets
- containers
- frisbees
- stadium seats



whether or not it's recyclable.

CHASING ARROWS:

You've seen this symbol " - known as "chasing arrows" - on all sorts of plastic things. You may think it means something is recyclable...or is made from recyclable materials. Unfortunately, it's never that straightforward.

This symbol with a number in the middle tells you what type of resin - or plastic - the item is made out of.

This means it can give you a CLUE as to whether or not it's recyclable.

Some numbers - like #1 are often recyclable especially when it's a bottle, jug, or tub. Other numbers, like #6 (eg. styrofoam cups) or #7 (eg. cell phone cases) are very difficult to process and therefore rarely accepted.

PLASTIC RECYCLING:

- YES, RECYCLE! #1 and #2 plastics such as soda and water bottles, milk and juice jugs, shampoo and cleaning bottles.



- NO, TOSS IT. #3, #6, and #7 plastics such as plastic wrap and food trays, cooking oil containers, vending cups, vinyl and in most cases, styrofoam products.
- MAYBE, ASK: #4 and #5 plastics such as yogurt containers, shopping and dry-cleaning bags.

REMINDER:

- 1. When in doubt, throw it out better than contaminating a recycling load!
- 2. If it's a #1 but NOT a bottle or jug, ASK before you recycle (those sneaky clamshell food containers are often NOT recyclable, even though they are a #1.)
- 3. Decreasing the amount of single-use plastic you use will always be better than recycling plastic. FIRST reduce/refuse, THEN reuse, FINAL option is to recycle.
- **How much plastic is recycled? Greenpeace article: 5-6% BUT that includes ALL types of plastics that are created. Plastic recycling for bottles, tubs, and jugs is nearly 30% (according to the most recent EPA #s) so better, but we are always aiming for more.



Styrofoam and plastic bags *MIGHT* be recyclable in your area. Here's what to do:

PLASTIC BAGS:

 Make sure they are CLEAN and DRY, you should be able to return them to a grocery store or other large store like Target or Walmart near you.

STYROFOAM:

- A few communities in NH and VT have started recycling Styrofoam. A machine at the transfer station breaks down the styrofoam before melting it down into a tube that is shaped into a 50 pound block. Ask your local transfer station.
- Gilford, NH
- Lyndonville Recycling Center, VT



Recycling Next Steps

Next Steps

Actions you can start taking TODAY



SIGN UP For Full of Scrap NRRA's bi-weekly newsletter on recycling and waste reduction

news in the Northeast



BUY RECYCLED At Home and at Work

Look for the phrase, "post consumer recycled material."

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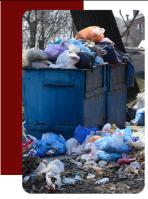






Join a Committee Join or start a municipal waste reduction committee, working in PARTNERSHIP with your town.

- Sign Up for Full of Scrap, the bi-weekly newsletter covering recycling and waste reduction in the Northeast, on the NRRA website
- Buy Recycled at Home and at Work. Look for post consumer recycled material to know that your recycling has been turned into a new product! At work, copy paper is a great recycled option.
- Stop Throwing Away Food Scraps find an alternative. Food waste is heavy and takes up precious landfill space, when it could just as easily be composted or otherwise diverted.
- Join or Form a Waste Reduction Committee
 In your town, but be mindful to work
 collaboratively in PARTNERSHIP with your
 town's waste operators they are the certified
 experts in the field. Waste reduction
 committees are great for providing ongoing
 and necessary public recycling education, a
 key component of a successful recycling
 program.



MODA) NORTHEAST RESOURCE RECOVERY ASSOCIATION

Challenges Unique to NH



Solid Waste Disposal is **Expensive**New England has the **highest cost for trash disposal** in



Out-of-State Solid Waste coming in.

Nearly 50% of the waste disposed in NH comes from out of state - mostly from MA.



Lack of State Support

the entire country

We lack the grants, technical assistance, and state-level policies that support recycling and solid waste management.



Lack of Infrastructure

We lack infrastructure such as a MRF or anaerobic digester for solid waste diversion.

Challenges Unique to NH:

- SOLID WAST IS EXPENSIVE Waste reduction, like recycling and composting, is more financially valuable in NH because New England has the highest cost for trash disposal in the entire country.

- OUT OF STATE WASTE

Nearly 50% of waste disposed in NH comes from out of state, mostly from MA. The interstate commerce clause says that goods and services can freely move across state lines.

- LACK OF STATE SUPPORT

We lack the grants, technical assistance, and state-level policies that support recycling and solid waste management. This is why the NH Solid Waste Working Group was such an important creation at the state level.

- LACK OF INFRASTRUCTURE
We lack infrastructure such as a MRF
(Materials Recovery Facility) or anaerobic
digester that are often necessary to scale-up
solid waste diversion.



Possible Solutions

Options that have worked in other states



Bottle Bill

Deposit-refund system incentivizes bottle recycling through a minimum refundable deposit (requires legislative action)



Extended Producer Responsibility (EPR)

An environmental policy approach that shifts the responsibility for the full lifecycle of a product upstream toward the producer and away from municipalities.



Waste Bans

Enacted on the state level (such as the NH Yard Waste Ban), waste bans restrict the type of items that can be disposed of within the state.

POSSIBLE Solutions:

1. Bottle Bill

- Requires a minimum refundable deposit on beer, soft drink and other beverage containers in order to ensure a high rate of recycling or reuse.
- The deposit-refund system was created by the beverage industry as a means of guaranteeing the return of their glass bottles to be washed, refilled and resold.
- 2. Extended Producer Responsibility (EPR)
- An environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle.



Possible Solutions

Options that have worked in other states



Bottle Bill

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Waste Bans

Enacted on the state level (such as the NH Yard Waste Ban), waste bans restrict the type of items that can be disposed of within the state.

(continued)

- The shifting of responsibility (physically and/or economically; fully or partially) upstream toward the producer and away from municipalities; and
- The provision of incentives to producers to take into account environmental considerations when designing their products.
- While other policy instruments tend to target a single point in the chain, EPR seeks to integrate signals related to the environmental characteristics of products and production processes throughout the product chain. (Additional info: EPRs place primary responsibility on the producer, or brand owner, who makes design and marketing decisions. It also creates a setting for markets to emerge that truly reflect the environmental impacts of a product, and to which producers and consumers respond.)

Examples from other states include:

- Paint Stewardship Program (ensures leftover paint is properly managed in a manner that is sustainably funded)
- Carpet Stewardship Program (ensures discarded carpet becomes a resource for new products)
- Mattress Stewardship Program (aims to reduce illegal dumping, increase recycling, and substantially reduce local gov. costs for endof-use management of used mattresses)

3. Waste Bans

- enacted on the state level (such as the NH yard waste ban)
- By cutting down on disposal, waste bans also help states capture valuable resources, save energy, reduce greenhouse gas emissions, and lessen reliance on landfills and incinerators.





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- Did you know there's something more damaging - to your community, to the environment - than NOT recycling something?
- What's worse you might ask? Throwing something in the recycling bin that is NOT recyclable.
- Often referred to as "wishcycling" or "outthrows," these pieces of trash pretending to be recycling can contaminate or ruin an entire load of recyclables. Imagine, all that work done by all those people in your town ruined because of trash?
- Just because something has the chasing arrows symbol on it, DOES NOT mean the item is recyclable! When you throw something in the recycling bin it DOES NOT MAGICALLY BECOME RECYCLABLE! Instead, you have thrown trash into a recycling bin contaminating actual recyclable materials.
- Items you wish-cycle can contaminate a load of recyclables or get stuck, tangled, or wrapped in the recycling processing machinery. This can cause expensive and potentially dangerous shutdowns in the recycling process.
- When in doubt, throw it out!



For more information on recycling and waste reduction, visit the NRRA website: www.nrrarecycles.org