

Post 4: Current Topic 2021-2022

Recycling and Waste Diversion

Connecticut

1. What materials are required to be recycled in Connecticut? (ie mandated or designated recyclables)
2. What's a bottle bill/redemption program? How is it the same or different from mandatory recycling laws?
3. How do you learn what is acceptable in CT's mixed recycling (single stream) program?
4. How are tanglers a problem in our mixed recycling programs?
5. What's the difference between: Recyclable vs. recycling vs. recycled?
6. What's slow fashion and how is it related to sustainable materials management?
7. What is post-consumer recycled (PCR) content mean? What does it mean to have PCR standards? Why are they important?

In Connecticut...

Mandatory Recycling

Recycling of certain food and beverage containers have been mandatory since a law passed in 1987. Over time, containers and paper products have been added to the list. The full list of items that are mandatory as well as banned from disposal can be seen on CT DEEP's webpage [Recycling... It's the Law](#). Because recycling of certain items are required by law, recycling activities happen in all types of places including home, businesses, faith-based organizations, sports venues, public spaces like parks and [schools](#).

Bottle Bill

In addition to mandatory recycling, Connecticut was the third state to pass a container redemption law aka a [bottle bill](#). When the law first passed in 1978, it was to reduce the amount of bottles and cans littering Connecticut highways and roadways. Since it was first implemented, the bottle bill has expanded beyond carbonated beverages (soda and beer) containers (glass and plastic bottles and metal cans) to also include water bottles.

Public Act 21-2, legislation that passed in 2021, adds hard seltzer, hard cider, plant water, juice, juice drink, tea, coffee, kombucha, plant infused drink, sports drink or energy drink containers and increases the deposit from 5¢ to 10¢. These changes will be implemented January 1, 2023. Due to the changes in the program, CT DEEP provided an [Overview of Changes to the Bottle Bill](#) in August 2021.

The bottle bill program is seen as incentive program; increasing the deposit should increase the number of people returning their bottles and cans and a larger number of beverage containers in the bottle bill program will increase the amount of materials recovered for recycling.

RecycleCT – Creating a Universal List

The [RecycleCT Foundation](#) is a nonprofit organization whose mission is to promote the importance of managing materials more sustainably through waste reduction, reuse, recycling and composting. RecycleCT encourages individuals, government entities, businesses, schools and organizations to adopt these practices as part of their everyday lives or operations.

RecycleCT provides statewide promotion of recycling through its What's IN, What's OUT program; creates educational materials available for printing that can be co-branded by municipalities, haulers and others; conducts research, including a recent recycling economic information study; and offers grant programs.

CT DEEP, in anticipation of RecycleCT's statewide education and promotion, worked with all the Material Recovery Facilities (MRFs) that sort and process our mixed recyclables in Connecticut to create a universal list of what is acceptable in our mixed recycling (single stream) bin and what is not.

This list was created by facilitating a conversation with all the facility operators to identify "what materials are detrimental to their system." All different types of containers and paper products were considered when the following questions were asked:

What is Detrimental?

Item, material or product that:

- could be harmful to employees or safety concern
- can shut down or harm equipment
- reduces the value of commodities

From this process, it was confirmed that none of the facilities were able to process and didn't want plastic bags, bagged recyclables, shredded paper, expanded polystyrene (commonly known as Styrofoam), or items that would tangle in the machinery (bags, clothing, wires, cords).

The What's IN, What's OUT program provides a number of resources for individuals, municipalities and hauler/processors on www.recyclect.com:

- RecycleCT Wizard, a search tool municipalities, schools and others can put on their webpage
- RecycleCT Wizard app, available on Apple or GooglePlay
- Social media images, including videos, to post on Facebook, Instagram or Twitter
- Flyers, posters, billing inserts, and more that can be downloaded and printed.

How is it sorted?

A materials recovery facility or MRF is the generic term for a company that sorts and process recyclables mechanically. Most MRFs include manual sorting by staff as well as technology, which may include optic sorters, magnets, blowers and robots. The main task is to prepare materials to sell. While this [MRF video](#) or this [MRF video](#) are not from Connecticut, they show similar technology used by CT MRFs.

If materials come in as mixed recyclables, they need to be sorted. Some general categories materials could be sorted into include cardboard, mixed paper, #1 and #2 (plastic resin types), mixed plastic, aluminum, steel, grade #51 (milk cartons and juice boxes), mixed glass [cullet](#). Not all facilities sort this way; some put grade #51 into their mixed paper bales. Some will separate #1s from #2s and even sort plastic or glass by color.

In some cases, materials will go onto secondary sorting such as at a [PRF](#) or Plastic Recovery Facility that will take in [bales](#) of mixed plastic and then sort them by resin type and further by color.

The materials that are baled and boxed up are called commodities and they are sold to end-markets. End-markets are also called “recyclers” because they manufacture new products using the recyclables in their products instead of virgin materials. The product they make may be labeled and classified as having “pre-consumer” or “post-consumer” content; meaning if it is pre-consumer, the recyclables came from another manufacturer or industry and never was made into a product that we, consumers, purchased and used; while post-consumer are recyclables that came from our recycling programs – we bought and used the product before putting it into our local recycling program.

Glass Bottles and Jars

Glass bottles and jars in a mixed recycling (single stream) system are often heavily contaminated. Glass is what’s left after the paper or fiber, plastic and metal are removed in a MRF. And due to that, it often has small things that are not acceptable, including lip balm, prescription bottles, pens, tampon applicators, miniature liquor bottles and batteries that contaminate the glass. Because of this, there are few end-markets available who will take heavily contaminated glass – most MRFs in Connecticut opt for marketing their “MRF glass” to landfills where its used as an [alternate daily cover \(ADC\)](#). While the glass is not recycled into new glass containers, recovering clean glass is a huge challenge due to mixed recycling embraced by all MRF operators.

Communities across the country have responded to the challenge contaminated glass in a variety of ways. Some have stopped collecting glass, some conduct a second sort of glass before marketing and others have chosen to collect separately. While Connecticut has discussed adding more glass bottle containers to the bottle bill, the final versions of bills put into law have never had additional glass. And in 2019, Connecticut was given hope by a new end-market planning to open operations in Connecticut, making a concrete-type product called pozzolan made by [Urbanmining, LLC](#) in Beacon Falls.

The Housatonic Resources Recovery Authority (HRRRA), a regional, governmental, waste management and recycling authority that serves fourteen municipalities in western Connecticut. In an effort to reduce costs associated with highly contaminated glass that had little marketability, HRRRA now offers glass collection, separate from the mixed recycling program. Glass is collected by itself at the transfer station, but also accepted in the mixed recycling program offered curbside; this allows flexibility for all

residents. Learn more about [HRRRA's Glass Recycling program](#) and why they believe source separated collection for cleaner glass cullet is a better way to recycle.

More than Bottles and Cans

Textiles

Even damaged clothing and other textiles may be repurposed. If a textile is badly stained, missing buttons, or torn, it can still be used to make rags or used as fiber for car seats, pillows, stuffed animals, soundproof insulation, and many other purposes.

When clothing and other textiles can no longer be reused, they can be collected for recycling. There are many options to reuse and recycle textiles in your community through donation or consignment. Depending on the town, textiles are collected curbside, at your transfer station, local thrift shops or even mailed to an online outlet for used clothes. You may have seen the metal drop boxes at your local retail store, gas station, or transfer station – these collection boxes accept most textiles and are owned by non-profit and for-profit organizations.

Additionally, buying used items, such as clothing, helps reduce the amount of textiles consumed and discarded – there are plenty of thrift shops, consignment stores, and pawn shops in the state with quality used textiles available. Many of these organizations receive used textiles from people like you – and re-sell them for profit or to benefit community and social programs. So gather your clothing, bedding, handbags stuffed animals and much more and find out where you can reuse and recycle your textiles with the resources below.

Reducing consumption is the most significant behavior change individuals may take to limit environmental impact. Ever hear of the concept [Slow Fashion](#)? This is a movement created in response to fast fashion. In 2018 Americans purchased on average 68 garments a year. About 80 billion pieces of clothing are purchased around the world every year. And on average, each piece will be worn seven times before getting tossed. In China, it's just three times, says the Chinese fashion-rental platform Y Closet.

Mattresses

In 2013, Connecticut became the first state to pass comprehensive mattress stewardship legislation. [Public Act 13-42](#) required mattress manufacturers to establish a program to manage unwanted mattresses generated in Connecticut. In response the [Mattress Recycling Council](#) was created.

The Connecticut law assesses a fee at the point of sale to finance the stewardship program – which includes working with retailers, municipalities, residents, haulers and recyclers. The law requires the Mattress Recycling Council to ensure municipalities have access to mattress recycling at no cost to the town or residents.

Municipalities, retailers, universities and colleges, hotels, healthcare facilities and other public or private entities that use large volumes of mattresses can benefit from this

program. This program is voluntary. Those that choose to participate can recycle their mattresses for free. The Mattress Stewardship Program began on May 1, 2015.

Recycling happens when the steel, foam etc. are recovered, boxed or baled and sold to end-markets that will create new products from the raw materials recovered from the mattresses and box springs.

Mattress Dismantlers recover much of the different components that make up a mattress and box spring (wood, metal, foam, fabric) and have recycling markets for 80 – 90% of the original product. Connecticut has two mattress dismantling companies, [Park City Green](#) in Bridgeport and [Willimantic Waste Paper Company, Inc.](#) in Willimantic.

The Mattress Recycling Council created a [video](#) that shows how mattresses are processed for recycling.

Paint

In 2011, Connecticut legislature passed [PA-11-24](#) creating a paint stewardship law program, which provides for the collection and post-consumer recycling and disposal of unwanted paint and containers. The program is managed by PaintCare.

Since the program began ten years ago, Connecticut has collected over 1 million gallons of used paint through Connecticut's implementation of the [PaintCare Program](#).

You can follow the 3R's with paint too! Check out [Quinn's Waste Busting Tips: Paint Smarter - YouTube](#) to learn how to reduce paint waste and how to properly store paint so you can reuse. If you can't reduce or reuse, paint can be recycled in Connecticut.

PaintCare is now in many states, not just Connecticut. Here's a recent video PaintCare made a [video for Colorado](#), which shows you can take your paint to participating hardware or paint stores and where it goes after that. Latex paint is recycled by blending similar colors - sometimes with additional tints added. All empty cans are also recycled. Oil-based paints are usually used as fuel.

Buying Recycled

Recycling does not end once you have dropped off your cans, bottles and newspapers at the curb or nearest recycling center. This is just the first step! Once you have dropped off your recyclable goods, they are taken to a recycling facility where they are processed to market conditions, baled and shipped to manufacturers and paper mills which turn them into value added products that are then sold on the market.

The final step, which is just as important as these other two steps, occurs when you, your school or business purchase products made from the recovered materials, also known as recycled-content.

Buying items with Recycled Content:

- Creates markets for materials collected in residential & business recycling programs, thus increasing their value
- Reduces need for additional disposal capacity

- When manufactures or paper mills use recycled materials vs. virgin materials to make new products:
 - Air and water pollution is reduced
 - Natural resources are conserved
 - Energy is saved
 - Less water is used
 - Emissions of greenhouse gases that contribute to global climate change are reduced
- Supports the development of green technologies
- Creates jobs and strengthen the local economy
- Promotes and supports a more sustainable lifestyle or business ethic

CT Essential

- [Recycling... It's the Law.](#)
- [Connecticut Bottle Bill](#)
- Glossary of terms <https://portal.ct.gov/DEEP/Reduce-Reuse-Recycle/Municipal-Recycling-Resource-Center/Glossary-of-Recycling--Solid-Waste-Terms>
- Tangled Up! (video)
https://www.youtube.com/watch?v=EDipC5oJG_A&list=PL7KFY2SijTau-dTdHeiWrMMC1kMAsmG_c&index=22
- Recycling Rules the Same Across Connecticut (2:03) (video)
<https://www.youtube.com/watch?v=fRXDBhfs50&list=PL7KFY2SijTaswW9LBE13hlsn3K4dZRnzm&index=7&t=45s>
- Electronics Recycling (video)
<https://www.youtube.com/watch?v=mjGDrP0lxuY&list=PL7KFY2SijTaswW9LBE13hlsn3K4dZRnzm&index=2>
- Recycling is Magic (video) https://www.youtube.com/watch?v=9Mb8-vcCdfM&list=PL7KFY2SijTav05OXyNEROtTy_DbqDM-Lc&index=25

CT Good Resources

- Textile Recycling [Textiles Reuse Recycling \(ct.gov\)](#)
- [All About Textile Recycling - YouTube](#) (video)
- Mattress Recycling [Mattress Recycling \(ct.gov\)](#)
- Guide to Slow Fashion [Guide to Slow Fashion | 5 Easy and Simple Tips for Every Budget - YouTube](#) (video)
- [High Price of Fast Fashion](#) (Wall Street Journal, August 2019)
- [Casella's Approach to Sustainable Recycling - YouTube](#) (video)

CT Resources if you want to know more/dig deeper

- Webinar Recording: [Setting Up A Recycling Program at Your School](#) (CT DEEP, 2019)

- Webinar Recording: [Collecting Textiles for Reuse and Recycling](#) (CT DEEP, 2019)
- [How Plastic PET Bottles are Made into Polyester Fabric - YouTube](#) (video)
- [Making Shirts Out Of Recycled Water Bottles! - YouTube](#) (video)