

THE STATE OF RECYCLING & COMPOSTING IN COLORADO

REDUCING WASTE AND BUILDING
A CIRCULAR ECONOMY

2023
7th edition

EXECUTIVE SUMMARY

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Eco-Cycle is a Zero Waste pioneer and one of the nation's oldest and largest nonprofit recyclers. Eco-Cycle innovates, implements, and advocates for local and global Zero Waste solutions to foster a more regenerative, equitable, and climate-resilient future. For more information, visit ecocycle.org.

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STATE OF RECYCLING & COMPOSTING IN COLORADO

Executive Summary

For the past six consecutive years, Eco-Cycle and CoPIRG have published this report highlighting Colorado's stagnant and low recycling and composting rate, which has remained at around 16%, half of the national average.ⁱ Despite the rate remaining unchanged in this seventh year of the report, there is notable progress. **New state and local policies and programs are underway, creating the potential to significantly boost recycling and composting rates and broaden recycling access throughout the state.**



Recycling is not enough. This year's report is expanded to include Colorado efforts to reduce and reuse.

In addition to significant advancements in recycling, Colorado has bolstered its commitment to surpass the limits of recycling by actively implementing reduce and reuse strategies. These initiatives aim to prevent the need for natural resource extraction in the first place, thereby mitigating the negative environmental and social impacts associated with it. From natural resource extraction to disposal, the entire linear life cycle of the products we consume creates pollution and climate-warming greenhouse gas (GHG) emissions called "[consumption-based emissions](#)." Astonishingly, these emissions account for 42% of the US GHG footprint.ⁱⁱ Recycling alone is not enough to address these emissions.

To truly make a difference, it's essential to engage all three Rs of the Zero Waste hierarchy: Reduce, Reuse, Recycle (and compost, the recycling of organic matter). This approach is crucial to bending our linear, polluting production system into a [circular economy](#). A circular economy, which focuses on reducing pollution, redesigning products to be less resource-intensive and toxic, and capturing "waste" for reintroduction into the economy as feedstocks for new products, offers a comprehensive solution. This circularity maintains the highest value of materials and products for as long as possible, which is not just better for our environment, it's better for us as consumers as well.

In a departure from the previous six editions, this year Eco-Cycle and CoPIRG will not report on local recycling and composting rates because the statewide Needs Assessment for the Producer

ⁱ Colorado Department of Public Health and Environment (CDPHE). "2021 Colorado Recycling Rate." <https://cdphe.colorado.gov/hm/colorado-recycling-totals>. Accessed 11/6/23

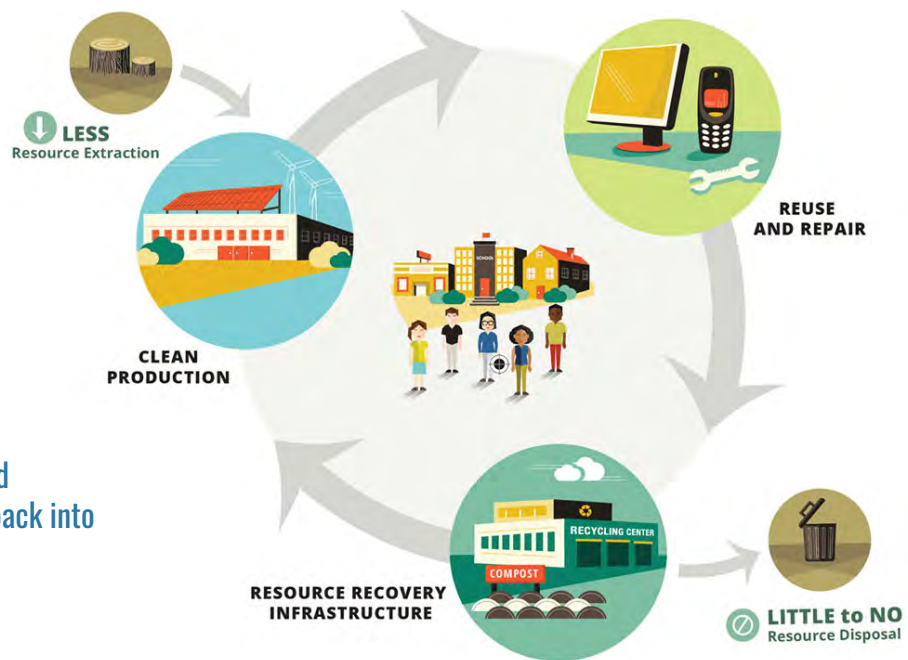
ⁱⁱ EPA. "Documentation for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)." (2020) https://www.epa.gov/sites/default/files/2020-12/documents/warm_background_v15_10-29-2020.pdf. Accessed 10/16/23.

Responsibility for Recycling program is capturing that data as of the writing of this report. This report looks at more than our “recycling and compost” rates, or the percentage of waste diverted from the landfill. While that is a critical metric, it is only one piece of a truly circular economy that engages all Zero Waste strategies and opportunities. To go beyond just diversion, we shifted the questions we typically asked our municipal contacts to include reduce and reuse practices. Accordingly, the subtitle “Reducing waste and building a circular economy” has been added to the title of the report, and it highlights programs and policies some jurisdictions and businesses in the state have enacted to actively incorporate the first two Rs—reduce and reuse—into their work, in addition to recycling and composting. The report elaborates on these initiatives, demonstrating how they contribute to Colorado’s progress in building a circular economy and positioning the state as a leader in waste reduction.

This report is intended to serve as a tool to support Colorado’s future circular economy.

One of the major challenges hindering waste reduction and diversion projects in Colorado is the limited resources available to support programming and infrastructure. Our goal with this report is to assist Colorado communities in maximizing the services and programs in development, thanks to new state policies focused on the three Rs—reduction, reuse, and recycling/composting. Individual Colorado communities have done some innovative Zero Waste work and we aim to spotlight their successes as inspiration and guidance for others as we collectively pursue the frontier of circularity. Looking ahead, we hope to demonstrate in future releases that Colorado continues to make significant strides toward becoming a leader in the three Rs and fostering a circular economy.

A circular economy reduces the need for resource extraction and reintroduces “waste” back into the economy.



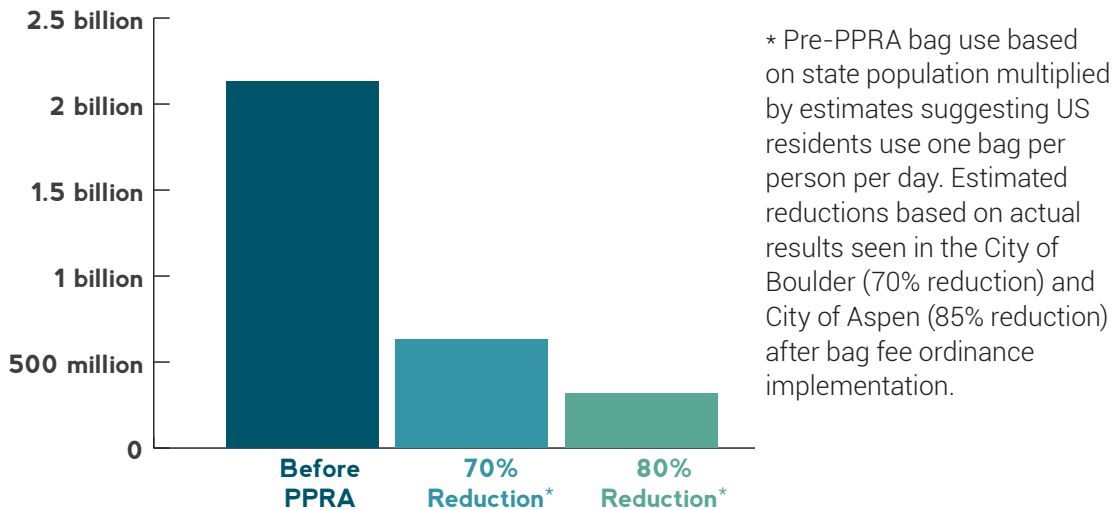
Key findings for each of the three Rs: Reduce, Reuse, Recycle (and Compost)

Please see the full report for models being pioneered by Colorado businesses and communities, as well as recommended actions related to each of the sections.

REDUCE & REDESIGN

Implementation of the **Plastic Pollution Reduction Act (HB21-1162)** is **dramatically reducing problematic plastic**. The law's first phase implemented a statewide fee on single-use checkout bags that is estimated to reduce between 1.5 and 1.8 billion single-use checkout bags in Colorado each year.ⁱⁱⁱ Phase two, starting January 2024, will ban polystyrene take-out food containers and single-use plastic checkout bags altogether. In July 2024, phase three will lift the state preemption on local jurisdictions from banning plastics, creating opportunity for municipalities to take action to reduce plastics even further.

FIGURE 2: ESTIMATED REDUCTION IN SINGLE USE CHECK-OUT BAGS IN COLORADO



ⁱⁱⁱ Eco-Cycle calculation based on state population (5,839,926 in 2022) US Census Bureau. "Quick Facts: Colorado." <https://www.census.gov/quickfacts/fact/table/CO/PST045222>. Accessed 10/23/23.

National Geographic. "Fast Facts About Plastic Pollution." (2018) <https://www.nationalgeographic.com/science/article/plastics-facts-infographics-ocean-pollution>. City of Aspen. "Single-Use Bag Study." (2017) <http://www.aspen.gov/DocumentCenter/View/687/City-of-Aspen-Single-Use-Bag-Study-PDF?bidId=>.

City of Boulder. "Disposable Bag Fee." <https://bouldercolorado.gov/services/disposable-bag-fee>. Accessed 10/23/23.

- **Colorado lags behind on state-level policies to reduce wasted food and address food access disparity.** Some progress is being made through programs in communities like Denver and the Boulder Valley School District, but there is much more work needed. Ordinances like the organic landfill ban Aspen is implementing, and additional laws encouraging food donation, are good models for other local jurisdictions and the state to reduce the production of food waste and address food access disparity in Colorado.

REUSE & REPAIR

- **Reuse in school cafeterias presents an enormous opportunity to reduce waste and save money through the tens of millions of meals served every year in Colorado schools.**^{iv} Reusable trays and utensils reduce waste, are healthier for students as they keep food off toxic foam trays, and they save schools money. Switching to bulk milk dispensers with refillable cups, instead of cartons, reduces carton waste and costs to schools by reducing roughly two gallons of wasted milk per student per year.^v
- **Colorado food venues and municipalities are reducing significant costs, water use, and greenhouse gasses (GHG) by switching to reuse and refill.** In the past year, just two of the emerging reusable food serviceware businesses operating in Colorado, [r.World](#) and [DeliverZero](#), have avoided more than 13,000 pounds of waste to landfills, saved over 325,000 gallons of water, and avoided over 46,000 kgCO₂e of GHG emissions (the equivalent of over 5,000 gallons of gasoline).^{vi} Supporting in-house reuse and expansion of reuse service businesses through subsidies, pilot programs, community education, and policies promise tremendous cost and climate impact savings in years to come.
- Switching from mini personal-care bottles (shampoo, lotion, etc.) to **refill dispensers in the hotel industry can lower costs and dramatically reduce plastic waste:** for example, family-owned Breckenridge Grand Vacations estimates cost savings of 40% and reduction of over half a million mini-bottles per year.^{vii}
- **Adopting “Right to Repair” and “Ending Planned Obsolescence” principles and policies are key to lengthening the lives of existing products and avoiding the need to make new products.** Colorado is a leader with two national-model Right to Repair bills, which ensure Coloradans have access to the tools and information they need to repair electric-powered wheelchairs ([HB22-1031](#)) and agricultural equipment ([HB23-1011](#)). Colorado needs the same Right to Repair policy for consumer electronics.

iv Colorado Children’s Campaign. “Time to Eat: An Emerging Consideration for School Lunch Delivery and the Nutrition of Colorado’s Students.” <https://files.eric.ed.gov/fulltext/ED607085.pdf>. Accessed 10/23/23.

v Eco-Cycle calculation based on WWF. “Abandoning the carton: how bulk milk dispensers can help schools reduce waste.” (2022) <https://www.worldwildlife.org/stories/abandoning-the-carton-how-bulk-milk-dispensers-can-help-schools-reduce-waste>.

vi Email communication with DeliverZero on 10/16/23. Email communication with r.World on 10/25/23. EPA. “EPA Greenhouse Gas Equivalencies Calculator” <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>. Accessed 10/27/23. Some units needed to be clarified with respective companies and converted to other units so they could be directly compared to each other.

vii Email conversation with Emily Kimmel, Breckenridge Grand Vacations. 10/25/23.



RECYCLING & COMPOSTING

- **Recycling rates in Colorado are low and stagnant, yet we are poised to become a national leader with Colorado’s groundbreaking Producer Responsibility Law ([HB22-1355](#)).** Once fully implemented, ALL Coloradans will have convenient recycling access and a much higher percentage of the state’s recyclable materials will be captured and returned to the supply chain, instead of landfilled. All stakeholders need to engage now in the law’s implementation process to ensure that the new system builds on existing successful recycling programs, and provides robust education and convenient, equitable access to recycling. Producer Responsibility should also incentivize the reduction of unnecessary packaging and the use of greener, more recyclable materials through a truly circular economy.
- Building up to full implementation of Producer Responsibility, **communities across Colorado are adopting policies to expand access to residents and require businesses to recycle.**
- **While Colorado has a ways to go to reduce organic waste like food scraps and yard trimmings, and capture more of it to put into beneficial uses including compost, the state has made some major steps forward.** Many communities have invested in composting infrastructure and programs and the state has proposed updates to composting regulations (Colorado solid waste regulations Section 14; see chart on next page) that will facilitate the growth of composting infrastructure to meet increasing demand. Additionally, the legislature passed two important compost bills that will help expand compost access and infrastructure ([SB23-191](#)), and help reduce contamination in compost streams by clarifying labeling of certified compostable and lookalike “compostable” packaging ([SB23-253](#)).
- **Changes to compost guidelines for Front Range communities** restricted the inclusion of compostable products in the compost stream, which prompted a regional **Clean Compost Campaign** to help residents understand the importance of keeping contaminants out of valuable finished compost that will be used to regenerate soil. It also **prompted communities to look at adopting reuse systems** for products like restaurant to-go containers, and eliminating single-use items like condiment packaging and replacing them with refillable bulk condiments, all of which have the potential to help create cleaner organic discards and ultimately better compost for our soils.

SECTION 14 COMPOST FACILITY REGULATION CHANGES

	Existing Regulations	Proposed Updated Regulations
Conditionally Exempt Small Quantity	Allows 5 cubic yards (roughly ONE average sized trash dumpster) of food scraps in process at any time on a given site	Allows 20 cubic yards (roughly FOUR average sized trash dumpster) of food scraps in process at any time on a given site
Class I	Allows 50,000 cubic yards of "vegetative waste" (yard trimmings); allows limited food scraps if generated onsite	Allows 50,000 cubic yards of "vegetative waste" (yard trimmings) OR 5,000 cubic yards of "source separated organics" (food scraps)
Class II*	50,000 cubic yards of vegetative waste and manure	50,000 cubic yards of vegetative waste and manure
Class III**	Allowed to process all types of organic feedstock (vegetative, food, manure, biosolids, etc.); no regulatory cap on amount in process	Allowed to process all types of organic feedstock (vegetative, food, manure, biosolids, etc.); no regulatory cap on amount in process

* No change in the amount or type of feedstock at this specialty type of facility which does not apply to composters processing food scraps.

** No change in the amount or type of feedstock. Changes to Class III mainly relate to training of employees.

CENTERING ENVIRONMENTAL JUSTICE IN THE CIRCULAR ECONOMY

Environmental Justice must be at the center of the circular economy. The impacts of the extraction and processing of materials needed to make the stuff we depend on, as well as the end-of-life disposal of those products, disproportionately affect overburdened low-income and Black, Indigenous, People of Color (BIPOC) communities. These same communities tend to have less access to recycling and composting services. Recently passed legislation in Colorado will expand access to recycling ([HB22-1355](#)) and compost programs ([SB23-191](#)), and is reducing plastic waste and the associated production and disposal harms ([HB21-1162](#)). As we work toward building a circular economy, solutions must be developed with collaborative partnerships among stakeholders, most importantly groups and individuals representing impacted communities. The promise of this work is a more equitable, inclusive, and resilient economy and environment for all.