

THE STATE OF

# RECYCLING & COMPOSTING

IN COLORADO

6th edition

2022



# 2022 STATE OF RECYCLING & COMPOSTING IN COLORADO

6th annual report

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# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>5</b>
<b>STATE OF RECYCLING AND COMPOSTING 2022</b>	<b>11</b>
<b>PRODUCER RESPONSIBILITY IS A MAJOR WIN FOR RESIDENTS, LOCAL GOVERNMENTS, BUSINESSES, AND THE ENVIRONMENT</b>	<b>11</b>
<b>HOW PRODUCER RESPONSIBILITY WILL WORK IN COLORADO: MANY STAKEHOLDERS WILL DRIVE SUCCESS</b>	<b>16</b>
<b>WORK ALREADY UNDERWAY TO IMPLEMENT PRODUCER RESPONSIBILITY</b>	<b>17</b>
<b>DRIVING ECONOMIC OPPORTUNITIES IN A CIRCULAR ECONOMY</b>	<b>19</b>
<b>MAJOR GAINS IN DATA COLLECTION SHOW NEED FOR ADDITIONAL DIVERSION INFRASTRUCTURE AND SERVICES; WILL HELP PLAN FOR FUTURE ADVANCEMENTS</b>	<b>21</b>
<b>RECYCLING &amp; COMPOSTING BY THE NUMBERS</b>	<b>23</b>
<b>MUNICIPAL RECYCLING &amp; COMPOSTING LEADERS</b>	<b>23</b>
<b>MUNICIPAL AND COUNTY HIGHLIGHTS</b>	<b>27</b>
<b>RECOMMENDATIONS FOR 2023</b>	<b>28</b>
<b>CONCLUSION</b>	<b>31</b>
<b>APPENDIX</b>	<b>32</b>
<b>REFERENCES</b>	<b>33</b>

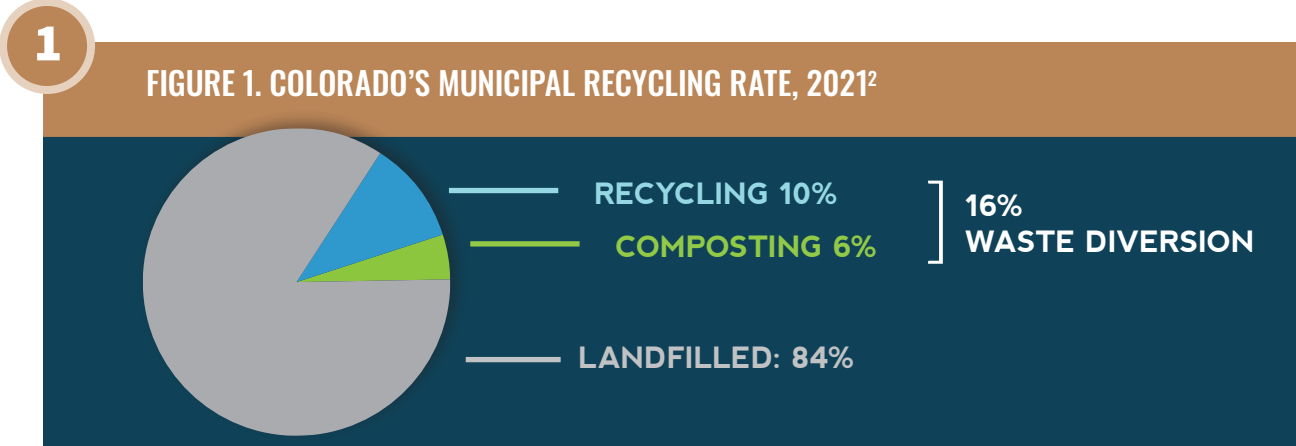






# EXECUTIVE SUMMARY

Amid historic supply chain disruptions, rampant climate change, and plastic pollution, there has never been a better time to transform Colorado’s recycling system to become the foundation of our Circular Economy for the future. The year 2022 will be remembered as the year Colorado took bold steps toward becoming a national leader in recycling—not yet as measured by recycling and composting rates\*, but rather as a leader in recycling policy thanks to the passage of [HB22-1355: Producer Responsibility for Recycling Packaging and Paper](#). Colorado’s new Producer Responsibility bill has been hailed as a national model because it is 100% producer funded and managed, it will build out recycling infrastructure and services in both rural and urban areas across the state, and because the bill was the result of extensive stakeholder input from environmental groups, the recycling industry, local governments, and producers. To be clear, the state’s recycling rate is 16%, still half the national average,<sup>1</sup> and there is a lot more work to do, but the state and the many individuals, local governments, and businesses that have worked tirelessly together over the past few years deserve to celebrate this milestone victory.



Currently, only around 30% of Coloradans are guaranteed access to curbside recycling.<sup>3</sup> Once HB22-1355 is fully implemented, all Coloradans will have free convenient access to recycling.

\* For the purpose of this report, recycling and composting rates (hereafter "recycling rate") refer to the amount of material captured for diversion through recycling, composting, mulching, or biochar production. See the appendix for more about calculating the recycling rate.



*Governor Jared Polis signed House Bill 22-1355 and House Bill 22-1159 into law on June 3, 2022, accompanied by First Gentleman Marlon Reis, bill sponsors Sen. Kevin Priola and Rep. Lisa Cutter, and bill champions from Eco-Cycle and Recycle Colorado.*

With the May 2022 passage of [HB22-1355](#): Producer Responsibility for Recycling Packaging and Paper, Colorado is poised to jump from being a laggard to becoming a leader in recycling. House Bill 22-1355, sponsored by Representative Lisa Cutter and Senators Kevin Priola and Julie Gonzales, will transform how we recycle in Colorado, making it easy for all Coloradans to recycle more paper, plastics, aluminum cans, glass bottles, cardboard, and other packaging materials. It will also help businesses by creating a more resilient domestic supply of recycled materials to make new products. A Producer Responsibility system will rapidly improve Colorado's recycling rate and result in fewer greenhouse gas emissions, cleaner air and water, less waste sent to landfills, and stronger local economies.

Producer Responsibility is one of several significant accomplishments achieved in 2022 that will propel Colorado's Zero Waste efforts forward, including:

- [HB22-1159](#): Governor Polis and the Colorado Department of Public Health and the Environment championed the Waste Diversion and Circular Economy Development Center to establish a center to support and recruit businesses that use recycled materials to make new products, establishing much-needed end markets and local jobs.
- The Colorado Department of Public Health and Environment (CDPHE) made significant strides to address wasted food, yard debris, manure, and other organic wastes through their first [Statewide Organics Management Plan](#), which analyzes and makes recommendations to fill gaps in composting infrastructure and use.
- CDPHE commissioned research that created baseline assessments of recycling and organics diversion access to better measure and guide improved diversion efforts.
- In addition, many communities across Colorado have made progress toward adding or expanding recycling and/or organics diversion programs.

These efforts will be further supported by ongoing implementation of past successes, including the Front Range Waste Diversion (FRWD) program and the Plastic Pollution Reduction Act.

While Colorado’s overall recycling rate still hovers at 16%, numerous communities continue to show how recycling and composting can be successful.<sup>4</sup> This year’s top programs include the following cities and counties:

2

**FIGURE 2. COLORADO’S LEADERS FOR BEST RECYCLING AND COMPOSTING PROGRAMS IN 2021<sup>5</sup>**

FRONT RANGE LEADERS	COMMUNITY	RECYCLING & COMPOSTING RATE*
Best citywide—residential and commercial	City of Boulder	44%
Best residential	City of Loveland	58%
Best county-level—residential and commercial	Boulder County	38%
Best industrial	City of Fort Collins	66%
<b>GREATER COLORADO LEADERS</b>		
Best citywide—residential and commercial	City of Durango	37%
Best residential	Towns of Telluride & Mountain Village	28%
Best county-level—residential and commercial	Pitkin County	48%

\* See Appendix for details on data collection terminology and how rates are calculated.

However, despite state and local efforts to increase recycling and composting programs, many Coloradans remain without convenient access to recycling and composting services. **Less than one-third of Colorado residents have guaranteed access to recycling through municipal hauling, contracts, or ordinances.**<sup>6</sup> That percentage drops significantly for residents living in apartments and in rural areas, which are consistently under-resourced.

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When fully in place, Colorado’s new Producer Responsibility system for recycling will provide free recycling access to all Coloradans, including historically under-resourced populations. Communities are already exploring ways to improve recycling access for residents in anticipation of implementing the program in 2026, when access to recycling services will be paid for by producers.

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Access to curbside organics collection is even less available than recycling and will not be addressed through the Producer Responsibility system created in HB22-1355. Fewer than 5% of Front Range residents and no Greater Colorado residents have guaranteed curbside organics collection services.<sup>7</sup> There is, however, momentum to increase organics diversion services through permanent drop-off sites for food and/or yard waste and a growing number of entrepreneurial businesses providing subscription organics collection services throughout the state. In addition, municipalities across the state are actively working to expand curbside organics collection, the most notable of which is Denver, where the City Council voted in June to expand waste services to provide curbside organics collection to Denver residences (single-family homes and apartments of seven units or fewer).

3

**FIGURE 3. WASTE DIVERSION GOALS AND ACTUAL RATES OF WASTE DIVERSION<sup>8</sup>**

DIVERSION RATE & GOALS	2021 (actual)	2021 GOAL	2026 GOAL	2036 GOAL
Front Range	16%	32%	39%	51%
Greater Colorado	12%	10%	13%	15%
Statewide	16%	28%	35%	45%

**Lack of access to convenient diversion programs is the main reason that the state fell far short of meeting its 2021 goal of recycling and composting 28% of municipal solid waste.<sup>9</sup>**

In 2021, Colorado landfilled over 530,000 tons of valuable recyclable materials found in common packaging and paper products (e.g., jars, bottles, cans, boxes).<sup>10</sup> This is the same material that international corporations and local small businesses alike have been challenged to source in the past few years as supply chains have been disrupted. This represents not only a missed economic opportunity, but also a lost chance to further reduce climate impacts. Fortunately, this is also the same material that will be targeted for easier collection and recycling back into the supply chain through HB22-1355: Producer Responsibility for Recycling Packaging and Paper.

### **RECYCLING AND COMPOSTING ARE KEY TO COLORADO'S FIGHT AGAINST CLIMATE CHANGE**

Colorado's low recycling rate already equates to a significant positive climate impact. **By diverting just over one million tons of materials from landfills in 2021, Coloradans saved the equivalent greenhouse gasses to removing 430,000 gas-powered cars from the road.<sup>11</sup>**



Colorado's recent policy wins put the state on the cusp of becoming a national leader, but simply passing policy will not achieve the needed changes in our recycling rates. To make these policies successful, we must now focus on implementation. The immediate priority is to successfully implement Producer Responsibility to transform our disjointed recycling system into a coordinated, efficient statewide program that cuts climate pollution, creates good green jobs, and builds a more resilient domestic supply chain. Second, in the longer term, the state can begin building the infrastructure and policies to support greater composting of food and yard debris based on the strategies mapped out in the new Statewide Organics Management Plan. Together, the steps and recommendations outlined in this plan and implementation of Producer Responsibility will help Colorado move toward a sustainable, equitable future.

**4**

**FIGURE 4. RECYCLING & COMPOSTING ARE KEY TO COLORADO'S FIGHT AGAINST CLIMATE CHANGE<sup>12</sup>**

	2021 actual	2021 CO goal	2030 EPA goal
Recycling rate	15%	28%	50%
Reduction in greenhouse gas emissions (MTCO <sub>2</sub> E)	1,900,000	3,500,000	6,300,000
Equivalent # of cars removed from road annually	400,000	750,000	1,300,000
Equivalent barrels of oil conserved	2,300,000	4,300,000	7,600,000
Tons of material diverted	1,100,000	2,000,000	3,500,000



# STATE OF RECYCLING AND COMPOSTING 2022

## PRODUCER RESPONSIBILITY IS A MAJOR WIN FOR RESIDENTS, LOCAL GOVERNMENTS, BUSINESSES, AND THE ENVIRONMENT

With the May 2022 passage of [HB22-1355](#): Producer Responsibility for Recycling Packaging and Paper, Colorado is poised to jump from being a laggard to becoming a leader in recycling. House Bill 22-1355, sponsored by Representative Lisa Cutter and Senators Kevin Priola and Julie Gonzales, will transform how we recycle in Colorado, making it easy for all Coloradans to recycle more paper, plastics, aluminum cans, glass bottles, cardboard, and other packaging materials. It will also help businesses by creating a more resilient domestic supply of recycled materials to make new products. A Producer

### A PRODUCER RESPONSIBILITY SYSTEM FOR CONTAINERS, PACKAGING, AND PAPER WILL:



**Increase our recycling rate and reduce climate pollution.**



**Provide free recycling for all Coloradans, including those living in apartments and in rural areas.**



**Offer free recycling education and develop a clear common list of what can be recycled statewide.**



**Save local governments money by reimbursing their costs to run recycling programs.**



**Support Colorado businesses by creating a more resilient domestic supply of raw materials to make new products.**



**Create financial incentives for companies to reduce unnecessary packaging and use greener, more recyclable materials.**



Responsibility system will rapidly improve Colorado’s recycling rate and result in **fewer greenhouse gas emissions, cleaner air and water, less waste sent to landfills, and stronger local economies.**

Colorado joins Maine, Oregon, and California in passing and implementing the first Producer Responsibility programs in the US. Ours is the third state in the nation to pass a Producer Responsibility policy for packaging, and the first to pass a policy where producers pay for 100% of the costs of recycling all packaging materials (e.g., bottles, cans, boxes) and paper products (e.g., junk mail, magazines). Over 40 countries and provinces have had similar Producer Responsibility programs for the past 20 plus years, and approximately 3,000 major companies participate in these programs across Canada and Europe.<sup>13</sup> Most of these companies will be the same producers participating in Colorado’s new program. HB22-1355 will dramatically improve recycling in Colorado by providing consistent funding for existing and new programs and access for all Coloradans that will result in an improved recycling system in Colorado starting in 2026.



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Recycling, reuse, and remanufacturing industries already provide nearly 86,000 jobs in Colorado and generate \$8.7 billion in economic benefits each year, despite our low statewide recycling rate.<sup>14</sup> Increased recycling through a Producer Responsibility system will create even more green jobs in Colorado.

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Colorado’s Producer Responsibility Policy is supported by a broad, diverse coalition including:

- **Local governments** from around the state that want to provide better recycling services and reduce costs. Both the Colorado Municipal League and Colorado Communities for Climate Action were strong supporters. Sixty-five local elected officials from rural and urban areas across the state testified in favor and/or added their names to a letter of support for the bill during the legislative session.
- **Consumer goods companies and industry groups** that are committed to the sustainability of their packaging and securing more recycled materials to use to make their products. Many of the companies that will participate in the Colorado program are already participating in similar programs in other countries. The [Consumer Goods Forum’s Coalition of Action on Plastic Waste](#)—which includes Coca-Cola, Pepsi, Danone, Unilever, and Walmart, among others, and represents over 100 brand-name products—submitted a letter of support for HB22-1355: Producer Responsibility for Recycling Packaging and Paper.

- **Environmental organizations, nonprofits, and residents** including 350 Colorado, The Alliance Center, Citizens Alliance for a Sustainable Englewood (CASE), Colorado's Regenerative Recovery Coalition, Conservation Colorado, CoPIRG, Eco-Cycle, Environment Colorado, Good Business Colorado, Green Latinos, High Country Conservation Center, Inland Ocean Coalition, Morgan County Waste Coalition, Recycle Colorado, Sierra Club, Yampa Valley Sustainability Council, Table to Farm Compost, and Walking Mountains Sustainability, and others that want to reduce climate pollution, unnecessary plastics, and overall waste, and want equitable access to services.
- **Recycling industry members** that want to make recycling more consistent, cost-effective, and financially sustainable for all Colorado residents and businesses. This also includes material processors, haulers, and remanufacturing businesses that need more recycled plastics and glass to expand their operations.
- **Colorado companies** including Ball Corporation, New Belgium Brewing, Danone, AMP Robotics, Direct Polymers, and many others provided input to the drafting of the bill and supported its passage.



To see all supporters of the bill, visit  
[RecyclingForAllColoradans.org](https://RecyclingForAllColoradans.org).

## CURRENT RECYCLING SYSTEM CHALLENGES

Some Colorado communities excel in diversion, yet the state's overall recycling rate remains at 16%, less than half the national average.

Many lack access to curbside recycling service.

Markets for recycled materials continually fluctuate, causing financial challenges for recycling systems currently reliant on commodity sales for funding

More and more waste is generated; packaging materials are often unrecyclable.

Public is confused over what can be recycled.

Many rural communities can't afford long-distance transportation to recycling facilities.

Public distrust of whether materials actually get recycled dissuades participation.

Disrupted supply chains and high costs of virgin materials raise costs for businesses.

Recycling programs are a financial burden for municipalities.

Landfilling valuable materials means lost economic opportunities.

## SOLUTIONS UNDER PRODUCER RESPONSIBILITY

A statewide system will meet the needs of all Colorado communities, enabling our overall recycling rate to substantially increase.

ALL Coloradans, including those living in apartments and rural areas, will get a recycling bin at their curb at no cost to them.

A 100% producer-funded system will guarantee funding for recycling systems.

Producers will be financially incentivized to use less packaging, use more recyclable material, and to design for recyclability and reusability.

Everyone will know what is recyclable because it will be consistent across the state and producers will fund more education statewide.

Data-driven investments will build more (and improve existing) processing centers, cutting the cost of recycling in rural and other under-resourced areas.

Oversight and requirements will ensure materials are responsibly recycled.

Businesses will get a lot more recycled material, cutting their costs and reducing the often energy-intensive work of sourcing virgin materials.

Producers will fund a coordinated, statewide system and reimburse municipalities for expenses to run programs.

Increasing recycling access will bolster local businesses and supply chains and create green jobs.





## PRODUCER RESPONSIBILITY WILL HELP COLORADO BUSINESSES

The recyclable materials Colorado landfills every year could have been sold for more than \$100 million in commodity value.<sup>15</sup> These materials are valuable assets that could be sold for profit instead of buried in the ground. Consider aluminum, for example, which is infinitely recyclable. Using recycled aluminum to make a new product saves 95% of the energy required to make new aluminum with virgin material.<sup>16</sup> Supply chain disruptions have caused shortages in aluminum that are raising costs for beer and beverage companies.<sup>17</sup> At the same time, Coloradans recycle only 14% of the aluminum cans used—this means **Coloradans are landfilling 86% of their aluminum cans.**<sup>18</sup> By increasing access to recycling and education about the value of recycling, Producer Responsibility will help increase recycling and build stronger domestic supply chains to support Colorado businesses.

## PRODUCER-FUNDED SYSTEM WILL SAVE SOME GOVERNMENTS AND RESIDENTS MONEY

It costs money to manage the end-of-life of materials. Currently, that cost is on consumers who pay for trash and recycling services to dispose of their materials, and on municipalities and counties that fund recycling and waste disposal programs. Producer Responsibility shifts those costs to the producers who make the decisions about how much material and what type of material to use in their packaging. **Evidence based on over twenty years of similar programs throughout Canada and Europe shows that Producer Responsibility programs do not lead to a noticeable increase in consumer prices.**<sup>19</sup> The Producer Responsibility system will actually save money for residents who currently pay for recycling by providing the service to them for free. It will also save tens to hundreds of thousands of dollars for municipalities that are currently funding recycling programs for recycling.<sup>20</sup>



## HOW PRODUCER RESPONSIBILITY WILL WORK IN COLORADO: MANY STAKEHOLDERS WILL DRIVE SUCCESS

HB22-1355 creates a 100% producer-funded and producer-managed system. Since producers (companies that sell packaging in Colorado) decide what types of materials they use for packaging, they are best positioned to choose recyclable materials and to help create the system that will collect and recycle those materials. They also stand to benefit from an improved system by having more recycled materials available to them to create their packaging. Just as the policy was created with input from hundreds of stakeholders, producers won't be on their own to implement it and there is already work being done by state and local governments and producers to prepare the way for successful and impactful implementation:

- **Producers** will join a nonprofit Producer Responsibility Organization (PRO) to undertake a statewide needs assessment that will inform their program plan.
- **Local governments** will continue to be able to choose their level of involvement in local recycling—they may run their own trucks, contract for services for residents, pass guiding ordinances, or take an entirely hands-off approach and let the PRO ensure all residents have recycling.
- **The Colorado Department of Public Health and Environment (CDPHE)** will oversee and enforce the program. CDPHE will have final approval of the needs assessment and plan.
- The **Colorado Legislature** will set the recycling goal in 2024 based on needs assessment findings and CDPHE's recommendation.
- HB22-1355 creates an **advisory board of experts** from retail, local government, environmental and eco-justice nonprofits, users of recycled material, and the recycling industry to consult with the PRO and make recommendations on the needs assessment, PRO plan, and implementation of the policy.
- **Local governments and the public** can inform the process through the needs assessment and public input periods and by improving their own programs now (see page 28 for local policy recommendations).
- Producers will work with **service providers** to expand access, achieve the recycling goal, and ensure materials end up at responsible end markets.

## WORK ALREADY UNDERWAY TO IMPLEMENT PRODUCER RESPONSIBILITY

Since the law's passage, work is already underway to support implementation:

1. Consumer goods companies have begun taking action to create a Producer Responsibility Organization to oversee the new program, modeled on best practices from decades of similar programs in other countries, and tailored to Colorado's needs.
2. CDPHE has hired a full-time staff member to administer the program and has received over 45 applications to fill the 13 seats of the Producer Responsibility Advisory Board.<sup>21</sup>
3. Municipalities across the state have begun planning how they can increase their diversion progress to maximize benefits for residents once the program begins implementation.
4. Other states are looking toward Colorado as a model for Producer Responsibility legislation of their own.

The next few years will require continued partnership and input from all stakeholders to ensure that Colorado realizes the environmental and economic promise of universally accessible recycling statewide.

Learn more about Producer Responsibility for Recycling Packaging and Paper at [RecyclingForAllColoradans.org](https://RecyclingForAllColoradans.org).







# DRIVING ECONOMIC OPPORTUNITIES IN A CIRCULAR ECONOMY

Increasing recycling isn't just a solution to divert materials away from landfills—it is a key strategy to building resilient domestic supply chains. While American businesses have struggled over the past years to get enough raw materials to make the products and packaging we all rely on, valuable paper, glass, metal, and recyclable plastics are being landfilled. By increasing the recycling rate, those materials will serve as feedstock for new products. In 2022, the Colorado legislature also adopted [House Bill 22-1159](#): Waste Diversion and Circular Economy Development Center to support businesses in Colorado that use recycled materials to make new products. HB22-1159 was championed by Governor Polis, CDPHE, and bill sponsors Representative Lisa Cutter and Senator Kevin Priola. It was also a major legislative priority of Recycle Colorado, an association of recycling industry representatives, local governments, and businesses working to expand diversion in Colorado.

HB22-1159 will create a more circular economy within Colorado, empowering more local businesses to make new products from locally recycled materials and return those materials back into our state's economy. The Circular Economy Center, modeled after other successful states' centers, will attract and support end markets for recycling. The Center will be run by a third-party contractor, overseen by CDPHE, and be funded through two existing grant programs, the Front Range Waste Diversion ([FRWD](#)) program and the Recycling Resources Economic Opportunity ([RREO](#)) program.

## **The planned Colorado Circular Economy Development Center will:**

- Attract remanufacturers and entrepreneurs to the state.
- Support and expand existing and new recycling and composting end-market businesses recycling a wide variety of materials, including construction materials, electronics, organic materials, standard recyclable materials, and more.
- Develop incentives for manufacturers to incorporate recycled materials into their products.
- Reduce supply chain disruptions by providing necessary infrastructure, logistics, and marketing to ensure a steady supply of recycled commodities.
- Reduce net costs of recycling by creating local markets for materials (thus decreasing transportation costs) and by increasing the demand for materials (thereby increasing the value of recycled materials).
- Increase the use of recycled materials in Colorado, which will reduce greenhouse gas emissions and protect air and water quality.

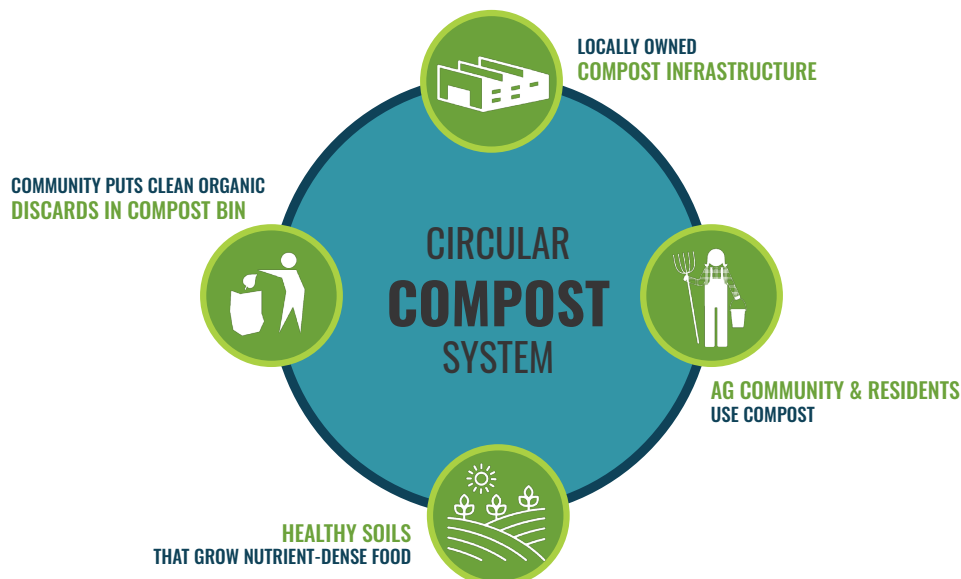
## WHAT DOES A CIRCULAR ECONOMY LOOK LIKE?

Colorado is fortunate to have some Circular Economies in place already. The most replicable local circular system is the compost market. Here's how Circular Economy for organics works:

1. Residents and businesses sort their organic material (food and yard waste) into their curbside compost bins or take it to a drop-off center.
2. The organic material is taken to a composting facility.
3. At the compost facility, the organic material is mixed together to ensure the right heat, moisture, nutrient ratio, and air will help it decompose into compost suitable for sale.
4. The finished compost is sold to residents, businesses, or local governments for application in agriculture, landscaping, or public works projects, many of which grow new food and plants that will eventually be returned into the Circular Compost System.

With this circular system, the food and yard waste you generate can become a valuable resource for Colorado's economy by creating local jobs and tax revenues. Closed-loop systems for compost are particularly beneficial because the materials that go into making the compost can be processed close to where they are generated and then used in the same communities, unlike synthetic fertilizers that are often made far away and transported long distances to the markets where they will be used.

Colorado has over 25 public and private facilities that make and sell compost, but there is a great need to build out substantially more facilities statewide.<sup>22</sup> The Organics Management Plan (see page 21 for more details) quantifies the need for expanding composting infrastructure. The Circular Economy Development Center will help provide the needed support and technical assistance to expand composting in Colorado.





## MAJOR GAINS IN DATA COLLECTION SHOW NEED FOR ADDITIONAL DIVERSION INFRASTRUCTURE AND SERVICES; WILL HELP PLAN FOR FUTURE ADVANCEMENTS

The Colorado Department of Public Health and Environment (CDPHE) contracted three major studies in 2021 and 2022 to better understand recycling and organics diversion in the state. These studies help pave the way for more informed decision making at local and state levels in the future.

### Targeting the next big waste stream: Statewide Organics Management Plan

While 2022 was a milestone year for recycling in Colorado, there was also important work done through the [Colorado Organics Management Plan](#) to set the stage to improve composting and organics diversion. More than one-third of Colorado's municipal solid waste is food and yard waste.<sup>23</sup> **Colorado landfills over two million tons of organic material each year—that's more than five times the amount that is diverted through composting, mulching, or other means.**<sup>24</sup> Diverting organic materials from landfills through food waste reduction, composting, mulching, anaerobic digestion, or creation of biochar—and using end products as a resource to build soil—substantially reduces climate pollution and creates significant economic and environmental benefits:

- Diverting organic materials from landfills reduces the production of methane, a greenhouse gas 84 times more potent than CO<sub>2</sub> in the near term.<sup>25</sup>
- Applying compost to soil pulls carbon out of the air and stores it in the soil.<sup>26</sup>
- Composting creates at least twice as many jobs per ton of material as landfilling.<sup>27</sup>
- The application of finished compost reduces irrigation needs and use of synthetic fertilizers by increasing soil nutrients and water retention.<sup>28</sup>
- Applying finished compost improves soil quality by returning nutrients back to the soil.<sup>29</sup>
- Applying finished compost reduces erosion and stormwater runoff.<sup>30</sup>
- Investments in organics diversion programs are some of the most cost-effective climate change solutions.<sup>31</sup>

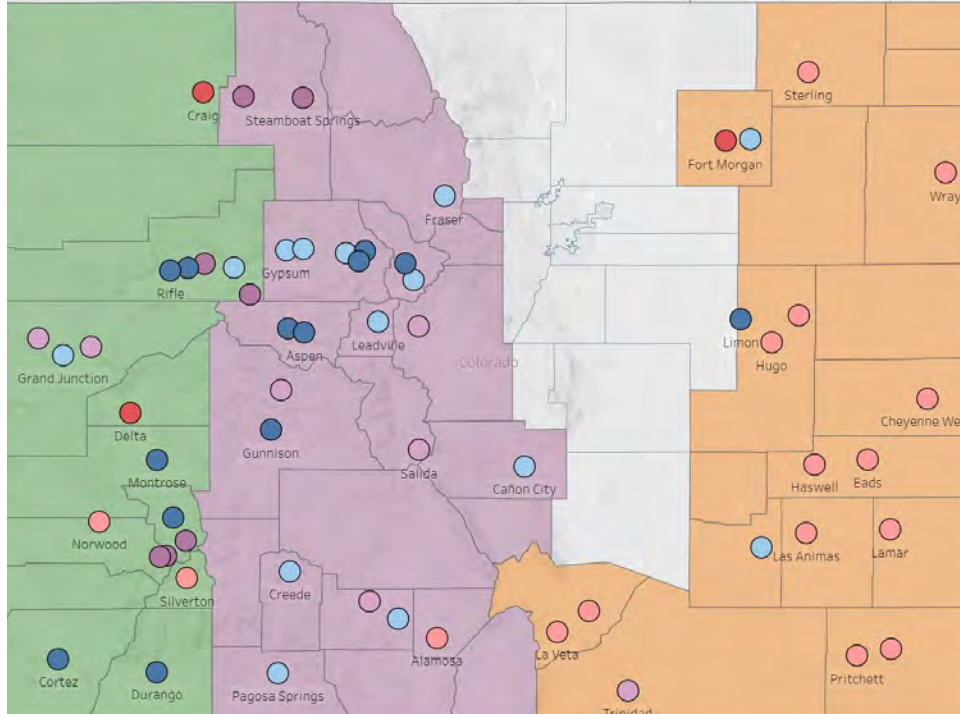
The Statewide Organics Management Plan identifies organic discard streams and gaps in composting and processing infrastructure, providing a framework for policy makers to identify strategies to increase diversion based on existing organics diversion programs, barriers that are preventing additional diversion, and key elements for successful new or expanded programming. Key findings from the Statewide Organics Management Plan found that not only is the state's existing organics processing infrastructure highly insufficient to process all of the organic matter currently being landfilled in the state, but also the potential demand for finished compost is five times greater than the amount of

compost currently being generated today.<sup>32</sup> The benefits of diverting organics from landfills and creating beneficial products combined with the demand for both more capacity and more finished compost underscore the urgency for investment in organics diversion policy and infrastructure at state and local levels (see recommendations on page 28).

### Mapping access to recycling and composting services

Colorado now has a visual look at who has curbside recycling, where there are curbside composting programs, and other key metrics to establish a baseline assessment for our diversion system and challenges. CDPHE commissioned Eco-Cycle to complete two studies, the [Front Range Waste Diversion Baseline Assessment](#) and [Greater Colorado Waste Diversion Baseline Assessment](#) through the Front Range Waste Diversion (FRWD) and Recycling Resources Economic Opportunity (RREO) programs, respectively, to examine the access Coloradans have to recycling and organics services. Both assessments produced reports and interactive maps that show trends in diversion, identify what programs communities have in place, and provide suggestions of programs and policies to advance diversion for users to reference in grant applications, public education, and decision making.

#### Greater Colorado Waste Diversion Baseline Assessment June 2022



Both assessments include reports and interactive maps for easy understanding of recycling and organics diversion access and trends in Colorado.

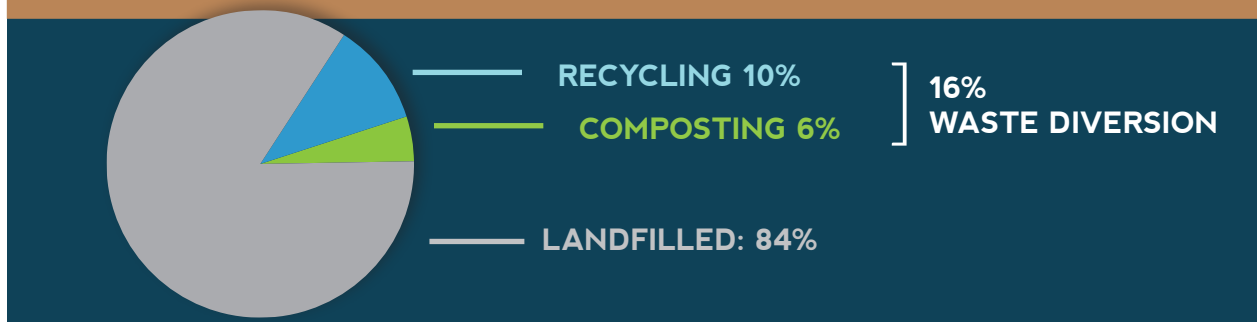
## RECYCLING AND COMPOSTING BY THE NUMBERS

Colorado continues to landfill more and recycle less than its peer states and the national average. In 2021, the state diverted just 16% of its municipal solid waste, half the national average of 32%.<sup>33</sup> Residents and businesses produced more waste in 2021 than during the 2020 pandemic dip in waste and are nearly back to pre-pandemic waste generation levels.<sup>34</sup> In 2021, Colorado landfilled almost 6,000,000 tons of material—roughly 95% of which could have been recycled or composted.<sup>35</sup> **The average Coloradan landfills over 2,000 pounds of material annually—nearly 1,000 pounds more than the national average.**<sup>36</sup>

Colorado continues to rank among the worst 20 states at recycling and composting and sends more to landfills than comparable Western states. On average, Colorado residents recycle and compost only 1 pound per person per day, while residents in leading states like Oregon and Washington recycle 3.1 pounds per person per day—over three times more than Colorado residents.<sup>37</sup>

6

FIGURE 6. COLORADO'S MUNICIPAL RECYCLING RATE, 2021<sup>38</sup>



### MUNICIPAL RECYCLING & COMPOSTING LEADERS

Eco-Cycle reached out to 180 municipalities and counties to ask about highlights and challenges with their recycling and composting programs over the past year and to collect recycling and composting rates for 2021. The municipalities featured in Figure 7 stand out as leading communities.



**FIGURE 7. COLORADO'S LEADERS FOR BEST RECYCLING AND COMPOSTING PROGRAMS IN 2021<sup>39</sup>**

FRONT RANGE LEADERS	COMMUNITY	RECYCLING & COMPOSTING RATE*
Best citywide—residential and commercial	City of Boulder	44%
Best residential	City of Loveland	58%
Best county-level—residential and commercial	Boulder County	38%
Best industrial	City of Fort Collins	66%

GREATER COLORADO LEADERS		
Best citywide—residential and commercial	City of Durango	37%
Best residential	Towns of Telluride & Mountain Village	28%
Best county-level—residential and commercial	Pitkin County	48%

\* See Appendix for details on data collection terminology and how rates are calculated.

These local leaders have five common elements of success:

- Universal curbside recycling programs in which every resident is provided with a recycling cart alongside their trash cart, often at no additional charge to residents.
- Volume-based pricing for trash that encourages recycling by charging based on the amount of material landfilled and providing recycling and sometimes composting for no additional cost.
- Convenient drop-off centers or curbside programs for food and/or yard debris.
- Strong education programs that teach residents and businesses why recycling and composting are important and provide clear guidelines on what can and cannot be recycled, reused, and composted.
- Dedicated staff and funding for waste diversion infrastructure, services, and programs.

Convenient access to curbside recycling services is the most essential among these success factors. Across the state and the country, **municipalities with the best performing recycling programs guarantee that recycling is as convenient as trash services for all residents. Simply put, if you have a curbside trash cart, you automatically have a recycling cart provided along with it.** Unfortunately, in much of Colorado, there is not guaranteed access to recycling for residents. Most households have to opt in or subscribe to curbside recycling services and often pay more for this service. On average, only an estimated 30% of residents subscribe to curbside recycling under this type of opt-in program.<sup>40</sup>

One of the biggest opportunities to increase recycling in Colorado is to convert these underutilized, subscription-based programs to a universal system where recycling is provided automatically alongside trash service. Through Colorado’s new Producer Responsibility system, residents will no longer have to opt in or pay more for recycling. The producer-funded program will ensure that every resident has free access to recycling that is as convenient as their trash service.

Currently, six of the ten largest cities in Colorado do not provide universal curbside recycling to all residents.<sup>41</sup> Expanding universal recycling services to these 1.4 million residents is perhaps the single biggest opportunity to increase recycling rates statewide based on national findings.<sup>42</sup> The following chart highlights those communities that have made recycling convenient for residents by bundling curbside recycling with trash service and identifies the largest municipalities where curbside recycling access remains limited and subscription-based.

8

**FIGURE 8. FEWER THAN HALF OF MUNICIPALITIES WITH 10,000+ RESIDENTS AUTOMATICALLY PROVIDE CURBSIDE RECYCLING FOR ALL HOUSEHOLDS.\* 43**



**All residents have access to curbside recycling automatically**

Arvada	Lafayette
Boulder	Lone Tree
Commerce City	Longmont
Denver	Louisville
Durango	Loveland
Erie	Montrose
Fort Collins	Northglenn
Frederick	Rifle
Fruita	Steamboat Springs
Golden	Superior
Greenwood Village	Thornton
Johnstown	



**Residents must subscribe to curbside recycling\*\***

Aurora	Fountain
Berthoud	Glenwood Springs
Brighton	Grand Junction
Broomfield	Greeley
Cañon City	Lakewood
Castle Pines	Littleton
Castle Rock	Monument
Centennial	Parker
Colorado Springs	Pueblo
Englewood	Sterling
Evans	Wellington
Federal Heights	Westminster
Firestone	Wheat Ridge
Fort Morgan	Windsor

\* Defined as residential properties with less than eight units and not including homeowners’ associations; multifamily properties are considered commercial accounts based on state law and are not guaranteed service under municipal hauling services or contracts. Nearly 30 additional smaller Colorado communities and some unincorporated county areas also provide curbside recycling for all residents.

\*\* Some of the communities that do not currently guarantee recycling for all residents are actively engaged in an RFP process to add services.

Six of the ten largest cities in Colorado do not provide universal curbside recycling to all residents. Expanding universal recycling services to these 1.4 million residents is perhaps the single biggest opportunity to increase recycling rates statewide.<sup>44</sup>

9

**FIGURE 9. TOP-PERFORMING MUNICIPAL AND COUNTY RECYCLING AND COMPOSTING PROGRAMS IN 2021<sup>45</sup>**

MUNICIPALITY	Citywide Recycling & Composting Rate (Commercial + Residential)
Boulder	44%
Durango	37%
Vail	35%
Fort Collins	30%

MUNICIPALITY	Residential Recycling & Composting Rate
Loveland	58%
Longmont	42%
Boulder	37%
Golden	33%
Lafayette	31%

COUNTY	Recycling & Composting Rate
Pitkin	48%
Boulder	38%
Eagle	33%
Summit	20%



## MUNICIPAL AND COUNTY HIGHLIGHTS

Across Colorado in the past year, several municipalities and counties adopted policies and created or improved programs to increase diversion. Policies and programs of note from 2021–22 include:

- 1. Denver City Council passed their “Expanded Waste Services” policy** which will increase the city’s recycling collection to weekly instead of every other week, provide curbside composting carts to residents at no extra cost, and switch from a taxpayer-funded system to a volume-based billing system for all 180,000 residences.<sup>46</sup> Through this policy, Denver joined only a few US cities offering a sliding-scale instant rebate based on household size and income to help low-income residents pay for up to 100% of their trash bill.<sup>47</sup> Also, this November, Denver voters passed citizen-driven ballot measure 306, which will require recycling and composting at larger apartments, most businesses and permitted events, and recycling at construction sites—addressing sectors that generate over 80% of Denver’s waste.<sup>48</sup>
- 2. Arvada’s universal curbside program** went into effect in July 2021 and ensures over 16,000 households in Colorado’s seventh-largest city have convenient curbside recycling, setting a model for other Front Range cities.<sup>49</sup>
- 3. High Country Conservation Center is spearheading a county-wide initiative to improve recycling across Summit County** by working with local governments to adopt proven best practices to make recycling easier and more convenient. So far, **Breckenridge and Frisco** have adopted Pay-as-You-Throw and universal recycling policies that will provide recycling to all residents and businesses and incentivize residents to recycle by charging for trash service based on the volume of waste generated.<sup>50</sup>
- 4. Fort Collins passed a Community Recycling Ordinance** in 2021 requiring all businesses and multifamily residences to have access to recycling, and reports that all affected properties are fully in compliance already in 2022.<sup>51</sup> This policy is a model for other municipalities, since businesses often produce more than half of the total waste.
- 5. Clean Valley Recycling, operating mainly in Otero, Crowley, and Bent Counties, has recently increased residential and commercial accounts,** resulting in 22% more recycling tons diverted in 2021 than in 2020. They are on track to further increase in 2022, demonstrating a strong program model for rural areas of Colorado.<sup>52</sup>
- 6. In the wake of the Marshall Fire, Boulder County, Superior, and Louisville** worked with the debris removal contractor to divert material from landfill. Their efforts **diverted 35% of debris** including aggregates, metal, and vegetation. County staff have since worked with other counties to share lessons learned on how to incorporate diversion into disaster recovery.<sup>53</sup>
- 7. In 2021, Vail implemented curbside composting for residents** with 50 participating households, including one multifamily unit. The Town is working with **Vail Honeywagon** to expand the program to East Vail and are launching a business compost pilot.<sup>54</sup>

## RECOMMENDATIONS FOR 2023

Colorado has made tremendous progress in adopting model policies that will rapidly increase recycling and build a more circular economy in the next few years, but our work is far from done. **Here are key actions to prioritize in 2023 in waste reduction, recycling, and composting.**

### REDUCE: Reduce unneeded plastic packaging and single-use utensils

#### STATEWIDE

Pursue additional policies to reduce single-use plastic packaging and pollution—e.g., require that single-use plastic utensils, condiments, and other food-service items be provided upon request only. This policy is a win-win-win—for businesses that save money by ordering less serveware, for customers who don't want unneeded items, and for the environment.

#### LOCAL

Implement the Plastic Pollution Reduction Act by setting up easy systems to collect bag fees from businesses, notifying businesses and customers of fees starting January 2023, and gearing up to enforce plastic bag bans and polystyrene bans starting in 2024.

Further reduce the use of single-use products by exploring new opportunities for cities and towns to invest funding from bag fees into reusable take-out containers and other reuse initiatives.

### RECYCLE: Recycle valuable materials back into supply chains

#### STATEWIDE

Focus on implementing HB22-1355: Producer Responsibility for Recycling Packaging and Paper by understanding the economic and environmental benefits of this policy.

Let your state legislators know that you support Producer Responsibility and what benefits you think it will bring to your community. Take action at [RecyclingForAllColoradans.org](https://www.RecyclingForAllColoradans.org).

#### LOCAL

Prepare for the new Producer Responsibility program by ensuring your community has best practices in place for convenient recycling, including:

- Implementing a universal hauling contract or ordinance to guarantee recycling to all residents.
- Requiring volume-based pricing (also known as Pay-as-You-Throw or PAYT) to incentivize diversion by charging based on the amount of trash thrown out.
- Requiring hauler licensing and reporting.
- Updating ordinances/building codes to require equal space for recycling and trash at new and remodeled multifamily and commercial buildings.

Sign up for the FRWD technical assistance program for help on these programs (see page 30).

## COMPOST: Compost organic materials into valuable soil nutrients

### STATEWIDE

Implement the top priorities from the Statewide Organics Management Plan:

- Increase compost processing infrastructure in all areas of the state. This will both provide more equitable access to collection and diversion programs as well as make finished compost more available to key markets such as CDOT and local farmers and ranchers.
- Revise the state permitting structure to make it easier for compost startups and entrepreneurs to open new facilities. Currently, up-front permit-related costs are a major barrier to new composting operations and favor only larger, regional compost facilities.
- Create statewide standards for finished compost quality.
- Adopt statewide policy to require clear and consistent labeling of certified compostable products (such as compostable to-go packaging) to reduce contamination at compost facilities.
- Expand end markets for compost, which could include procurement policies for designated state construction projects, a sales and use tax exemption on par with the current exemption for fertilizer use, and qualifying compost, mulch, and biochar for use in wildfire mitigation projects.

### LOCAL

Expand organics collections by:

- Hosting organics collection events for leaves or yard waste.
- Creating drop-off sites for yard or food waste.
- Adding curbside organics collection in your community.
- Working with businesses to compost food scraps and increase donations of recoverable food.





## STATE LAUNCHES FREE TECHNICAL ASSISTANCE PROGRAM FOR INCREASING DIVERSION ON THE FRONT RANGE

The Front Range Waste Diversion Enterprise Fund (FRWD) was created in 2019 to improve diversion in the Front Range through a 10-year program funded by landfill tipping fees, which is expected to deliver more than \$100 million in recycling grants and services to municipalities, schools, nonprofits, and businesses. Additionally, FRWD is launching TASP—the Technical Assistance Service Provider program—to help municipalities and counties adopt programs and policies to improve diversion. The TASP team, led by Eco-Cycle and RRS, will provide recycling and organics expertise to communities on the topics most pressing to them and support them as they establish, improve, grow, and optimize their recycling, composting, and waste reduction programs. The four proposed goal areas TASP will focus on through a resource library, workshops, and working groups include:

- Zero Waste action plans
- Policy and ordinance development
- Program development and implementation
- Data collection

Learn more and sign up at:  
[cdphe.colorado.gov/frwd-technical-assistance](https://cdphe.colorado.gov/frwd-technical-assistance)



## CONCLUSION

While Colorado is still far behind state goals and national-level recycling rates, state and local successes have propelled the state in the right direction to become a national leader. Local momentum to add or expand recycling and organics programs underscores residents' desires for the programs that help them responsibly dispose of their used materials. These gains, coupled with the passage of HB22-1355: Producer Responsibility for Recycling Packaging and Paper and HB22-1159: Waste Diversion and Circular Economy Development Center—which were strongly supported by local elected officials and state legislators—signal that Coloradans are committed to strengthening recycling and diverting valuable materials back into a more sustainable economy.

The wave of progress toward increasing diversion in Colorado in 2021–22 is the direct result of the countless hours of engagement from a diverse group of stakeholders, including businesses, waste, and recycling industry leaders, environmental groups, and state and local government staff and elected officials. That work is far from done—and the groups who combined efforts to pass these model pieces of legislation are now working diligently to implement them. Eco-Cycle and CoPIRG are extremely proud of the passage of the Producer Responsibility Policy for Packaging and Paper as one of the most impactful solutions to fundamentally revamp and expand recycling in Colorado, eliminate unnecessary and wasteful packaging, and reduce plastic pollution and carbon emissions. The highest priorities in the coming year are:

- **Reduce:** Support adoption and implementation of meaningful plastic reduction policies at state and local levels.
- **Recycle:** Continue the momentum toward full implementation of Producer Responsibility in Colorado.
- **Compost:** Pursue strategies for increasing organics diversion capacity and usage as suggested in the Statewide Organics Management Plan.

This important work will transform our state into a national waste diversion model and leader.

**TO LEARN MORE AND BECOME ENGAGED IN ZERO WASTE EFFORTS, VISIT:  
[ECOCYCLE.ORG/ZERO-WASTE-COLORADO](https://ecocycle.org/zero-waste-colorado)**

# APPENDIX

## DATA COLLECTION TERMS

The term “diversion rate” means different things both across Colorado and across the country, which makes it hard to compare between cities and states. This report distinguishes the recycling and composting rate based on the different parts of the community, including:

- Recycling rate—for the purpose of this report, refers to the amount of material recycled or composted.
- Citywide recycling rate—just households and businesses, also known as municipal solid waste (MSW)
- Residential recycling rate—single-family homes and apartment buildings of up to seven units (may not include homeowner associations, also known as HOAs)
- Industrial recycling rate—includes materials generated through agricultural activities, construction and demolition, energy production, and other industrial activities.

## HOW TO CALCULATE THE RECYCLING RATE

The recycling rate, commonly called the diversion rate, is the amount of material collected for recycling and composting divided by the total amount of discards generated:

$$\frac{\text{recycling + composting}}{\text{recycling + composting + trash}} = \text{recycling rate}$$



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