

# Years of ZERO MASTE

# 1976-2021



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### Gelebrating YEARS of Zero Waste

As Eco-Cycle celebrates its 45th anniversary, I am so grateful that we are in this together.

As we experience increased impacts in our daily lives and the world around us of climate change, air and water pollution, natural resource and habitat destruction, and gross environmental injustices, never has the imperative been greater to design and adopt more sustainable, circular resource-use systems to counter our devastating rate of overconsumption. This long-term work is our daily mission. Side-byside with our many partners and our 1,000-plus network of Eco-Leader volunteers, Eco-Cycle has been crafting and implementing Zero Waste solutions for 45 years in service of a brighter, more equitable future.

Despite the challenges of pandemics and market disruptions, this past year was full of unprecedented achievements as urgency and momentum for Zero Waste solutions increases, including:

- passing the Plastic Pollution Reduction Act for Colorado
- teaching sustainability (virtually!) in a growing number of public schools, and
- successfully championing carbon farming trials and hard-to-recycle material collection pilot projects.

Eco-Cycle is also building the foundation for further transformative change as we craft Producer Responsibility legislation in Colorado for consideration in 2022.

Together with you, and against the odds, we are creating a future that better matches our collective values of sustainability, equity, and resilience. Thank you for taking this journey with us.

Suzanne Jones Executive Director



Eco-Cycle's mission is to innovate, implement, and advocate for local and global Zero Waste solutions to foster a more sustainable, equitable, and climate-resilient future.



# 1976

#### 1976

**Eco-Cycle launches** one of the very first curbside recycling programs in the nation. Volunteers utilize former school buses to pick up recyclables.

#### 1979

Eco-Cycle grandmother Kay Shapley starts the Block Leader Network to educate residents about why, how, and what to recycle. Now called the Eco-Leader Network and numbering over 1,000 volunteers, it is vital in educating Boulder County residents about Zero Waste.

#### 1979

Grand opening of the first post-consumer, multimaterial recycling facility in Colorado, the result of a partnership among the City of Boulder, Boulder County, and Eco-Cvcle. Over the next 25 years, the facility grew to process 40,000 tons per year-more than any other outdoor facility in the nation.

#### 1984

Eco-Cycle expands into Longmont, running buses for collection and processing materials.

#### 1984

Eco-Cycle creates one of the first school recycling education programs, beginning a long-standing partnership with the Boulder Valley and St. Vrain Vallev School Districts.

#### a ecocycle Computer Recycling Day This Saturday

CO-CV/C

D.TO.R

#### 2015

Eco-Cycle helps pass the City of Boulder's Universal Zero Waste Ordinance requiring all businesses, condos, and apartments to have recycling and composting services, making Boulder the third city in the nation to mandate recycling and composting citywide.

#### 2016

Eco-Cycle and Blue Star Recyclers team up to provide electronics recycling onsite at the CHaRM. while creating jobs for people with autism and other disAbilities.

#### 1991

Eco-Cycle creates the first elevated paper sorting system to sort office papers.

#### 1992

Eco-Cycle develops and constructs the first commingled container sorting system in the state. This new technology allowed residents to mix their containers together at the curb.



#### 1994

Eco-Cycle and partners pass a sales tax in the city of Boulder and Boulder County to build the Boulder **County Recycling** Center.

#### 1994

Eco-Cycle looks toward the next frontier: electronics recycling! We host collection events across the county, the first of their kind in the state.

#### 2001 🗨

In partnership with the City of Boulder, Eco-Cycle creates the Center for Hard-to-Recycle Materials (CHaRM). It is the first of its kind in the nation, taking more types of materials than any other, and has become a model replicated in other communities.

#### 2001 **(**

The Boulder County Recycling Center is built. After processing recyclables outdoors for 25 years, Eco-Cycle moves indoors as the facility's mission-based operator.



#### THE STATE OF RECYCLING IN COLORADO

#### 2017

Eco-Cycle and CoPIRG issue the first annual State of Recycling in Colorado report-a statewide survey of municipal and county landfill diversion rates and recommendations to advance recycling and composting.



#### 2017

The installation of plastic 2019 at the Boulder County Recycling Center, operated by Eco-Cycle,

2021

Eco-Cycle helps draft

and gain passage of

the Plastic Pollution

Bill 21-1162) that

polystyene food

and drink takeout

containers in 2024.

**Reduction Act (House** 

will phase out single-

use plastic bags from large retailers and

allows more types of plastics, including clamshells, to be processed.

#### 2017

Eco-Cycle and partners launch carbon farming trials on farmland in Boulder County, developing a local climate solution modeled after the Marin Carbon Project.

To further expand the use of compost as a climate solution, Eco-Cycle develops a first-ofits-kind study of carbon farming on urban landscapes, including parks, schools, gardens, and backyard lawns.

#### 2019

WE'RE

REMOVING CARBON FROM THE ATMOSPHERI

Eco-Cycle helps draft and advocate for the Front Range Waste Diversion Program (Senate Bill 19-192), which raised landfill fees to fund recycling, composting, and waste reduction programs in Front Range communities.



Eco-Cycle and three fellow original nonprofit recyclers in the US launch the Alliance of Mission-Based Recyclers (AMBR) to champion authentic, transparent recycling and

ensure policy changes lead to systemic solutions and a more just and sustainable economy.



**Eco-Cycle completes** enrollment of all Boulder public schools into our Green Star Schools program, ensuring that students can implement recycling, composting, and waste reduction from kindergarten through 12th grade.



#### 2020

Working with local craft breweries, Eco-Cycle and Avery Brewing Company pilot a plastic grain bag recycling program, developing a new recycling market.

#### 2020

Eco-Cycle successfully advocates for Senate Bill 20-055 to incentivize the development of recycling markets in Colorado.

#### 2021

Eco-Cycle celebrates its 20th anniversary as the operator of the Boulder County Recycling Center and the Center for Hard-to-Recycle Materials. These Zero Waste facilities are national models and key to Boulder County's high landfill diversion rate.



#### 2021

Eco-Cycle receives funding to purchase the first electric compost hauling truck in the nation, which will be built and begin its Boulder County collection routes in 2022!

2021

Working with local

retailers, Eco-Cycle

helps launch a bike-

polybag collections

pilot on Pearl Street;

bags will be recycled

by Trex into composite

powered plastic

deck material.















### 2020-2021 HIGHLIGHTS







Randy Moorman Director of Legislation and Community Campaigns randy@ecocycle.org

Colorado is one of the most wasteful states in the nation, recycling only 15% of its waste compared to 35% nationwide. We can, and must, do better.

To significantly increase Colorado's waste diversion, we need to make systemic change starting with making recycling, composting, and other Zero Waste solutions more accessible and convenient to residents and businesses, regardless of where you live.

Eco-Cycle's Legislation & Community Campaigns Program is committed to achieving these goals by advocating for state policies and local ordinances that improve Zero Waste infrastructure, services, and programs, and help develop recycling end markets throughout Colorado.

NEW IN 2022: Eco-Cycle will work to reduce waste from packaging by pursuing game-changing Producer Responsibility legislation in Colorado!

## **ECO-CYCLE CHAMPIONS HISTORIC LEGISLATION IN COLORADO: PLASTIC POLLUTION REDUCTION ACT**

The life cycle of plastics—encompassing production, use, and disposal—often creates significant pollution, from fossil fuel drilling in plastic production, to its breakdown into microplastics in our air and water, and often ending up as litter in our waterways. Many plastic resins are toxic, unrecyclable, or even unnecessary, as in the case of many single-use disposal items. Yet, the plastic industry intends to increase plastic production by 33% or more by 2025.



To curb the tide of plastic pollution, Eco-Cycle and our partners championed Colorado's House Bill 21-1162, the Plastic Pollution Reduction Act, which was signed into law by Governor Polis in July 2021. This Act, which will go into effect in 2024, makes Colorado the tenth state to phase out single-use plastic bags from large retail and grocery stores, and the eighth state to ban polystyrene (Styrofoam) take-out food and drink containers.

With the signing of this bill, Colorado also became the first state in the US to strike a plastics preemption law, thereby restoring the right of local municipalities to enact their own plastic regulations to further reduce plastic pollution through local ordinances.



In 2021, with the help of Eco-Cycle, voters in the City of Fort Collins passed Ballot Measure 2, a ban on plastic bags and a fee on paper bags in grocery and large retail stores, making Fort Collins the 17th community in Colorado to regulate single-use carry-out bags. BAG FEE TAKES EFFECT DENVER



Eco-Cycle successfully advocated for a bag fee ordinance in Denver, which took effect on July 1, 2021. The ordinance provides for a 10-cent fee on disposable paper and plastic bags at many retail stores. Bag fees have been shown to decrease disposable bag use by up to 80%.





In May 2021, Eco-Cycle helped pass a new ordinance in Denver that will require restaurants and thirdparty delivery platforms to provide single-use items, including plastic utensils, napkins, straws, and condiments, upon request.







**Cyndra Dietz** Director of Schools Programming cld@ecocycle.org

Since 1987, hundreds of thousands of students in Boulder and Broomfield Counties have grown up with an exceptional degree of environmental literacy thanks to Eco-Cycle's Zero Waste Schools Program.

Through presentations, field trips, and hands-on activities, Eco-Cycle educators teach students about resource conservation, habitat protection, pollution and waste reduction, recycling, composting, energy and water conservation, air quality, and more.

Within the Zero Waste Schools Program is our awardwinning Green Star Schools program, which provides schools with education and infrastructure that allows students to reduce, recycle, and compost every day. When students grow up with Zero Waste as a norm, they continue to practice Zero Waste into adulthood, helping to create Zero Waste communities.

NEW IN 2022: As of 2022, 90 schools in Boulder and Broomfield Counties will participate in our schools program, and Eco-Cycle will engage over 55,000 students and staff in Zero Waste trainings, presentations and field trips.

## ECO-CYCLE PROVIDES NEW AND COMPREHENSIVE VIRTUAL PROGRAMMING DURING THE COVID PANDEMIC

Eco-Cycle's programs are the most comprehensive Zero Waste school projects in the nation. Always innovating and expanding, 55 Boulder County schools are now enrolled in the Green Star Schools program, which represents 64% of the public schools in the county. Since the pandemic hit in the spring of 2020, Eco-Cycle has again emerged as a leader by providing comprehensive and varied virtual environmental education programming to all participating schools. While conducting remote learning posed challenges, it also bred innovation in our approach to providing students and staff with comprehensive Zero Waste education!



#### NEW AND VARIED VIRTUAL ZERO WASTE LESSONS

During the COVID pandemic, Eco-Cycle was successful in adapting all of our programming to accommodate remote and hybrid learning formats in schools. All 31 unique presentations and field trips that we offer were adapted to virtual formats. We created new publications, videos, contests, and projects to keep waste reduction habits and practices in place. When students re-occupied school buildings, recycling and compost collections continued to be a priority for schools due to our efforts.

#### "ReCREATE": NEW UPCYCLING ART PROGRAM LAUNCHES

With the goal of reducing paper waste and finding a fun way to promote reuse, ReCreate our project to make art from used books—was born in the fall of 2020. The used books came from the Eco-Cycle/City of Boulder Center for Hard-to-Recycle Materials to provide art teachers and students with a cost-free art material, and allowed the Green Star Schools program to engage with high school art communities. The results were both beautiful and inspiring!







SCHOOL DISTRICT







Thank you to our Green Star School Sponsors!







#### **PROGRAM HIGHLIGHTS**





Dan Matsch Director of Compost & Carbon Farming dan@ecocycle.org

When buried in a landfill, organic matter decomposes without oxygen, and in the process becomes the number one source of human-caused methane—a greenhouse gas that traps 84 times more heat in the atmosphere than carbon dioxide in the short term.

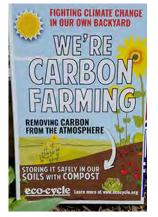
If we stop viewing organic discards as "waste" that belongs in the trash, and instead use these yard trimmings, food scraps, paper towels, etc. to create compost, we can prevent methane emissions and instead produce a valuable resource for soil regeneration. When applied to landscapes, compost builds healthy soils that grow stronger plants, which, through photosynthesis, can sequester increased amounts of carbon dioxide from the atmosphere, becoming a powerful tool for maximizing soil's capacity as one of the planet's largest carbon sinks.

For all these reasons, a top Eco-Cycle priority is bringing compost and carbon farming solutions to Boulder County and beyond to support healthy soils, nutrientdense foods, and a much-needed climate solution.

NEW IN 2022: Eco-Cycle will implement on-farm compost demonstration projects in Boulder County, and finalize results from our three year study of carbon farming on urban lands.

### FIRST-OF-ITS-KIND COMMUNITY CARBON FARMING PILOT HEADS INTO FINAL YEAR OF STUDY

To avoid the worst effects of climate change, we must remove excess carbon dioxide from the atmosphere. Carbon farming, or implementing regenerative agricultural practices to restore soils' living ecosystems, increases the rate at which soils can sequester carbon.



Eco-Cycle helped initiate local carbon farming trials on agricultural lands several years ago, and then in 2019 we launched our Community Carbon Farming Campaign, a three-year pilot to test carbon sequestration potential on urban lands such as lawns, parks, and school yards.

Over 230 participants implemented carbon farming techniques—including the application of compost—to measure the rate at which lawns can sequester carbon. In 2021, we completed the final year of our study, the results of which will inform the refinement of our model that can be replicated by communities across the nation. Already, Eco-Cycle's community-based carbon farming pilot is being further tested in other cities including Ann Arbor, MI; Bedford, NY; and Durango, CO.





Eco-Cycle championed the successful passage of House Bill 21-1181, the Agricultural Soil Health Program, that will provide aid to farmers and ranchers in conserving and enhancing soils, including through the use of compost. The program also creates new positions for soil health advisors, grant funding for farmers, and incentive programs.





Our advocacy led to the Colorado Department of Public Health & Environment's commitment to craft a Statewide Organics Management Plan. This effort, to be conducted over the coming year, will identify gaps and barriers to compost processing and use in Colorado, and develop a strategy to prioritize new compost infrastructure, manage organic waste, and promote more compost use in agriculture. COALITION FOR LOCAL COMPOST CLIMATE ACTION



We founded the Coalition for Local Compost Climate Action to support the development of local composting infrastructure and a circular compost economy in Boulder County. Our current approach is to create on-farm demonstrations of composting technology to encourage agricultural use of compost, and educate the public about scalable technology options and facilities.





### **Operations and Services**

### 2020-2021 HIGHLIGHTS







Justin Stockdale Director of the Center for Hard-to-Recycle Materials (CHaRM) justin@ecocycle.org

In November of 2001, Eco-Cycle and the City of Boulder opened the Center for Hard-to-Recycle Materials (CHaRM)—the first center of its kind in the nation. Twenty years later, the CHaRM is considered a national model Zero Waste facility and drop-off center that has been emulated by dozens of other U.S. communities.

The CHaRM accepts a wide range of materials including computers, printers, TVs, cell phones, books, textiles, block foam, durable #2 plastics, used cooking oil, porcelain sinks and toilets, fire extinguishers, and polyethylene films such as plastic bags and bubble wrap. Through the CHaRM, Eco-Cycle is ensuring that nontraditional recyclables are processed responsibly and stay in production.

NEW IN 2022: Our new solar panel recycling program will scale up to make clean energy even more sustainable, keeping panels our of the landfill and into circularity.

#### **CRESTED BUTTE'S RECYCLING TRAIN**

Sustainable Crested Butte and the Center for Hard-to-Recycle Materials (CHaRM) partnered on the "Recycle Train" program, which collects hard-to-recycle materials in Crested Butte and transports them to the CHaRM in Boulder. While Front Range communities have access to various drop-off sites for hard-to-recycle materials, these facilities rarely exist in rural areas, and as a result recoverable materials including those in mattresses and appliances will often end up in landfills.





#### NEW MATERIALS ACCEPTED: DRINKWARE & SOLAR PANELS

In our 20-year history, the CHaRM has aimed to add at least one new accepted material annually at the facility, which requires first cultivating new downstream markets for these material streams. This year, we added two new materials: glass drinkware, and residential solar panels. The CHaRM now accepts 23 hard-to-recycle items, from scrap metal to electronics and more! Visit ecocycle.org/charm for a full list of accepted materials and updated fees.

#### COVID-RELATED RECYCLING: SNEEZE GUARDS

The Poudre River School District reached out to Eco-Cycle with a unique COVID challenge: What to do with thousands of used sneeze guards? These custom-made plastic panels allowed Poudre schools to maintain in-person learning during the height of the pandemic in 2020 by shielding students and educators. Eco-Cycle identified a home for this pandemic waste and successfully recycled nearly 34,000 lb of this truly one-of-a-kind material with our partners at Direct Polymers in Denver.





Eco-Cycle partners with over 700 local businesses to help them achieve their Zero Waste goals and contribute to a circular economy in Colorado. Our Hauling Services Department helps businesses divert materials from the landfill, improving recycling and composting rates. Our consulting services work with businesses to help them reduce waste, from redesigning packaging to collaborating on industry-wide recycling solutions and piloting new recycling markets.

As a social enterprise, Eco-Cycle invests all revenues in excess of expenses into Zero Waste education, advocacy, and community programming.



Anthony Martinez Lead Driver anthony@ecocycle.org



Kate Christian Corporate Sustainability Manager katec@ecocycle.org

NEW IN 2022: Eco-Cycle will add an electric-powered compost hauling truck the first of its kind in the nation!

#### A PEDAL-POWERED PLASTIC RECYCLING **PILOT ON PEARL STREET**

When clothing is shipped from a production site to a retail store, each sweater, shirt, and pair of pants are typically wrapped in a plastic polybag. These bags are not recyclable in "single stream" recycling centers, but can be if collected separately -- and our new pilot hopes to provide a solution to this plastic pollution problem. In partnership with outdoor retail stores on Pearl Street, Eco-Cycle's team developed a new program in which polybags will be collected by local students using a bike-powered trailer and then recycled to become TREX durable composite decking.





#### **A FIRST FOR COLORADO:** ELECTRIC COMPOST TRUCK

Eco-Cycle's commercial hauling fleet will soon be joined by a first-of-its-kind electric commercial vehicle. With the support of a grant awarded by the Colorado Alternative Fuels program, Eco-Cycle will acquire a Mack LR Electric truck. The Mack LRE represents the cutting edge in alternative fuels and the opportunity to greatly reduce the emissions generated by our recycling and waste management collection systems. Eco-Cycle will dedicate the new LRE to compost collection service to deploy the first zero-tailpipe-emission commercial compost collection in the nation.

**versa**cart

Thank you to our Green Star Business Partners! Boulder Google Housing ECOENCLOSE Partners ONLY NATURAL ORGANIC MEMBERS NITE IZE **INSCRIPTA** INDIA **OCEAN**FIRST











TADDIKEN TREE.com







Kalin Stovall MRF Operations Director kalin@ecocycle.org



Cecilio Lechuga Production Foreman cecilio@ecocycle.org

In 1994, Eco-Cycle championed a countywide tax to create the Boulder County Recycling Center (BCRC)—a modern facility that could process tens of thousands of tons of recyclable materials from across the county.

Owned by Boulder County and operated by Eco-Cycle, this partnership created a unique model for recycling facilities. Eco-Cycle processes and sells materials based on the sustainability values and Zero Waste goals adopted by Boulder County and its communities not just to maximize profits, like in most other recycling facilities. Every day, we strive to divert as much material from the landfill as possible and to process materials in the most environmentally and socially responsible way that we can.

Further enhancing the success of the BCRC, Eco-Cycle's community programs educate the public on how to recycle right, resulting in some of the cleanest, most valuable recyclables on the market!

NEW IN 2022: Eco-Cycle will add an electric-powered compost hauling truck—the first of its kind in the nation!

#### ECO-CYCLE AND BOULDER COUNTY CELEBRATE 20 YEARS OF PARTNERSHIP!

From 1976 to 2001, Eco-Cycle operated its own outdoor recycling facility. In 2001, we gave Boulder County ownership over 40,000 tons of recyclables that had been our financial base for 25 years, creating a unique new partnership to advance recycling in Boulder County! Our shared vision was, and continues to be, to recycle materials to their "highest and best use possible." We strive to market materials to be turned into products that can be recycled again and again e.g., to market paper to its highest use so that the fibers can be recycled more times. This approach helps us do more to protect our climate and saves more energy and resources.



#### MODERNIZATION AT THE BOULDER COUNTY RECYCLING CENTER



Robot removing containers and plastic film from the paper stream.

In 2020, the Boulder County Recycling Center welcomed two new sorters: robots equipped with artificial intelligence that are being used to sort recyclable materials more efficiently and accurately.

A naming contest for the new robots received over 200 entries, with the public choosing the names Sorty McSortface and Sir Sorts-a-Lot. They will be employed to sort metals and plastics on the mixed paper line,

and to sort PET plastic and cartons on the residue line. The robots did not replace any employees at the BCRC; rather, they allowed some human sorters to move into quality control positions,

fortifying Boulder County's reputation for producing some of the cleanest recyclables on the market!

The robotic units were designed by AMP Robotics in Louisville, and funded in part by a grant from the Colorado Department of Public Health & Environment's Recycling Resource Economic Opportunity (RREO) Program.



Robot separating recyclables from the residual stream.

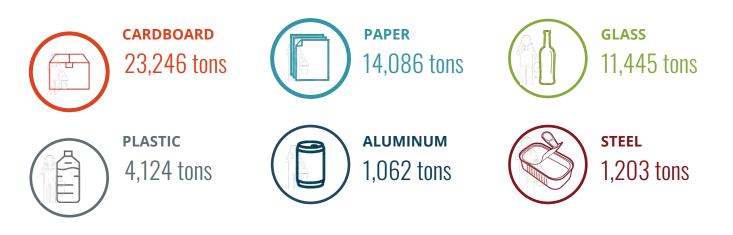


# THE CLIMATE BENEFITS OF RECYCLING

Recycling, composting, and other Zero Waste practices are among the quickest and most effective ways to reduce greenhouse gas emissions that are driving climate change. Eco-Cycle's recycling efforts this year kept 165,600 metric tons of carbon dioxide out of the air through our operation of the Boulder County Recycling Center and the Eco-Cycle/City of Boulder Center for Hard-to-Recycle Materials, equivalent to taking more than 49,700 cars off the road for a year!\*

#### THE BOULDER COUNTY RECYCLING CENTER

In FY 2020–2021, Eco-Cycle collected and processed over 55,000 tons of traditional recyclables—paper, cardboard, glass, aluminum, steel, and plastic—as operator of the Boulder County Recycling Center.



#### THE CENTER FOR HARD-TO-RECYCLE MATERIALS (CHaRM)

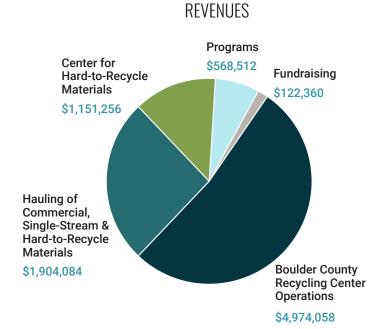
Eco-Cycle collected 4.2 million pounds of materials at the CHaRM, which Eco-Cycle founded and continues to operate with support from the City of Boulder.

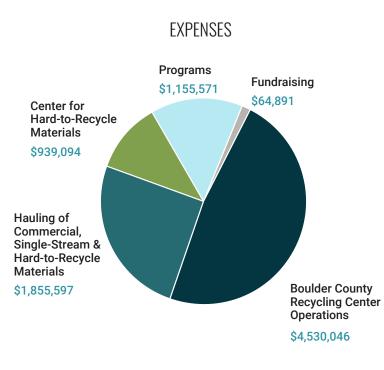


\*Calculated using the Environmental Protection Agency's Waste Reduction Model (WARM).

### **FY 2020–2021 FINANCIALS**

Eco-Cycle is a nonprofit social enterprise, which means we conduct mission-based business activities (such as commercial hauling and operation of the Boulder County Recycling Center and CHaRM), and use surplus revenues to fund our Zero Waste education, outreach, and advocacy work.





#### **REVENUES**

TOTAL

BCRC Operations	\$ 4,974,058
Hauling of Commercial, Single-Stream & Hard-to- Recycle Materials	\$1,904,084
Center for Hard-to-Recycle Materials	\$1,151,256
Programs	\$568,512
Fundraising	\$122,360

\$8,720,270

#### **EXPENSES**

BCRC Operations	\$4,530,046
Hauling of Commercial, Single-Stream & Hard-to-	
Recycle Materials	\$1,855,597
Center for Hard-to-Recycle	
Materials	\$939,094
Programs	\$1,155,571
Fundraising	\$64,891

TOTAL

\$8,545,199





1976-2021