



**2018**

BOULDER COUNTY COLORADO

**environmental  
sustainability  
plan**

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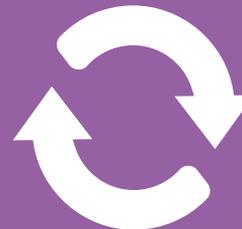
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A LETTER FROM THE BOARD OF COUNTY COMMISSIONERS

# Welcome!

Boulder County is regarded as an exceptional place to live, work, and play. Our residents have told us time and again that one of the reasons they love our community is the dedication to sustainability and environmental stewardship.

With climate change in the global spotlight and the fast-paced development along the Front Range here at home, we often hear from residents about the importance of preserving the county's future in a way that maintains its character and unique way of life. As a county government, we take these priorities to heart and work daily to further the county's long-term vision for well-planned urban development and the preservation of our rural and mountain communities and landscapes.

As commissioners, we have always placed a high priority on making sustainability a guiding value for

the county. This commitment to environmental sustainability is echoed by our community: a majority of Boulder County residents truly value sustainability as a lifestyle and as a way for us to preserve Boulder County's natural resources.

For more than six years, we have been asking our community about sustainability priorities, and the interest in sustainable practices has remained strong. With this in mind, we decided it was time to update and strengthen our Environmental Sustainability Plan. The plan was originally adopted in 2012 and now, in 2018, we've updated our goals and strategies to ensure they are still

relevant and effective in addressing the environmental challenges now and over the next decade.

Boulder County strives to lead by example by ensuring that our internal operations are low-impact, resourceful, and efficient. In addition, Boulder County provides services and infrastructure, through public-private partnerships, to help residents, businesses, and institutions reduce their environmental footprint. Boulder County also proactively supports legislation, policies, education, and community outreach that help to move our community toward even greater health and economic vitality.

All of these efforts are made possible because of strong partnerships within the local community and the greater region. These partnerships have helped Boulder County become a leader in environmental sustainability. We are fortunate to have collaborative partnerships with all of our municipalities, the University of Colorado, our federal labs, and



the many businesses and nonprofit agencies that are dedicated to moving our community forward. Without regional cooperation, Boulder County would be unable to achieve the sustainability goals that have an impact beyond our county borders, such as climate, air quality, and transportation. We will continue to build and strengthen these

partnerships as we strive to improve the health and well-being of our residents, economy, and planet.

Listening to our community's values and prioritizing environmental sustainability means we are set to achieve higher economic vitality in our communities, ensure cleaner air and water for our residents, and

combat major environmental issues such as climate change. By striving to become as environmentally sustainable as possible, we are supporting many human and environmental benefits for our county and beyond.

Sincerely,  
Board of County Commissioners



**CINDY DOMENICO**



**ELISE JONES**



**DEB GARDNER**



A NOTE FROM THE BOULDER COUNTY SUSTAINABILITY COORDINATOR

Hello,

Boulder County has much to celebrate in the area of environmental sustainability. All of these achievements were made possible through our collaboration with our valued partners, including all Boulder County departments, all area municipalities, local environmental nonprofits, schools, and the business community. Some of our recent successes include the following:

**ENERGY EFFICIENCY & RENEWABLE ENERGY**

→ Boulder County’s energy efficiency service, EnergySmart, provides a one-stop shop for residents and business owners to make their homes and buildings more comfortable and energy efficient. EnergySmart is one of the most successful energy efficiency programs in the country. Over the last seven years, the program has reached 16,753 homes and 3,743

businesses, supporting local jobs and stimulating more than \$52 million of investment in the county. Boulder County has supported 406 solar energy projects for homes and 34 projects for businesses, totaling four megawatts of solar energy.

→ Boulder County’s green building code, BuildSmart, has helped transform the construction industry. BuildSmart requires that newly constructed homes in Boulder

County exceed national building code efficiency standards. It also requires that larger homes to be net-zero energy (producing as much energy through solar or wind as they use).

**LOCAL FOOD & AGRICULTURE**

- Boulder County supports to the production of locally grown food for local markets by working with farmers and the natural foods industry to expand our local food system.
- We promote sustainable agricultural practices, including production methods that are healthy, respectful to workers, and humane to animals, and provide profitable opportunities to farming communities with little environmental impact.
- Agricultural land on county open-space properties that is dedicated to organic production or transitioning to organic production has increased dramatically—from less than 150 acres in 2005 to



more than 1,940 acres certified or transitioning to organic in 2018.

### **TRANSPORTATION**

- In support of sustainable transportation and less reliance on fossil fuels, we invest in programs that support walking, bicycling, carpooling, and better public transportation through additional transit routes and increased frequency.
- Boulder County Mobility for All has initiated several projects that focus on improving access to affordable transportation.
- Boulder County Transportation staff constructed more than 93 miles of bicycle shoulders on county roads, collaborating with Boulder County Parks & Open Space and other local partners.
- Boulder County constructed 42 miles of regional trails.

### **WATER**

- Boulder County conserves water by reducing our own building

and employee water usage. We also provide opportunities for all residents to protect and preserve our community's water resource at home and at work.

- Through Boulder County's sustainability services, more than 17,000 households and nearly 700 businesses have taken action and installed water-saving replacements or upgrades, saving hundreds of millions of gallons of water.

### **ZERO WASTE**

- Boulder County is working to divert more construction and demolition materials from landfills by utilizing better measurement techniques and building relationships with the construction industry.
- We have expanded recycling opportunities by upgrading the Boulder County Recycling Center to allow more materials to be recycled, as well as additional materials collection at mountain drop-off centers.

- We have built community and regional partnerships to collaborate on current and future zero waste infrastructure, policy, and programs.
- We are working with a variety of local organizations and residents to reduce the amount of food waste that occurs in Boulder County homes, businesses, restaurants, and grocery stores.



**SUSIE STRIFE**  
Sustainability Coordinator



INTRODUCTION & PURPOSE

# An Environmental Sustainability Plan for All

The Environmental Sustainability Plan is a living document intended to articulate Boulder County’s vision to create a more environmentally sustainable community, as well as provide a blueprint for achieving our collective environmental sustainability goals.

Since its original adoption, this plan has described how Boulder County will collectively carry out the vision of environmental sustainability.

The plan addresses county internal operations, as well as the environmental services provided for county employees, residents, and businesses. While the plan covers some linkages to social and economic sustainability, it is intentionally focused on the environment.

**PLAN APPROACH**

Boulder County’s leaders and employees have long held a

commitment to stewardship of our land, environment, and community. The Environmental Sustainability Plan provides guidance for how Boulder County can become a healthier and more sustainable place to live, work, and play, and is meant to provide direction for Boulder County’s environmental priorities. The goals and strategies outlined in the plan are not meant to be prescriptive, but rather to lay out a series of priorities and directions that will help Boulder County, as a community and as a government agency, become more environmentally sustainable.

This plan uses a “systems-wide” approach, taking careful account of the numerous and diverse components that provide the foundations for the quality of our environmental, economic, and social condition. The list is large: climate accountability, agricultural viability, human health, forest health, energy production and use, resource consumption and preservation, affordable housing, transportation, air and water quality, equitable educational and employment opportunities, meaningful public participation, and so on. While this plan attempts to highlight the linkages between social, economic, and environmental sustainability, it does not presume to cover all of these factors. Instead, it focuses on environmental sustainability as a starting place to build these larger connections. The distinct focus on environmental sustainability is important, as this outlines a blueprint for Boulder County’s commitment to achieving its environmental goals.



The Boulder County Environmental Sustainability Plan was developed through a series of strategic planning efforts, incorporating elements from numerous Boulder County plans, as well as state and federal legislative agendas. The intent is not to reinvent the wheel but to extract, integrate, and activate the environmentally focused elements of Boulder County's existing plans and processes. This plan leverages the following other countywide

plans that have undergone rigorous public engagement and input: the Comprehensive Plan, the Climate Change Preparedness Plan, the Open Space Strategic Plan, the Public Health Improvement Plan, the Transportation Master Plan, and the Zero Waste Action Plan.

This document will continue to evolve as new strategies and technologies are developed, and unforeseen events challenge us to modify our responses.

The plan, therefore, is a step for the continuing inclusion of new focus areas, policies, and action plans relating to sustainability as they are identified, agreed to, and developed through the planning process.

We hope this plan will continue to help set community-wide sustainability priorities and develop shared resources to achieve environmental sustainability goals on a regional scale.





TIMELINE

# Sustainability Milestones



**1967**

The Board of County Commissioners (BOCC) appoints members to the **first Parks & Open Space Advisory Committee (POSAC)**.

**1974–1978**

County staff works closely with various stakeholders and the public in developing the original **Boulder County Comprehensive Plan (BCCP)**. The BCCP was designed to shape the county's long-term efforts to channel growth to municipalities, protect agriculture lands from urban development, sustain agricultural practices, and preserve the character, environment, and natural resources of our unincorporated rural areas. Land-use policy and regulation become key to conservation.



**1993**

**Voters pass the open space sales tax (0.25%)** specifically for the purchase and maintenance of open space lands.

**1993**

**Site Plan Review regulations are adopted** to provide standards and criteria for minimizing the physical and visual impacts of buildings on natural resources, wildlife habitat, and other nearby landscape features.

**1999**

Voters **extend 0.25% open space sales tax** for 10 more years.



**1960s–1970s**

Conserving Open Space & Envisioning the Future

**1975**

Boulder County **purchases Betasso Preserve**, the first large piece of land officially designated as open space.

**1975**

Boulder County **establishes the Parks & Open Space Department**.

**1990s**

Land-use continues as a conservation strategy.



**1994**

The BOCC adopts the **Transferable Development Rights amendments to the Land-Use Code**, enabling the removal of development rights from important and productive agricultural, environmental, and habitat lands to locations more suitable for development.



**1995**

A new map and **set of policies identifying Environmental Conservation Areas (ECAs) are adopted** into the Boulder County Comprehensive Plan. ECAs represent large, contiguous swaths of land (from 3,000 to more than 35,000 acres) across the county.



**2000**

Boulder County Parks & Open Space reaches **49,050 acres preserved** with 84 miles of trails on 25 properties.

**2000**

Voters approve an additional **0.10%** sales tax for open space.

**2004**

The county teams up with a diverse group of private, local, state, and federal stakeholders in establishing the **Front Range Roundtable** to develop a long-term vision for achieving fire risk mitigation and forest health/restoration goals in the 10 counties comprising Colorado's Front Range.

**2005**

The BOCC adopts two resolutions, **The Zero Waste Resolution** and **The Sustainable Energy Resolution**, stating the county's commitment to energy and resource conservation, waste reduction, pollution prevention, and other sustainable practices.



**2007**

Voters approve **15-year extension** of 1% sales tax for transportation.

2000

2005

CONTINUED ON NEXT PAGE

**2000**

Through the Boulder Valley Comprehensive Plan update, **new policies address moderating commuting trips** into the Boulder Valley and the impacts associated with commuting, such as fossil fuel consumption, air quality degradation, congestion, and time spent away from family/community.

**2001**

Voters approve a 0.1% sales tax to **fund implementation of multimodal transportation projects**, including construction of bicycle, transit, and regional trails.

**2001**

Surveys show that **more than 1,000,000 people visit** open spaces annually.



**2005**

The BOCC formalizes the county's commitment to environmental sustainability by launching **Boulder County's Sustainability Initiative**, which involves the teamwork and expertise of all county employees, working cooperatively to implement environmental practices and policies that promote a sustainable work environment and community.

**2007**

The core vision of the BCCP prompts commissioners and staff to **add a Sustainability Element to the plan**. This new section outlines sustainability goals and policies for Boulder County.

**2007**

Voters approve a **10% sales tax extension** for open space.





## INTRODUCTION

**2008**

Boulder County adopts a **Transferable Development Credits (TDC)** program to help offset the impacts of larger home construction in the county, preserve the rural character of the county, maintain a diversity of housing stock for county residents, and provide owners of smaller homes an economic incentive to maintain their existing dwellings at modest sizes.



**2009**

Voters **approve bonding authority** allowing Boulder County to issue \$6 million of qualified energy conservation bonds to make deep energy retrofits to county buildings.

**2009**

The **Transportation Element of the BCCP is substantially revised and refocused**, highlighting the need to develop policies and practices that create a sustainable transportation system based on the principle that the system, in its many forms and modes, is intended to move people and not just vehicles.



**2012**

Boulder County launches the **Energy Loan Program** in partnership with Elevations Credit Union.

**2012**

The BOCC adopts the **Climate Change Preparedness Plan** to help local residents and communities better prepare for changing environmental conditions.

2008

2010

**2008**

Boulder County launches **BuildSmart**, a green building code for new residential construction.

**2008**

Voters approve a ballot issue authorizing the **ClimateSmart Loan Program**.

**2008**

Boulder County **begins power purchase agreements** to install solar panels on county buildings.



**2009**

Boulder County launches the nationally groundbreaking **ClimateSmart™ Loan Program**, funding hundreds of residential renewable energy and energy efficiency projects throughout Boulder County.

**2010**

Boulder County Transportation **develops the Multimodal Transportation Standards**, which guide the sustainable development of public and private transportation facilities and transportation-related requirements for development within unincorporated Boulder County.

**2010**

Voters **approve an additional 0.15% sales tax** for open space.



**2011**

Boulder County launches **EnergySmart**, an energy efficiency service to help homes and businesses across Boulder County become more comfortable and energy efficient.

**2012**

The **BOCC adopts the first County Transportation Master Plan (TMP)**, which describes Boulder County's multimodal transportation system and how it will develop over the next 25 years.

**2012**

Boulder County **launches the first community-wide EcoPass program** in Lyons and Nederland.





**2014**

The **“Harvest Bucks” program is implemented** to provide fresh and local food to low-income residents.

**2014**

Boulder County establishes the **Environmental Sustainability Matching Grant program.**

**2015**  
Boulder County launches **Colorado Communities for Climate Action (CC4CA)** to advocate for progressive climate policy.

**2015**  
Boulder County and municipal partners **launch a bulk-purchasing program that accelerates the adoption of rooftop solar, electric vehicles, and electric bikes** across Boulder County and the state of Colorado.



**2016**

Voters also **support a sugary beverage tax.**

**2018**  
**Boulder County launches a lawsuit** with San Miguel County and the City of Boulder **against the oil and gas companies** ExxonMobil and Suncor, requesting they pay for their share of climate change impacts.

**2018**  
Boulder County **conducts a greenhouse gas inventory and sets new GHG reduction targets.**



**2015**

Boulder County becomes the **first county in the state of Colorado to adopt the Colorado Commercial Property Assessed Clean Energy (CoPACE)** program, an innovative way to finance energy and water improvements on existing and new-construction properties.

**2016**  
Boulder County **voters approve a sustainability tax that passes with 70% support.** This tax is intended to reduce greenhouse gas emissions, conserve natural resources, support the local economy, protect the health of residents and ecosystems, and encourage citizens to be environmental stewardship leaders.



**2017**  
Boulder County works with Colorado State University scientists to **analyze carbon sequestration opportunities** on Boulder County lands.

**2017**  
Boulder County **joins the Compact of Colorado Communities.**

**2017**  
The BOCC **signs a resolution to support Paris Climate Agreement.**



THE PLAN STRUCTURE

## How to Use this Plan

The plan is broken into nine key environmental sustainability chapters, each containing a brief introduction and vision created by the Sustainability Planning Committee and the Board of County Commissioners.

Each chapter contains an overarching goal (shown on page 13), which represents Boulder County’s environmental sustainability vision, and a list of strategies identified to reach those goals. *County operation strategies* refers to approaches to

advance internal county operations and to lead by example. *Community strategies* refer to the actions that both the public and private sectors will need to take for the community’s collective achievement of the goals. The strategies include environmental

services that the county provides to the public. It is going to take all of us! Each chapter features a success story and a section called Boulder County Leads the Way, which showcase successful community partnerships and programs and county leadership. Key sustainability policies adopted through Boulder County’s legislative agenda are also included. Each chapter concludes with a call to action for individuals and businesses in our community and resources for more information. We—each of us and collectively—can be environmental stewards and ensure quality of life now and for future generations. Our health and the health of the planet depend upon it.

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## Sustainability Mission Statement

To ensure that Boulder County’s operations, programs, services, regulations, and decision-making processes reflect our deep commitment to environmental, social, and economic sustainability, while building strong local partnerships to help the broader community and region become healthier and more sustainable.



### air quality

Ensure clean, clear, and healthy air for current and future generations.



### climate

Achieve rapid and deep emission reductions and become more resilient to the impacts of climate change.



### ecological health

Ensure healthy and vibrant ecosystems that sustain all naturally occurring species, along with our human population.



### energy & buildings

Reduce energy consumption, promote energy efficiency in new and existing buildings, increase the use of clean energy, and transition away from fossil fuels.



### health & wellness

Ensure that Boulder County is a socially just and inclusive community, where physical and mental health, social well-being, and the environment are valued, supported, and accessible to all.



### local food & agriculture

Ensure a sustainable, local, safe, and healthy food supply that is accessible to all and supported by our community.



### transportation

Provide environmentally sustainable transportation choices and support healthy, active lifestyles for all Boulder County residents.



### water

Ensure leadership and exemplify best practices in water efficiency and water quality efforts that ensure sufficient clean water for current and future natural landscapes and generations.



### zero waste

Reduce the amount of materials consumed and discarded in the landfill and manage resources responsibly and effectively.



## DEFINITION OF

## Sustainability

Within this plan, *sustainability* means the use, development, and protection of resources in a way that enables Boulder County residents to meet their needs and maintain a high quality of life, without compromising the ability of future residents to do the same, while ensuring protection and enhancement of naturally occurring ecosystems and their native species populations.

In this context, “resources” include land, air, and water, along with the inherent value of the natural resources, biodiversity, and life-supporting functions associated with them; energy and materials for development and habitation; the essential, rural, low-density character of the unincorporated county; the special historic, cultural, and geographic composition of distinct rural communities within the county; the diversity of economic activities and opportunities available to individuals; and the people who continue to shape our developed and natural landscapes.

In addition, it is important to call attention to the linkages between environmental, social, and economic sustainability. For example, the county’s sustainability practices seek to support and enhance the diversity of economic activities, such as viable local agriculture, green jobs creation, and multimodal transportation, as well as to support the well-being of our residents by encouraging healthy and active lifestyles.

The strategies set out to achieve the plan’s targets are actions that support, maintain, conserve,

and enhance the environmental, economic, and social systems on which we depend. Achieving sustainability may demand substantial departures from past and present actions, as well as a fundamental commitment to conserving finite resources. Therefore, sustainability requires a coordinated approach to planning and public policy that involves public participation. Success depends on the widespread understanding of the critical relationship between people and their environment, an appreciation of the interrelationships between the systems that sustain human existence, and the will to make necessary changes. We not only have a relationship with and depend on the planet, but we are also a part of it.

Similarly, we seek to ensure affordable access to clean energy and efficiency improvements, and transit for all members of our community regardless of income.



## Importance of Land-Use

Boulder County's land-use policies and regulations foster sustainability by encouraging a compact land-use pattern. A compact land-use pattern focuses growth in urban areas, which helps to avoid sprawl and ensures efficient use of land and natural resources, while also preserving farmland, open space, and wildlife habitat. When development remains within defined urban areas, people can live and work within their communities, live close to public transit, and depend less on their cars. Avoiding sprawl also conserves our natural resources by reducing inefficiencies associated with extending energy and water services out to non-urban areas.

## RESOURCES

### More Information

This plan incorporates elements from state and federal legislative agendas, as well as numerous Boulder County plans. The intent is to extract, integrate, and activate the environmentally focused pieces of Boulder County's existing plans and processes, such as those listed below:

#### **Boulder County Comprehensive Plan**

[bouldercounty.org/property-and-land/land-use/planning/boulder-county-comprehensive-plan](http://bouldercounty.org/property-and-land/land-use/planning/boulder-county-comprehensive-plan)

#### **Climate Change Preparedness Plan**

[bouldercounty.org/environment/sustainability/climate-change-2/preparedness-plan](http://bouldercounty.org/environment/sustainability/climate-change-2/preparedness-plan)

#### **Zero Waste Action Plan**

[bouldercounty.org/wp-content/uploads/2017/02/zwap2011.pdf](http://bouldercounty.org/wp-content/uploads/2017/02/zwap2011.pdf)

#### **Sustainability Energy Plan**

[assets.bouldercounty.org/wp-content/uploads/2017/03/sustainable-energy-plan.pdf](http://assets.bouldercounty.org/wp-content/uploads/2017/03/sustainable-energy-plan.pdf)

#### **Transportation Master Plan**

[assets.bouldercounty.org/wp-content/uploads/2017/03/transportation-master-plan.pdf](http://assets.bouldercounty.org/wp-content/uploads/2017/03/transportation-master-plan.pdf)

#### **Human Services Strategic Priorities**

[assets.bouldercounty.org/wp-content/uploads/2017/02/strategic-priorities-2014.pdf](http://assets.bouldercounty.org/wp-content/uploads/2017/02/strategic-priorities-2014.pdf)

#### **Parks & Open Space Cropland Policy**

[bouldercounty.org/open-space/management/cropland-policy](http://bouldercounty.org/open-space/management/cropland-policy)

#### **Parks & Open Space Water Policy**

[assets.bouldercounty.org/wp-content/uploads/2017/03/water-policy.pdf](http://assets.bouldercounty.org/wp-content/uploads/2017/03/water-policy.pdf)

**1**

**air quality**





## INTRODUCTION

Good air quality is fundamental to our well-being; the presence of air pollution can adversely affect our health. Surprisingly, outdoor air quality is a serious concern in Boulder County.

Boulder County, as part of the Denver Metropolitan Nonattainment/North Front Range Area, currently exceeds national air quality standards for ozone. High levels of ozone and the pollutants that form ozone cause poor air quality, which can lead to decreased lung function, exacerbated asthma, and breathing difficulty, particularly for sensitive populations, and may even lead to premature death and cardiovascular disease. In addition, smog impairs visibility, damages crops, and causes acid rain in Rocky Mountain National Park.

The two largest sources of ozone-forming pollutants in the nonattainment area are oil and gas production and vehicle emissions. This underscores the importance of regulating the oil and gas industry and reducing our vehicle emissions, since

these sources degrade our air quality and contribute to climate change.

Boulder County Public Health supports periodic air quality monitoring studies to better understand the impacts of local sources of air pollution. Using this data, Boulder County participates in the development of stringent local, state, and national air pollution control regulations. Finally, the county works with local government partners to build capacity to improve indoor air environments by reducing pollutants such as lead, radon, asbestos, and mold.

## glossary

### OZONE

Ozone is an invisible, odorless gas that can either protect us or harm us, depending on where it is found. Unlike the protective stratospheric ozone layer, ground-level ozone forms from air pollution just above the earth's surface and damages living tissue. Ozone is created by chemical reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight.

### SMOG

Smog is a mixture of harmful air pollutants dominated by ground-level ozone.



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**air quality goal**  
Ensure clean, clear, and  
healthy air for current  
and future generations.



**COMMUNITY STRATEGIES**

## Support meeting federal outdoor air quality standards in Boulder County

- Urge the adoption of state and federal regulations and policies that reduce the impacts of oil and gas resource extraction; continue to strengthen and enforce county oil and gas regulations.
- Support the adoption of continuously increasing auto fuel efficiency standards by defending consistent and stringent federal fuel efficiency standards and by encouraging the state to adopt the Advanced Clean Car Standards.
- Promote the adoption of electric vehicles (EVs) and the installation of EV charging stations.
- Diagnose and investigate emission sources, such as oil and gas, and monitor air quality conditions and public health impacts.
- Inspect sources of pollution for compliance and support enforcement of air pollution requirements.
- Conduct voluntary programs to educate, empower, and mobilize action to reduce ozone-forming and greenhouse gas (GHG) emissions.
- Support the adoption of continuously increasing renewable energy standards.
- Actively participate in the development of protective state and federal air quality policies and plans.

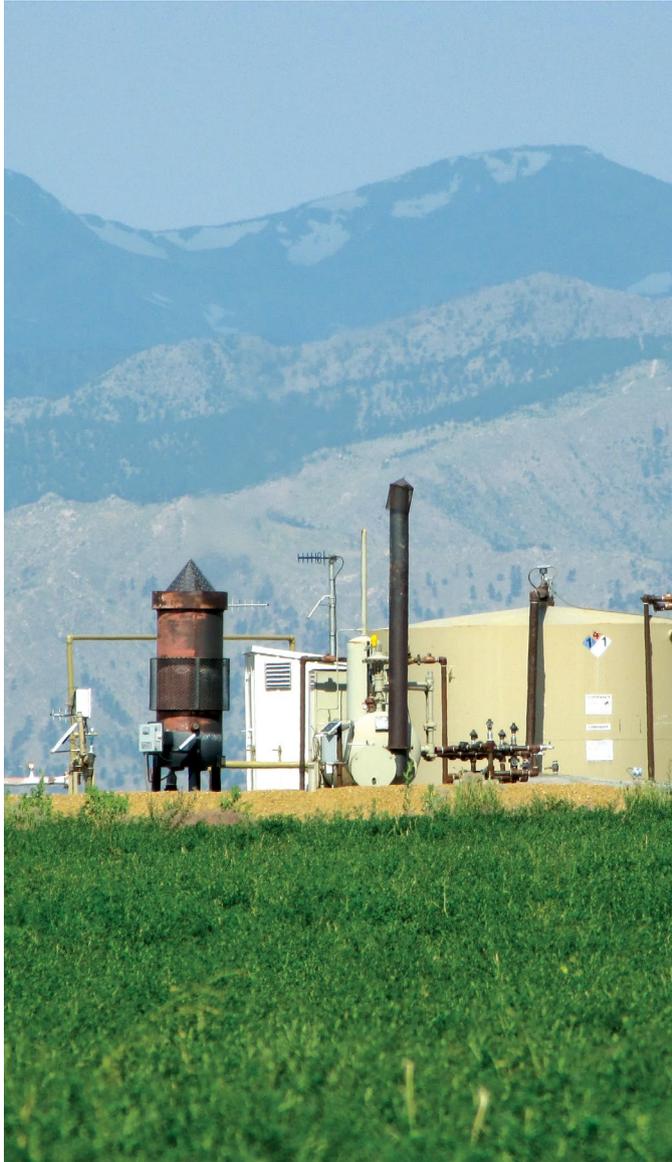
**SEE THE CLIMATE (PAGE 32), ENERGY & BUILDINGS (PAGE 76), AND TRANSPORTATION (PAGE 122) CHAPTERS FOR ADDITIONAL OUTDOOR AIR QUALITY IMPROVEMENT STRATEGIES RELATED TO GHG EMISSIONS.**

**COMMUNITY STRATEGIES**

## Empower residents to identify and maintain healthy indoor environments

- Promote radon testing, mitigation, and the use of proper methods to install radon reduction systems.
- Encourage adoption of radon reduction systems in new single- and multifamily homes through building codes.
- Encourage residents to work with state and local government partners to address indoor air quality issues associated with mold, moisture, radon, and asbestos.
- Conduct education and outreach to real estate professionals, builders, decision makers, and residents (particularly low-income) to increase radon awareness in Boulder County.





## Oil and Gas Production

Oil and gas production statewide has quadrupled since 2012. Increasing intensity of oil and gas development has consequences for air quality, even in counties that do not host the majority of active wells. For example, nearly 50% of all Colorado wells and 90% of the state's oil and gas production are located in Weld County. However, organic compounds emissions from Weld County travel into Boulder County on prevailing winds.

Oil and gas production emissions represent one of the two largest sources of ozone-forming air pollution and a large source of toxic air pollution. A monitoring study funded by Boulder County shows that these emissions are adding to the high ozone levels in Boulder County.

The county has adopted stringent air quality measures applicable to oil and gas operations and continues to advocate for stronger state regulations. In the course of its voluntary inspection program, Boulder County Public Health found leaks at 65% of inspected oil and gas sites. These findings informed the Air Quality Control Commission's rulemaking process, yielding a new state regulation that requires more frequent leak inspections and covers additional pieces of equipment. The county also participated in a rulemaking at the Colorado Oil and Gas Conservation Commission that generated stronger leak detection and repair requirements for oil and gas pipelines. Research to understand the air quality impacts of oil and gas production continues to develop, and Boulder County supports those efforts with both funding and staff expertise.



### **CLEAN AIR CHALLENGE**

Vehicle emissions are one of the two largest sources of ozone-forming air pollution in Boulder County. Since the summer of 2004, 1,700 people have participated in the Boulder County Clean Air Challenge contest, reducing driving by nearly one million vehicle miles and saving 50,000 gallons of gasoline.

In the coming years, Boulder County Public Health will update goals to focus on supporting fuel economy standards, EV adoption, and renewable energy adoption.



### TAKE A RIDE

To help reduce the impact of vehicles on air quality, Boulder County offers a 60% discount on annual transit passes, called EcoPasses, for businesses and neighborhoods. The EcoPass provides unlimited rides on all local, express, and regional bus and light rail service operated by the Regional Transportation District (RTD). An employee with an EcoPass is nearly nine times more likely to commute by bus.

In 2018, Boulder County offered 70% reimbursement for RTD EcoPasses or MyRide cards to businesses in Lafayette that participate in the Lafayette Green Business program, a partnership between Boulder County's Partners for a Clean Environment (PACE) service and the City of Lafayette. This program was inspired by a winning submission from Boulder County's "No Fare Lafayette" transit promotion contest.



## POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

### POLICY

### WHAT YOU NEED TO KNOW

#### Protect air quality

Boulder County, as part of the North Front Range Denver Metropolitan Nonattainment Area, currently exceeds national air quality standards for ozone. Poor air quality has significant public health and environmental impacts, from increasing doctor visits and hospital admissions to compromising

the unique value of our parks and open space lands through loss of visibility and impacts to wildlife. Boulder County supports state legislative, regulatory, and other efforts to ensure public and environmental health by reducing the emissions of harmful pollutants.

#### Support implementation of the Clean Air Act

The Clean Air Act is the law that defines the Environmental Protection Agency's (EPA) responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer, including important regulatory powers over GHG emissions and air pollution.

Boulder County supports enforcing the Clean Air Act and other regulations with the highest level of environmental protection to improve and maintain high standards of air quality and opposes any efforts to reduce the authority of the Clean Air Act or the EPA.



POLICY

WHAT YOU NEED TO KNOW

**Require residential radon mitigation systems**

Including radon mitigation requirements in building codes and when homes are resold would help decrease potential health

risks associated with residential exposures to radon, which is the second leading cause of lung cancer in the United States.

**Address the air quality impacts associated with oil and gas operations**

Oil and gas operations can emit air toxins, nitrogen oxides, and volatile organic compounds emissions close to population centers. Boulder

County supports legislative and rule-making efforts to reduce the air quality impacts of oil and gas exploration and development.







## Radon Reduction Roadmap

Radon is the second leading cause of lung cancer—second only to smoking. Each year, more than 20,000 people in the United States die from lung cancer caused by exposure to radon. Although most lung cancer deaths are attributable to tobacco usage, secondary causes of lung cancer are important because of the magnitude of lung cancer incidence and its poor survival rate.

More people die from lung cancer than colorectal, breast, and pancreatic cancers combined. From 2012–2014, nearly 7,000 people in Colorado were diagnosed with lung and bronchus cancers; almost 5,000 people (70%) died from it. Boulder County Public Health has created the Public Health Radon Reduction Roadmap (PHR3). PHR3 identified 37 strategies to reduce radon exposure, including education, policy recommendations for elected officials, programs, and

practices. The program deploys social mobilization practices across the Front Range with real estate professionals, home builders, building officials, home inspectors, elected officials, and others to create incentives and policies to reduce radon. As a result,

- One hundred fifty-six real estate professionals have pledged to be “Radon Aware.”
- Unincorporated Jefferson County and the City of Boulder have adopted Radon-Resistant New Construction building codes.
- Measuring and Mitigating Radon in Colorado, a radon technical guidance document for Colorado building practices, was created to educate building professionals and local building officials regarding best practices for reducing radon exposure in residential and commercial buildings.

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**The Roadmap identified 37 strategies to reduce radon exposure.**





TAKE ACTION

## Improving Air Quality

Our cars, lawn and garden equipment, and other products (e.g., paints and cleaners) produce ozone pollution. The fewer ozone-causing emissions produced on hot, still summer days, the better. Residents can help take care of our air by

- ❑ choosing low-polluting travel options rather than driving alone, for example, walking, biking, telecommuting, or riding the bus
- ❑ fueling vehicles in the evening so fume vapors can't "cook" into ozone
- ❑ keeping cars tuned—routine maintenance helps cars run efficiently
- ❑ keeping tires inflated—it reduces pollution and saves you money
- ❑ avoiding idling—restarting your engine uses as much fuel as about six seconds of idling
- ❑ using an electric-powered lawn mower or mowing in the evening if using a gas-powered mower
- ❑ choosing an electric car, and even better if you power your home with solar





## RESOURCES

## More Information

**Clean Air Challenge**

[bouldercounty.org/  
environment/air/  
clean-air-challenge](https://bouldercounty.org/environment/air/clean-air-challenge)

**Radon Aware Initiative**

[bouldercounty.org/  
environment/  
healthy-home/phr3](https://bouldercounty.org/environment/healthy-home/phr3)



**2**

**climate**





## INTRODUCTION

Boulder County has long understood the importance of local and regional climate action. Boulder County residents and businesses were among the first in the country to implement programs like EnergySmart, BuildSmart, Colorado Commercial Property Assessed Clean Energy (CoPACE) financing, solar and electric vehicle (EV) bulk purchasing programs, and a host of other energy efficiency and clean energy initiatives.

Despite local success and replication of these programs across the county, the scale of the climate crisis is even greater than we originally understood. Scientists now tell us that we need to reduce greenhouse gas (GHG) emissions by at least 80% by 2050 to stop the trend of warming—and hinder the impacts already underway.

Indeed, there is widespread consensus that human-caused emissions of GHG are impacting Earth’s climactic system, causing potentially unprecedented,

large-scale, adverse health, social, economic, financial, security, and ecological effects. The risks associated with climate change have driven many counties and cities to plan for a different future. Boulder County has been at the forefront of this effort for the past decade.

### WHY CLIMATE CHANGE MATTERS IN BOULDER COUNTY

Recent analyses have expanded our knowledge of the impacts of climate change in Boulder County, increasing

our awareness of the challenges that residents will face in the near future. Boulder County and other Colorado communities are already experiencing the impacts of a warming climate in the form of reduced snowpack, earlier snowmelt, increased risk of high intensity wildfires, extreme weather events, an increased number of “high heat” days. Average annual temperatures are already over 1° Celsius (2° Fahrenheit) warmer.<sup>1</sup> If significant emissions reductions are not achieved, more than 20 days a year in Boulder County could be hotter than 95° in the next 15 years. By 2050, these temperatures could exist for nearly half of the summer.

As temperatures continue to increase, so will unpredictable precipitation and extreme weather events.<sup>2</sup> In fact, Boulder scientists recently uncovered that the severe effects of the 2013 flood were enhanced by human-caused climate change.<sup>3</sup> Climate change will clearly alter our natural landscape, and many species currently native to the area will no longer find suitable conditions.



In addition to the human health and wildlife impacts, there are also significant economic costs associated with future climate conditions. The estimated total cost of mitigating only some of the potential effects of climate change across the geographic area

of Boulder County through 2050 is conservatively placed at \$96 million to \$157 million for the median- and high-impact scenarios.<sup>4</sup> Undoubtedly, the human health and economic costs of climate change pose great challenges to our community and beyond.

Successfully addressing these challenges will require bold, broad measures. This is a critical time for our environment and our community—and we are well positioned to be a leader in facing these challenges.



## Climate Change in Boulder County

Boulder County and other Colorado communities are already experiencing the impacts of a warming climate in the form of reduced snowpack, earlier snowmelt, increased risk of high intensity wildfires, extreme weather events, and an increased number of “high heat” days.

The direct effects of global warming on our quality of life in Colorado are a real cause for concern. According to the University of Colorado Boulder Research Center, local effects of global warming may include

- **Hotter summers**—By 2050, more than half of the summer may be at 95° or hotter.
- **Warmer winters**—with a thinner snowpack and earlier spring runoff
- **More precipitation**—falling as rain rather than snow
- **More wildfires**—burning twice as many acres each year compared to pre-1980 averages
- **Water shortages**—Colorado’s precipitation has decreased 20% in the last century, and water supplies are already stretched thin. The mountain snowpack serves as a natural reservoir. Less snow and earlier melting could leave Boulder County with less water during hotter summers, increasing the risk of forest fires or enabling outbreaks of forest insects. In the coming decades, the changing climate is likely to decrease water availability and agricultural yields in Colorado, further increasing the risk of wildfires and economic impacts on our farming community and growing population.\*
- **Increased frequency and intensity of flooding events**—Boulder County and county residents are still recovering from the 2013 flood. Culverts, roadways, and bridges are still being repaired at great cost.
- **Longer periods of drought**
- **Widespread beetle infestations**—wiping out pine forests and causing die-off in aspen stands
- **Health problems**—An increase in summer temperatures increases the formation of ozone. Ozone can affect human health by reducing lung function, aggravating asthma, and causing permanent lung damage in children and adults.
- **Economic impacts**—Measures to adapt to and mitigate the impacts of climate change are expensive. A recent analysis projects that over the next three decades, the costs to local Boulder County taxpayers will top \$100 million.
- **Impacts on vulnerable populations**—In addition to health impacts, it’s harder on less affluent people to recover financially from the loss of a primary residence, and renters have a hard time finding affordable housing following destructive wildfires or floods.



## Climate Damage

Boulder County residents have already experienced the pernicious impacts of climate change. The 2010 Fourmile Canyon fire burned 6,200 acres and was the most destructive wildfire in the county's history, destroying hundreds of homes. The September 2013 flood swept away roads, bridges, and homes across Boulder County and caused more than \$2 billion in regional damage. The summer of 2016 was the hottest on record. And the mountain pine beetle, unleashed by milder winters, has decimated more than four million acres of forest across the state. These impacts illustrate what Boulder County has at stake as humans change the climate—and why it's critical to reduce carbon emissions as rapidly as possible.

## How Climate Change Affects Our Health

- Poor air quality can intensify cardiovascular, respiratory, and allergy-related illness.
- More frequent wildfires induce asthma symptoms due to high smoke levels and other air quality issues.
- Higher temperatures can do a lot of harm, including increase the length and severity of allergy seasons, lead to dehydration, cause heat stroke; and aggravate cardiovascular and respiratory illness. This is especially true among children and the elderly.
- Higher temperatures could also lead to more vector-borne and waterborne diseases.



## BY THE NUMBERS

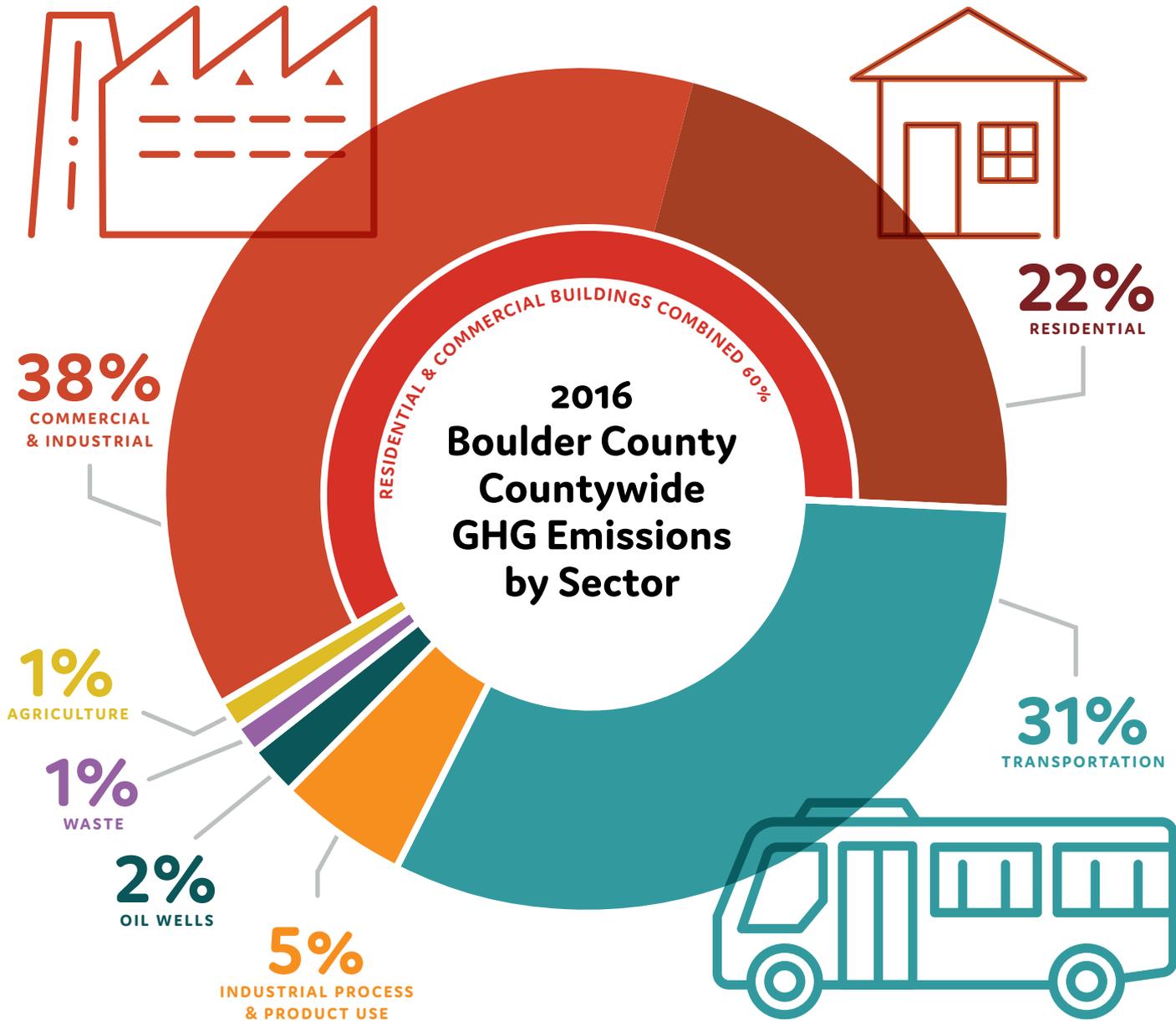
## Greenhouse Gas Emission Trends

Boulder County has calculated and reported community-wide GHG emissions since 2005 and focused its GHG reduction efforts on the largest emissions sources: electricity, natural gas, ground travel, and solid waste (see opposite page). According to the latest inventory, emissions from commercial and residential building energy use account for 60% of emissions and transportation accounts for 31% of emissions countywide. Emissions from industrial processes, oil wells, solid waste, and agriculture account for the remaining 9% of emissions. Between 2005 and 2016, countywide GHG emissions decreased by 3%. It is significant that emissions have remained relatively steady over a period of sizeable growth in population (13%) and economic prosperity (45% increase in sales and use tax).

In 2012, Boulder County laid out a bold goal of reducing community GHG emissions 40% below 2005 levels by 2020. Our recent 2016 inventory suggests that reaching this goal remains a significant challenge and will require all of us to take action. While no single step can reverse climate change effects, Boulder County, municipalities, and all community members can pursue more reduction strategies, take advantage of leading edge technologies, and engage more citizens across our community in this effort to reduce carbon pollution. Boulder County residents emit an average of 15 metric tones of carbon dioxide equivalent (mtCO<sub>2</sub>e) annually in Boulder County (see page 40). We have the challenge of getting our emissions per person per year to a countywide average of 7 mtCO<sub>2</sub>e (to meet our 2030 goal).

### reducing waste

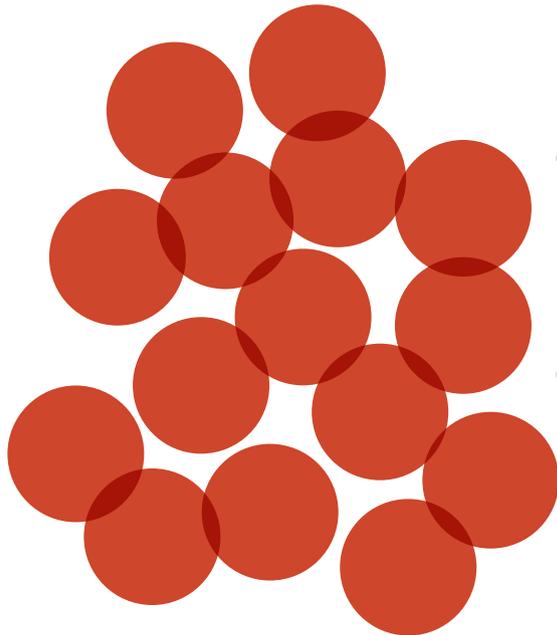
Waste reduction efforts play a large role in helping Boulder County work toward our climate goals. Boulder County completed a 2016 GHG inventory using a standardized methodology. A global emissions perspective is missing from the inventory methodology, which can only account for the methane released from landfills, while most of the products we purchase also have emissions associated with their collection and manufacture outside of our county. Zero waste efforts contribute to significant emissions reductions by avoiding “upstream” GHG emitted in the extraction, manufacturing, and transportation of raw materials, food, and goods.





## Average GHG Emissions per Capita

2016



**15 mtCO<sub>2</sub>e**

Emissions per person per year,  
average countywide

WE MUST  
CUT OUR  
EMISSIONS  
IN HALF  
BY 2030.

2030



**7 mtCO<sub>2</sub>e**

Emissions per person per year,  
average countywide





## BY THE NUMBERS

## Adopting Longer-Term GHG Emissions Reduction Goals

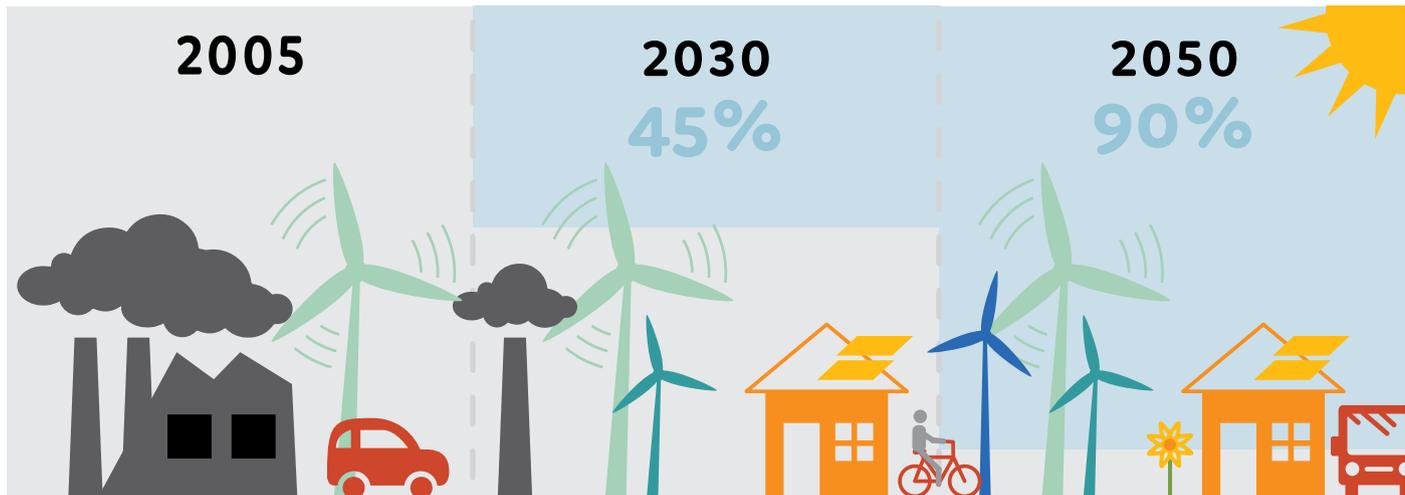
Boulder County's 2016 GHG inventory gave us the opportunity to rethink our long-term approach to the climate crisis. In early 2018, an analysis completed by local consultants and reviewed by renowned climate stakeholders helped us identify specific strategies to reduce community-wide GHG emissions. In addition, the Board of County Commissioners (BOCC) supports

setting GHG emission reduction goals that keep global warming to 1.5–2.0° C. The new, longer-term, countywide goals are as follows:

- Reduce countywide GHG emissions by 45% below 2005 levels by 2030.
- Reduce countywide GHG emissions by 90% below 2005 levels by 2050.

These goals (see below) underscore that Boulder County is committed to transitioning to a low-carbon future and a clean energy economy.

*These goals are based on recommendations from Western Resource Advocates' Climate Blueprint Report. See Resources (page 57) to learn more.<sup>5</sup>*



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## climate goal

Achieve rapid and deep emission reductions and become more resilient to the impacts of climate change.



**COUNTY OPERATION STRATEGIES****Ensuring climate change mitigation and climate change adaptation are top priorities within Boulder County's own operations**

- Support land-use policies and the development of codes that reduce barriers to solar without compromising the county's open space policies, and support using appropriate, county-owned land for renewable energy.
- Be active members in statewide organizations that are working on our behalf to combat climate change, such as Colorado Communities for Climate Action (CC4CA) and Compact of Colorado Communities.
- Promote low-carbon transportation options, multimodal work commuting, and EV adoption within our countywide vehicle fleet and among county employees.
- Prioritize climate mitigation and adaptation in countywide programs and ensure that all departments understand their role in carrying out the climate vision of the commissioners.
- Adopt internal resolutions and policies that establish climate action as a top priority for the organization and guiding principle for decision making.
- Prioritize budget decisions around climate mitigation and climate resiliency initiatives.
- Create a climate change strategic task force that helps implement Boulder County's climate mitigation and climate adaptation strategies.
- Assign a point person to coordinate climate adaptation and climate resiliency efforts, track progress, and leverage countywide resources.
- Reduce Boulder County's internal energy consumption and encourage energy conservation behavior at work.
- Meet all of Boulder County's internal electricity needs with 100% renewable energy by 2025.

**EVERY CHAPTER OF THIS SUSTAINABILITY PLAN HAS KEY STRATEGIES TO REDUCING CARBON EMISSIONS. PLEASE SEE OTHER CHAPTERS OF THIS PLAN FOR A MORE THOROUGH REVIEW OF CLIMATE-RELATED STRATEGIES RELATIVE TO SPECIFIC TOPICS LIKE AIR QUALITY (PAGE 16), ENERGY & BUILDINGS (PAGE 76), TRANSPORTATION (PAGE 122), AND ZERO WASTE (PAGE 162).**



**COMMUNITY STRATEGIES**

## Reduce county GHG emissions by 45% below 2005 levels by 2030

**CROSS CUTTING STRATEGIES**

- Support and play a lead role in advocating for state and national climate protective policies, and continue a leadership role in CC4CA, a coalition of local governments that advocates for state and federal policies to protect Colorado's climate for current and future generations.
- Work with Boulder County producers, tenants, and ranchers to increase the carbon sequestration potential of using carbon farming methods, including, but not limited to, adding compost to soils, reducing tillage, planting trees, using slow-release fertilizer, and using cover crops.
- Support efforts to establish a carbon tax on electricity, natural gas, and transportation fuels.
- Impose a fee on energy intensive industries, including, but not limited to, marijuana and oil and gas.

**BUILDINGS & ENERGY**

- Explore a mandatory benchmarking requirement for commercial and industrial buildings owners in unincorporated Boulder County, whose buildings exceed 20,000 square feet, to rate their buildings' energy use, report energy metrics to the county, and implement energy efficiency measures. Encourage municipalities throughout Boulder County to also adopt mandatory commercial building benchmarking.
- Continue to offer EnergySmart and Partners for a Clean Environment (PACE) services to Boulder County residents and businesses, and explore new opportunities to address GHG emission reductions through these programs.
- Strengthen Boulder County's residential building code, BuildSmart, to move toward net-zero energy use in new residential construction by 2022, and enhance and improve commercial codes to achieve net-zero energy by 2028.

- Support low-interest financing mechanisms through Elevations Credit Union's Energy Loan, the Clean Energy Credit Union, CoPACE, and other financing instruments to enable residents and businesses to complete energy efficiency upgrades and install renewable energy.
- Support fuel switching that helps residents adopt renewable heating and cooling technologies, such as replacements to natural gas appliances and inefficient electric appliances, to reduce their reliance on fossil fuels.
- Encourage municipalities throughout Boulder County to adopt the most recent residential and commercial energy efficiency building codes and consider going beyond code.
- Support the continuation of Xcel Energy's State Energy Efficiency Resource Standard.



### RENEWABLE ENERGY

- Support increased access to rooftop and community solar throughout Boulder County by continuing to offer Boulder County's suite of renewable energy services, such as EnergySmart, PACE, solar bulk purchase programs, and rebates and incentives.
- Support significantly increasing the state's renewable energy standard.

### TRANSPORTATION

- Increase the number of EVs on the road owned by Boulder County residents through programs and policies such as bulk purchase programs, tax incentives, sales requirements, and improved charging infrastructure.
- Continue to offer transportation advising to the business community to increase modal choice and decrease single-occupancy vehicle use through the PACE service.
- Update transportation policies, plans, and standards to incorporate new travel systems and technologies into the design of transportation infrastructure, to ensure low-carbon travel.

- Continue to develop Boulder County's multimodal transportation infrastructure, increasing transit service frequency and geographic range, enhancing vehicle-sharing opportunities, and expanding travel demand management programs.
- Support the continuation of existing federal Corporate Average Fuel Economy (CAFE) standards and work with the Colorado Department of Public Health and Environment's Air Quality Control Commission to adopt more stringent fuel efficiency standards for vehicles.

### OIL & GAS

- Participate at state agency proceedings to advocate for regulations that reduce emissions from oil and gas facilities.
- Collaborate with state lawmakers and other local governments to enact legislation that reduces climate impacts of oil and gas development.
- Promote programs to facilitate movement away from fossil fuels for residents and businesses.

- Encourage the adoption of federal regulations and policies that reduce the impacts of oil and gas resource extraction.
- Continue to strengthen and enforce county oil and gas regulations.
- Engage in legal strategies and litigation to limit climate impacts and mitigate climate harms.

### WASTE

- Encourage resource conservation by local government, residents, and businesses to reduce the carbon footprint associated with the life cycle of resources and goods, including extraction or harvest, production, transport, provision of services, reuse of materials, recycling, compost, and disposal.



**COMMUNITY STRATEGIES**

## Support climate change preparedness and climate adaptation and resiliency

- Assign a point person to coordinate climate adaptation activities and determine how to measure progress on various elements of the county's climate adaptation efforts.
- Establish a climate adaptation planning committee, which would serve as a multiagency working group to coordinate resource management strategies across jurisdictional boundaries and provide a forum for community dialogue on climate.
- Through land-use policies, continue to encourage a compact development pattern in Boulder County that locates new development close to existing development and protects rural preservation and open space lands from fragmentation and other associated impacts.
- Evaluate the impacts of events caused by climate change on transportation infrastructure. Plan adaptations of transportation infrastructure to help prepare for, respond to, and recover from such events.
- Expand involvement in regional climate resiliency planning to more communities, and work with the Compact of Colorado Communities to engage in regional resiliency activities.
- Serve as a convener of strategic and collaborative discussions about climate change mitigation and adaptation across the municipalities within the county, with a particular emphasis on public health, water supply, and hazard management.
- Encourage the Office of Emergency Management to incorporate climate change preparedness strategies into Boulder County and City of Boulder multihazards plan.
- Incorporate climate change preparedness strategies into the Boulder County comprehensive recovery plan and the comprehensive planning process.<sup>6</sup>
- Support future climate change preparedness policies and collaborative efforts at the local, regional, and state levels.

**SEE THE AIR QUALITY (PAGE 16), ENERGY & BUILDINGS (PAGE 76),  
TRANSPORTATION (PAGE 122), AND ZERO WASTE (PAGE 162) CHAPTERS  
FOR ADDITIONAL EMISSIONS-REDUCTION STRATEGIES.**



## **glossary**

### **CLIMATE CHANGE MITIGATION**

Actions to reduce emission of greenhouse gases.<sup>7</sup>

### **CLIMATE CHANGE ADAPTATION**

Adjustment, in natural or human systems, in response to actual or expected climatic stimuli or their effects, that moderates harm or exploits beneficial opportunities.

### **URBAN CLIMATE CHANGE RESILIENCE**

Capacity of cities to function so that the people living and working in cities—particularly the poor and vulnerable—survive and thrive in the face of shocks and stresses related to climate change.





### FAITH COMMUNITIES LEADERSHIP

Faith communities are rapidly emerging as leaders in community-based climate action. As solar panel prices decrease and financial incentives are designed to reach nonprofits, solar energy has become a possibility for churches, synagogues, mosques, temples, and other spiritual communities that take environmental stewardship to heart.

With help from Boulder County's PACE service, both St. John's Episcopal Church and Congregation Har HaShem lowered their energy usage through LED lighting upgrades and then followed up with rooftop solar energy. Both congregations collected member donations, won grants, and received rebates from Boulder County and the City of Boulder. Both found financial instruments to capture the tax credits typically unavailable to nonprofit faith organizations. When the solar photovoltaic (PV) systems went online, each congregation held a dedication ceremony, and both now use these visible actions as a basis for educating adults and children on sustainable energy and environmental stewardship, including actions they can take at home.



### CONGREGATION HAR HASHEM 50 kW SOLAR ARRAY 3950 BASELINE RD., BOULDER

Combined with LED lighting upgrades, the solar PV system covers at least 75% of Har HaShem's electricity needs. A power purchase agreement, administered by the nonprofit Atmosphere Conservancy, defrayed the up-front costs of the system and helped the congregation take advantage of tax credits.



**ST. JOHN'S  
EPISCOPAL CHURCH  
25 kW SOLAR ARRAY  
1419 PINE ST., BOULDER**

St. John's is a historic property, so there were some challenges to siting the solar system. It couldn't go on the sanctuary, but with a little ingenuity, two different sets of top-efficiency solar panels were accommodated on accessory buildings to the east. The panels provide about 40% of the electricity that the church needs each year.



“

**Folks at the church wanted to do something to show visibly how the church was involved with saving the environment. We felt there was a spiritual need for that, and it helps the community as well. We're looking forward to showing the vestry what a great investment we've made.**

*—Mark Monroe, member of the solar committee*

”



POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County’s legislative agenda:

POLICY

WHAT YOU NEED TO KNOW

**Support legislative, regulatory, and administrative actions to achieve the state’s emission reduction goals and implement the Colorado Climate Plan, a statewide strategy of policy recommendations and actions to mitigate greenhouse gas emissions and to increase Colorado’s level of preparedness**

Recognizing that local governments are the first responders in the fight against climate change, Boulder County has taken numerous steps to reduce its own heat-trapping emissions and to assist its residents and businesses to do the same. Through CC4CA, Boulder County has also joined with numerous other Colorado local governments to advocate for expanded efforts, at all levels of government, to mitigate climate change.<sup>8</sup>

State-level actions, such as the establishment of new goals for reductions in statewide heat-trapping emissions, completion of a new state emissions forecast, and the implementation of the Colorado Climate Plan, will contribute to development of a national climate change solution, while also supporting the efforts of Colorado’s local governments.

**Support climate change preparedness and resiliency efforts**

Climate change will affect Colorado through increased heat, more extreme weather events, reduced winter snowpack, and changed precipitation patterns. Boulder County supports

the development and implementation of plans that can help the state and its communities prepare for and become more resilient in response to impacts of climate change.





POLICY

WHAT YOU NEED TO KNOW

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**Support statutory codification of aggressive and enforceable goals to reduce net statewide heat-trapping emissions**

Boulder County supports continued pursuit of an aggressive energy efficiency and renewable energy agenda for Colorado. Strategies that should be considered include increasing the Renewable Energy Standard, extending and expanding the Colorado Energy Efficiency

Resource Standard beyond 2018, providing authority for Colorado local governments to implement community choice aggregation, supporting further construction of alternative-fuel vehicle fueling infrastructure, and increasing state support of and engagement with weatherization efforts.

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**Support a comprehensive, market-based policy to reduce Colorado's heat-trapping emissions**

Climate change is considered a market failure by economists because it imposes huge costs on society—so-called “external costs”—that are not normally reflected in the prices of the goods and services causing the cost. To overcome this market failure, Boulder County supports efforts to internalize costs, which puts a price on heat trapping emissions and allows that

price to help drive emission reductions. Such a market-based approach could be undertaken at national, regional, or state levels—for example, a tax on heat-trapping emissions, or a cap-and-trade program that allows trading of limited emission rights, which are sold and traded to achieve economically efficient emission reductions.



## POLICY

## WHAT YOU NEED TO KNOW

**Support concrete state government actions to reduce emissions from electricity generation and consumption in Colorado**

Colorado state government has consistently stated that it will develop a rule to comply with the federal Environmental Protection Agency's Clean Power Plan (CPP), and it has reiterated its intent to proceed, even in light of the current judicial stay and existing uncertainty regarding executive branch support for the rule. Boulder

County urges the governor and other state officials to proceed in developing state actions to reduce heat-trapping emissions in Colorado to levels at least equivalent to those required by the CPP, and to move forward, regardless of federal judicial or executive branch action or inaction on the CPP.

**Provide Colorado counties with permissive authority to implement a carbon tax**

A carbon tax is a fee assessed on the carbon content of a fossil fuel. A properly designed carbon tax will incentivize decision makers at all levels to reduce carbon emissions

through conservation, substitution, and innovation strategies, e.g., through energy efficiency, renewable energy, and conservation-based behavioral change.





## Colorado Communities for Climate Action

Many Colorado communities, like Boulder County, have aggressive climate protection and GHG emission reduction goals. State and federal climate policy changes are needed to achieve these reduction goals. In May 2016, Boulder County and the City of Boulder initiated the establishment of CC4CA, which is a coalition of local governments that advocates for state and federal policies to protect the climate for current and future generations.

- By unanimous agreement among the coalition's members, CC4CA has developed and is pursuing an aggressive climate action policy and legislative agenda.
- CC4CA is building constructive relationships with officials of the governor's administration, leaders and members of the General Assembly, state agency officials and staff members, other local government networks, advocacy organizations, and business interests.
- CC4CA is advocating for more climate protection actions by the governor and state agencies.
- CC4CA has pushed back against efforts by the federal administration and in Congress to roll back federal climate protection and other critical emissions reduction programs.
- The coalition contracts with a professional lobbying firm to advance its state legislative priorities through such strategies as direct contact with legislators and collaboration with key partner organizations.
- CC4CA has held training sessions for elected officials, managers, and program staff of member jurisdictions, empowering them with information and suggestions on how to be more effective in advocating for climate action at the state and federal levels.





NO GEO-ENGINEERING

Accounta

BE  
COOL!



## TAKE ACTION

## GHG Reduction

To reach these goals, we need collective community action to drastically reduce community-wide GHG emissions. Carbon footprint measures the amount of CO<sub>2</sub>e produced annually from our daily activities (from burning fuels). Each Boulder County resident on average has a carbon footprint of 15 metric tons of CO<sub>2</sub>e emissions per year. For comparison, to reach our 2030 goal, each community member needs to cut their emissions in half. Luckily there are many options to minimize our negative impacts on the environment. To get started making a difference, tackle the list below or decide which options can easily be adjusted to fit into your lifestyle.

### **Reduce your carbon-based travel.**

- When leaving your home, consider walking, biking, or using public transportation. Combining trips and carpooling can also save time. If you have to purchase a vehicle, consider an electric vehicle.

### **Eat a more plant-based diet.**

- The meat industry is one of the largest contributors to climate change worldwide, as livestock animals produce large amounts of methane. Methane is a GHG that packs 84 times the punch of CO<sub>2</sub> over a 20-year period. Eating a more plant-based diet can be one way to ensure your lifestyle is low carbon.

### **Minimize your waste.**

- Only buy what you need and reuse, recycle, compost, and minimize food waste.

### **Make your home fossil free and solar powered.**

- There are now more ways to purchase renewable energy and it is more affordable. Rooftop solar is a great way to power your home with clean energy. If you don't have a roof that is suitable for solar or you rent your home, look into purchasing subscriptions to solar gardens or contact your local utility for renewable power options. Available financing for rooftop solar can be found at the Clean Energy Credit Union,<sup>9</sup> as well as through local solar companies. Make sure your house is well insulated, and buy energy and water efficient appliances. An EnergySmart<sup>10</sup> advisor can help you figure out ways to reduce your carbon footprint.



## RESOURCES

## More Information

- 1 **Average Annual Global Temperature**  
[noaa.gov/news/july-was-hottest-month-on-record-for-globe](https://noaa.gov/news/july-was-hottest-month-on-record-for-globe)
- 2 **Extreme Weather Events**  
[rockymountainclimate.org/extremes/boulder.htm](https://rockymountainclimate.org/extremes/boulder.htm)
- 3 **Colorado 2013 Flood**  
[sciencedirect.com/science/article/pii/S2212094716300470](https://sciencedirect.com/science/article/pii/S2212094716300470)
- 4 **Economic Costs of Climate Change**  
[assets.bouldercounty.org/wp-content/uploads/2018/04/resilient-analytics-report-impacts-of-climate-change-boulder-county-colorado.pdf](https://assets.bouldercounty.org/wp-content/uploads/2018/04/resilient-analytics-report-impacts-of-climate-change-boulder-county-colorado.pdf)
- 5 **Climate Blueprint Report**  
[westernresourceadvocates.org/publications/colorados-climate-blueprint](https://westernresourceadvocates.org/publications/colorados-climate-blueprint)
- 6 **Climate Change Preparedness Plan**  
[bouldercounty.org/environment/sustainability/climate-change-2/preparedness-plan](https://bouldercounty.org/environment/sustainability/climate-change-2/preparedness-plan)
- 7 **IPCC Mitigation**  
[ipcc.ch/ipccreports/tar/wg3/index.php?idp=433](https://ipcc.ch/ipccreports/tar/wg3/index.php?idp=433)
- 8 **Colorado Communities for Climate Action**  
[cc4ca.org](https://cc4ca.org)
- 9 **Clean Energy Credit Union**  
[cleanenergycu.org](https://cleanenergycu.org)
- 10 **Find an EnergySmart Advisor**  
[EnergySmartYes.com](https://EnergySmartYes.com)
- 11 **Carbon Footprint Calculator**  
[Nature.org/GreenLiving/CarbonCalculator/index.htm](https://Nature.org/GreenLiving/CarbonCalculator/index.htm)



Use the Carbon Footprint Calculator<sup>11</sup> to help you determine how you can reduce your impact.

**3**

**ecological  
health**





## INTRODUCTION

More than 100,000 acres of open space have been protected by Boulder County to preserve natural, cultural, and agricultural resources and provide public uses that reflect sound resource management and community values. Other government and private entities manage an additional 109,600 acres of federal land and 53,600 acres of open space and public land within Boulder County municipalities. Preserving and restoring natural resources is a priority for the community and benefits wildlife and the environment.

Boulder County preserves land in two ways: through outright acquisition or with conservation easements. Either purchase method ensures the land will remain an ecologically viable habitat for wildlife and plants, and remain free from urban development. In addition to purchasing open space, Boulder County started restoring grasslands on unproductive agricultural

land more than 20 years ago and continues to expand these efforts.

Boulder County also involves private property owners in helping preserve ecological health through its land-use regulatory process. Zoning regulations limit the intensity of development in the county and development must be designed with environmental impacts in mind. Land-use regulations also

provide opportunities for property owners to permanently remove development rights from their land, or limit the size of future development that can occur on the land.

Along with preserving land, Boulder County and our municipal partners enhance stream or riparian habitats. Most wildlife use our stream corridor habitats during their lives, and healthy riparian areas also protect water quality. In addition, fire suppression, overgrazing, and climate change have all impacted the health of forests in Boulder County. Reintroducing disturbances, like thinning trees or prescribed fire, help improve forest health. Finally, trails give people opportunities to improve their health and well-being, enjoy the outdoors, and connect with the natural world. Boulder County takes pride in maintaining more than 120 miles of trails, thereby bringing our community outdoors to appreciate Colorado landscapes. So far, we have restored more than six miles of stream corridor with revegetation and natural stream design.



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## **ecological goal**

Ensure healthy and vibrant ecosystems that sustain all naturally occurring species, along with our human population.



**COUNTY OPERATION STRATEGIES**

## Preserve open space and restore grasslands, wetlands, and forests

- Restore 600 additional acres of forest land by 2020 with forest thinning or prescribed fire.
  - Enhance agricultural lands by implementing soil conservation plans and installing pollinator plots.
  - Identify additional grassland and open space areas to restore by 2025.
  - Preserve 5,000 acres of suitable prairie dog habitat on county open space.
  - Reintroduce black-footed ferrets onto county open space by 2020.
  - Preserve an additional 2,500 acres of open space and associated water rights by the end of 2020.
  - Continue restoration of 1,800 acres of converted grasslands and restore three additional degraded agricultural areas by 2020.
- 

## Restore riparian habitat on Boulder County properties

- Improve native fish habitat by collaboratively installing fish passage on diversion structures along the St. Vrain River.
  - Restore five miles of riparian habitat on Boulder, St. Vrain, Lefthand, and Geer Creeks by 2020.
  - Maintain healthy in-stream flows as part of riparian restoration efforts.
-

**COUNTY OPERATION STRATEGIES**

## Identify opportunities to enhance policies related to ecological health in the Boulder County Comprehensive Plan (BCCP), and continue to develop implementation measures for policies already in place

- Provide education opportunities for planners and practitioners in other county departments, decision makers, and the public about the ecological health-related policies (i.e., Environmental Resources Element, Sustainability Element, Natural Hazards Element) that currently exist in the BCCP, so that they can be more fully utilized.
- Bolster policies related to forest health that currently exist in both the Sustainability Element and the Natural Hazards Element of the BCCP.





**COMMUNITY STRATEGIES**

## Increase the number of acres of healthy forests in Boulder County

- Provide private landowners a means to dispose of their wood in an environmentally sustainable manner at the Community Forestry Sort Yards.
- Improve and expand rural slash and debris removal programs for forest health, wildfire mitigation, and emerald ash borer management by establishing a sort yard in the plains.
- Create and expand the use of community forestry sort yards, chipping grants, and other tools.
- Expand utilization of material collected in sort yards and look for opportunities for collaboration with communities within the county where there is high demand for these materials.
- Plan and implement landscape-scale forest treatments in the northern section of the county at Hall Ranch, Heil Valley Ranch, and on adjacent public lands, in collaboration with the USFS and City of Longmont.

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## Increase the percentage of mountain residents who have performed effective fire mitigation

- Provide comprehensive, on-site, wildfire mitigation assessments to homeowners through Wildfire Partners.
- Offer phone-advising services to help ensure mitigation is completed and maintained.
- Recognize and keep track of residents who have performed effective mitigation with yard signs, Wildfire Partners Certificates, reinspections, and annual stickers.
- Advocate for more state funding for wildfire mitigation programs and incentives.
- Work collaboratively with public and private sector partners to increase participation rates and levels of mitigation.



**COMMUNITY STRATEGIES**

**Ensure urban development is concentrated within, or adjacent to, existing urban areas to preserve environmental resources and the rural character of the county**

- Renew, extend, and maintain intergovernmental agreements with municipalities to cooperatively plan for areas of development and areas for preservation.
- Limit and manage development in the forested areas of Boulder County to protect those lands and resources from fragmentation and other associated impacts.
- Implement education programs for decision makers, the public, and staff about policies encouraging compact development patterns.

**Maintain existing trails and add additional miles of trails**

- Maintain all existing Boulder County trails.
- Complete repairs to and reopen the Anne U. White Trail by 2018.
- Complete three miles of trail construction at Heil Valley Ranch by 2018.
- Construct the six- to seven-mile trail at Tolland Ranch by 2024.
- Add more trails where appropriate and desired for recreation and connectivity while preserving wildlife and other natural resources.



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➔ By utilizing National Community Planning month, Boulder County highlights the benefits and issues surrounding planning for preservation and development in the county. Potential tools to help spread the message include a speakers series, bike tours, and website information. In the past, the county has collaborated on these efforts by offering educational bike tours in conjunction with the cities of Boulder, Lafayette, and Louisville and the town of Superior, and by offering a presentation to the public on the history of planning in the county, as well as cross-departmental presentations on current planning efforts.



### QUALITY OF LIFE

Open space protects habitat for naturally occurring ecosystems and their native wildlife populations. Open space also contributes to our community values by conserving natural, cultural, and agricultural resources, and by supporting a strong economy. Open space can help our economy by increasing property values near open space, improving regional economic performance by attracting quality workers for area businesses, increasing space for bike paths and other active

transportation options between cities, and infusing local and tourist dollars into outdoor recreation activities (more than \$28 billion annual impact to Colorado's economy). A significant part of the economic engine of Boulder County can be attributed to the value of working, living, and playing in the same area. Boulder County Open Space contributes to this high quality of life and creates a community that values preserving and utilizing open space.



### WILDFIRE PARTNERS

Wildfire Partners is Boulder County's program to help homeowners prepare for wildfires and create resilient communities. Western wildfires have increased in number and size over the last three decades. With increased warming due to climate change, we are projected to experience substantially higher risk of climate-driven fires in the future. Launched in 2014, Wildfire Partners is

Boulder County's unique, award-winning approach to addressing increasing wildfire risk. Modeled after EnergySmart, Wildfire Partners<sup>12</sup> doesn't just educate homeowners—it empowers them. More than 35 organizations, including insurance companies and realtors, have joined forces to help homeowners and communities take responsibility for the future.

PHOTO BY J MCMANUS

**POLICY PRIORITIES**

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

**POLICY****WHAT YOU NEED TO KNOW****Conserve and protect Colorado's land and natural resources**

Colorado's environment defines its quality of life and economy. Recognizing this, state and local government partners have developed an array of public policy and programmatic initiatives designed to preserve and protect Colorado's land and natural resources. Examples include the Conservation Easement Tax Credit

and Great Outdoors Colorado. Boulder County will continue to utilize these tools to protect our local environment and will advocate for their continuation and expansion, to ensure the preservation of the environment and quality of life that Coloradans have grown to expect.





POLICY

WHAT YOU NEED TO KNOW

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**Promote wildfire mitigation in communities at risk for wildfire**

Wildfires in Boulder County and across the state have reinforced the need for collaborative landowner and intergovernmental participation in mitigation efforts in the wildland-urban interface. In particular, Boulder County supports legislation to improve forest health, reduce fuels for fire, and create fuel breaks and safe escape routes. It also supports increasing homeowner participation in the creation and maintenance of defensible space and safe home ignition

zones, as well as increasing use of ignition-resistant building materials in residential construction. Boulder County further advocates intergovernmental coordination before, during, and after a wildfire to reduce the risk of wildfire and ensure public safety and effective management during a wildfire. Finally, the county supports limiting and managing development in the forested areas of Boulder County to protect those lands and resources from fragmentation and other associated impacts.

**Oppose legislation to transfer Colorado's federal public lands to state ownership**

Boulder County supports the protection of Colorado's federal public lands, including national parks, wildlife refuges, forests, historic sites, and wilderness areas, and will oppose legislation that attempts to authorize state control of these lands. Research consistently shows that public lands serve as economic drivers for local communities by increasing tourism, income and employment opportunities, and land and home values. According to

the State, Colorado's outdoor recreation economy alone contributes \$28 billion annually to Colorado's economy,<sup>13</sup> supports more than 220,000 jobs across Colorado, and generates \$2 billion in annual state and local tax revenue. The transfer of these lands to state control raises legitimate concerns that the land will be sold to private interests, or the natural resources will be exploited to pay for firefighting and other management costs.



POLICY

WHAT YOU NEED TO KNOW

**Promote broad access to public lands to develop a strong stewardship and conservation ethic**

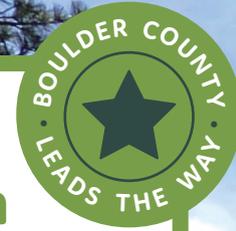
Colorado’s natural environment depends upon the next generation of residents and visitors to sustain and promote the health of local, state, and federal public lands. Boulder County supports efforts that foster stewardship and long-term support for our public lands, such as youth corps

programs; programs to get children, seniors, and multicultural populations outdoors; and efforts to link urban areas to parks and open spaces. Boulder County supports initiatives aimed at establishing an appreciation for our public lands among all of the diverse populations of Coloradans.

**Establish and complete regional trail systems that link communities**

In 2015, the governor initiated an effort through the Department of Natural Resources to work in conjunction with Great Outdoors Colorado, the Colorado Department of Local Affairs, the Colorado Department of Transportation, local governments, nonprofits, and foundations to identify obstacles, including funding, ownership, access, and others, to the completion of regional trails throughout Colorado.

In Boulder County, regional trails link communities to local and federal public lands, thereby providing access to outdoor amenities and outdoor recreation. Boulder County supports statewide efforts to assist with the completion of regional trail systems that have been identified and supported by communities through local planning processes.



## Planning Boulder County's Growth

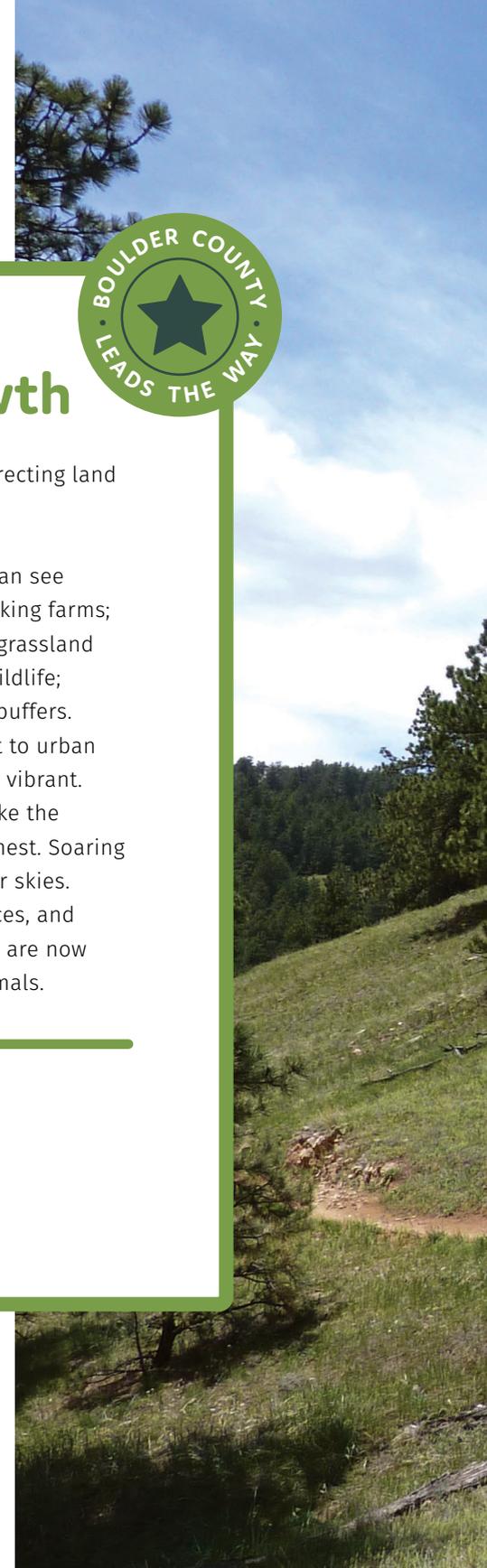
A group of citizen activists in the 1970s can be credited with the foresight to plan for our future. They realized that unplanned growth could forever alter the natural ecological environment, thus changing the landscape of Boulder County. This realization was the impetus for comprehensive land-use planning. The original Boulder County Comprehensive Plan, adopted in 1978, set the stage for shaping our landscape today by defining where desirable growth could occur and launching an open space protection program. The county has followed this plan by creating agreements with municipalities to outline community boundaries,

purchasing open space, and directing land uses to appropriate areas.

Today, in Boulder County, you can see preserved range lands and working farms; protected forest, riparian, and grassland ecosystems that host myriad wildlife; multiple-use trails; and urban buffers. Urban development is adjacent to urban areas, while rural areas remain vibrant. Rare or endangered animals, like the burrowing owl, have places to nest. Soaring eagles are more plentiful in our skies. Forests protect our water sources, and lands that were once degraded are now home to native plants and animals.

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**In total, the county  
has preserved more than  
100,000 acres of land.**







TAKE ACTION

## Open Space

Boulder County has a variety of volunteer opportunities for anyone interested in caring for open space. During the past five years, community members have doubled their volunteer hours, and Boulder County Parks & Open Space<sup>14</sup> has expanded opportunities for you to have a hand in preserving the open space. Join us, and help define the future for the next generation!

- Collect native seeds
- Adopt a trail to clean up regularly
- Help restore forests
- Monitor wildlife or weeds
- Volunteer your organization as a partner and help on various projects





## RESOURCES

## More Information

**Boulder County  
Comprehensive Plan**

[bouldercounty.org/  
property-and-land/  
land-use/planning/  
boulder-county-  
comprehensive-plan](https://bouldercounty.org/property-and-land/land-use/planning/boulder-county-comprehensive-plan)

**12 Wildfire Mitigation for  
Mountain Homes**

[WildfirePartners.org](https://WildfirePartners.org)

**13 Colorado's Outdoor  
Recreation Economy**

[choosecolorado.com/  
key-industries/  
outdoor-recreation](https://choosecolorado.com/key-industries/outdoor-recreation)

**14 Get Outside! Volunteer!**

[BoulderCountyOpen  
Space.org](https://BoulderCountyOpenSpace.org)



**4**

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**energy**

**& buildings**





## INTRODUCTION

Boulder County strives to foster building practices that improve environmental, economic, and social sustainability through the Comprehensive Plan and Land-Use Codes, complemented by the BuildSmart, EnergySmart, and Housing & Human Services programs.

The Boulder County Comprehensive Plan sets a policy vision for a compact development pattern that locates development in urban areas and preserves distinct buffers between communities. The goals of this vision policy are to avoid sprawl and conserve natural resources. In 2008, the county adopted BuildSmart, a green building program for residential construction and major remodels that sets mandatory requirements to improve energy efficiency, conserve water and resources, and reduce landfill waste generated by new construction projects.

In 2011, EnergySmart, a residential and commercial energy program, began helping building owners take advantage of energy efficiency and

renewable energy opportunities. EnergySmart has offered free, one-on-one energy advising, financial incentives and unique programming to meet the needs of each participant.

Longs Peak Energy Conservation (LPEC), part of Boulder County's Housing & Human Services Department, offers weatherization services for low-income residents. This service provides cost-effective, energy-efficient improvements, such as high-efficiency light bulbs and showerheads, insulation, and furnace replacements, at no cost to qualifying homeowners and renters. The weatherization service helps decrease the cost of energy for families in need while improving the health and safety of their homes.





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## **energy and buildings goal**

Reduce energy consumption, promote energy efficiency in new and existing buildings, increase the use of clean energy, and transition away from fossil fuels.



**COUNTY OPERATION STRATEGIES**

## Reduce Boulder County's internal energy consumption

- All newly constructed county-owned buildings shall be constructed to a minimum Gold level as defined by the U.S. Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) for New Construction, while striving to attain all the available points under the Energy and Atmosphere category.
  - Annually track building energy intensity, perform energy assessments and retro commissioning, upgrade mechanical equipment and lighting, and reduce plug loads in county-owned buildings.
  - Require that all existing, eligible county buildings achieve ENERGY STAR recognition by 2020.
- 

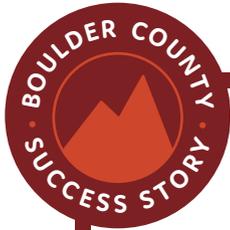
## Increase Boulder County's adoption of renewable energy

- Continue the cross-departmental task force, which works to address challenges related to Land-Use Code in siting renewable energy and other sustainability facilities in the county.
  - Meet all of Boulder County's electrical needs with 100% renewable energy by 2025.
  - Expand capacity of on-site solar electric and solar thermal generation.
-

**COMMUNITY STRATEGIES**

## Increase energy efficiency and renewable energy in residential and commercial properties across Boulder County

- Continue to offer EnergySmart and Partners for a Clean Environment (PACE) services to Boulder County residents and businesses, and to explore new opportunities to address greenhouse gas (GHG) emission reductions through these programs.
- Provide low-interest financing through Elevations Credit Union's Energy Loan,<sup>15</sup> the Clean Energy Credit Union,<sup>16</sup> the Colorado Commercial Property Assessed Clean Energy Program (CoPACE), and other financing instruments to enable residents and businesses to complete energy efficiency upgrades and install renewable energy.
- Increase outreach and education efforts with the local solar installers, energy efficiency contractors, residents, and business owners.
- Support additional community solar garden capacity in order to increase the availability of renewable electricity to the residents and businesses of Boulder County.
- Continue to offer free and subsidized weatherization services and solar incentives to qualifying low- and moderate-income residents.
- Work toward equity in our PACE services for underrepresented business groups.
- Support fuel-switching pilots that help residents adopt renewable heating and cooling technologies as replacements to natural gas appliances and inefficient electric appliances.
- Utilize the Energy Impact Offset Fund (EIOF) to offset industries with disproportionately high electricity usage.
- Continue to explore opportunities to address energy sustainability through the Land-Use Code and the Comprehensive Plan, particularly as it relates to siting solar and other renewable energy facilities.
- Continue to strengthen the BuildSmart residential program to move toward net-zero energy use in new residential construction by 2022, and enhance and improve commercial codes to achieve net-zero energy by 2028.
- Use the experience and insights we have gained locally to work with the International Code Council (ICC) to strengthen the nationally published energy codes for both commercial and residential structures.



**CLEAN CLOTHES, CLEAN ENERGY**

With the help of Boulder County’s PACE service, John’s Cleaners paired energy efficiency with renewable energy for a clean-energy makeover.

Working with a PACE advisor, this family-owned cleaner in Lafayette installed new LED lighting throughout, which improved light quality and lowered the amount of energy they used. They then installed a ground-mounted, 46 kilowatt solar array.

John’s Cleaners used CoPACE financing for the upgrades with no upfront, out-of-pocket costs. They repay the loan along with their property taxes, and the loan stays with the property if they sell it.

**SOLAR PHOTOVOLTAIC (PV)  
PAYBACK & SAVINGS**

Costs covered by incentives	<b>46%</b>
Project Cost	<b>\$128,686</b>
Federal Tax Incentive	<b>\$38,606</b>
PACE Rebates	<b>\$20,000</b>
Cost after Rebates	<b>\$70,080</b>
Payback	<b>4.3 years</b>
Energy Saving Cost/Year	<b>\$19,066</b>
LBS of CO <sub>2</sub> Savings/Year	<b>98,454</b>



**Generating our own power instead of relying on fossil fuels helps save money but also makes our business more competitive in the environmentally conscious Boulder community.**

—Wendy Ellwood, Co-owner







### CLEAN ENERGY FOR ALL

Throughout Boulder County, homeowners are investing in clean and energy efficient technologies such as solar PV and high-performance heating systems. However, for some residents, the up-front costs of these measures can be a barrier. Ensuring access to money-saving, climate-friendly upgrades for all is a county priority.

Beginning in 2013, Boulder County's weatherization agency, LPEC, teamed with the county's EnergySmart service to address a gap in energy-related county services for low- to moderate-income families. This collaboration, called EnergySmart IQ (for Income Qualified), offers a county-funded subsidy to cover half the cost of energy efficiency improvements, such as insulation and high-efficiency furnace replacements, to qualifying families making 80% of the Area Median Income or less.

As a result of this effort, by the end of 2017, 63 households received energy efficiency improvements that led to lower utility bills and safer, more comfortable homes. In addition, 26 households, not previously identified, were able to qualify for the Weatherization Assistance Program (WAP), thereby receiving free energy efficiency upgrades on their homes.

In 2017, EnergySmart IQ was expanded to offer enhanced assistance for low-and moderate-income families looking to install solar generated electric systems on their roofs. Not only did the program help these families reduce their electric bills and carbon footprint, but it also generated more jobs in the local solar workforce.

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**Committed to ensuring access to money-saving, climate-friendly upgrades for all**



## POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

## POLICY

## WHAT YOU NEED TO KNOW

**Assist communities impacted by the reduced use of fossil fuels for power production**

To reduce heat-trapping emissions and avoid the worst effects of climate change, the world must rapidly transition to a clean-energy future, one built upon the pillars of energy efficiency and renewable energy, while dramatically cutting its reliance on oil, coal, and natural gas for energy production. While increased investments in energy efficiency

and renewable energy will generate millions of new jobs, workers and communities whose livelihoods depend on the fossil fuel industry will unavoidably face challenges. Strategies to advance a rapid transition to a clean energy future must include programs that serve as catalysts for bringing displaced workers and communities into the clean-energy economy.

**Support the early decommissioning and replacement of existing fossil-fuel-based generation facilities with clean-energy supplies**

The costs for deploying new, clean electricity generation from wind are now low enough to replace the generation from most of Colorado's aged coal-fired power plants, and ratepayers are saving money. However, many of these old plants, or stranded assets, still have capital investment debt that must be paid off by the utilities that own them, even if they are

retired. Boulder County supports the use of financing tools, including those that need approval from the General Assembly, such as ratepayer-backed bonds, to relieve utilities of this capital investment debt. This strategy will speed the development of new clean-energy electricity generation and lower costs of repayment for consumers.



### POLICY

### WHAT YOU NEED TO KNOW

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#### **Support policies and programs to improve the energy performance of new and existing buildings in Colorado**

Residential and commercial buildings account for more than 44% of the electricity and natural gas consumed in Colorado. Research suggests that by using tools such as green building codes, energy consumption disclosure requirements, and demand-side management programming, energy use in Colorado's buildings could be effectively reduced by more than 30%. Within this context, Boulder County supports efforts that will lead to improvements in the energy performance of Colorado's building stock. Such efforts could include a statewide "green building" code, to require new and existing commercial

and residential buildings to improve their energy performance over time and ultimately meet green building standards, such as the U.S. Department of Energy's Zero Energy Ready Home Program standard or the USGBC's LEED commercial building standards; energy use disclosure requirements for raising the awareness of building owners, managers, and tenants about the impacts and costs of a building's energy consumption; and the provision of demand-side incentives for all building owners, including those in jurisdictions with green building codes or other energy performance requirements.

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#### **Support actions to achieve energy efficiency savings of 2% per year from Colorado's electric utilities**

Executive Order D 2017-015 establishes new state goals for reducing emissions from the electricity sector that are consistent with what the state had under consideration to comply with the U.S. EPA's Clean Power Plan. However, Boulder County believes that emission reductions greater than those called for in the executive order are possible, and

that further reductions are needed into mid-century. Boulder County supports concrete actions by the Colorado Public Utilities Commission and/or the Colorado Department of Public Health and Environment to ensure that the new goals in the executive order are met, and to achieve greater reductions beyond them.



## POLICY

## WHAT YOU NEED TO KNOW

**Support ongoing funding for the WAP**

Low-income and vulnerable households spend a disproportionately large percentage of their income on energy utility bills. The federal WAP, created 40 years ago, addresses this problem by improving the energy efficiency of homes and thereby reducing home energy consumption, lowering energy utility bills, and, ultimately, helping to offset the high cost of housing. LPEC, Boulder County's weatherization program serving the residents of Boulder, Larimer, Broomfield, and Gilpin Counties, weatherizes about 300 homes per year, with average

annual energy bill savings approaching \$500. With Colorado's WAP programs funded through federal allocations and state severance tax dollars, both of which can be volatile sources of revenue, stability in annual WAP appropriations can be difficult to achieve. Boulder County supports long-term, sustainable funding for Colorado's state weatherization program, in support of the dual goals of assisting families in reducing their energy bills and promoting safe, comfortable, and energy-efficient housing.

**Support enabling legislation to implement local energy efficiency policies and programs**

Unlike their home-rule municipal peers, Colorado counties and statutory cities and towns, in many cases, lack authority to adopt and implement energy conservation policies and programs. For example, energy conservation ordinances are proven policy tools for improving the energy efficiency and performance of the existing residential and commercial building

stock, but only Colorado home-rule cities have statutory authorization to enact such ordinances. Boulder County supports enabling legislation to provide Colorado's counties and statutory cities and towns with the authority necessary to enact policies and programs that can support and promote energy conservation within their jurisdictions.





## POLICY

## WHAT YOU NEED TO KNOW

**Support state net metering policies**

Colorado's net metering policies ensure that electricity customers who own renewable energy facilities, primarily rooftop solar systems, receive a fair credit on their utility bills for the clean power that they contribute to the electric grid. In place in 43 states, net metering is a critical state-level policy for supporting renewable energy at the consumer (versus utility) level. Colorado's multi-pronged policy and programmatic approach in support of renewable energy, including solar, has seen the state rise to ninth in the nation in installed solar capacity, enough to power more than 100,000 homes. In addition to supporting the widespread

use of distributed generation—small generation units typically located at customers' homes and businesses—net metering helps foster the voluntary reduction of GHG emissions, contributes to the reliability of the electricity supply and distribution systems, supports the residential and small-commercial renewable energy industry, and helps to more quickly replace coal-fired power plants with cleaner sources of energy. Boulder County opposes any legislative, regulatory, or administrative action to weaken Colorado's net metering policies, and encourages the application of these policies to all Colorado utilities.

**Support requiring the Public Utilities Commission (PUC) to consider all environmental and health costs of the fuels used to generate electricity**

Existing electric resource planning standards, as applied by the Colorado PUC, fail to include the financial costs associated with the externalities of the carbon dioxide emissions that result from the burning of fossil fuels for electricity generation. Requiring investor-owned utilities to include

a "social cost of carbon" when developing their long-term integrated resource plans will provide regulators with critical information for assessing the costs and benefits of regulations or measures designed to reduce carbon dioxide emissions.



## Leadership in Energy

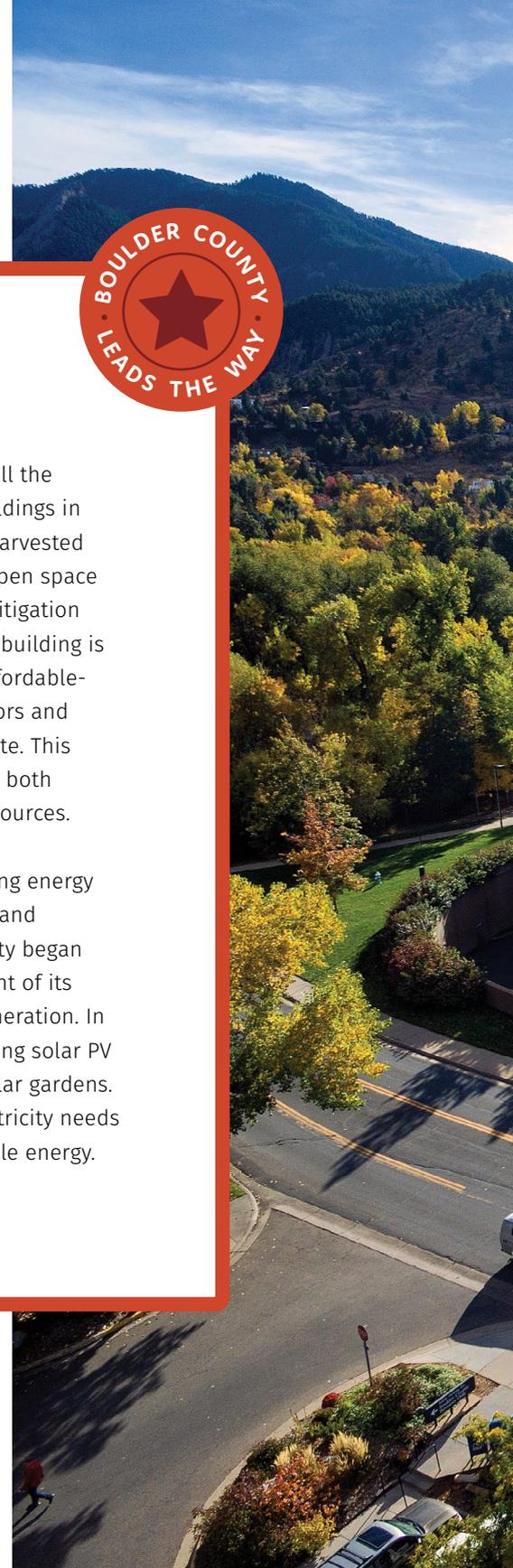
Energy reduction and the use of renewable energy are top priorities in county-owned buildings. The county started performing energy audits, lighting efficiency projects, building controls upgrades, and heating/ventilation/air conditioning improvements in the 1980s, and these efforts continue today.

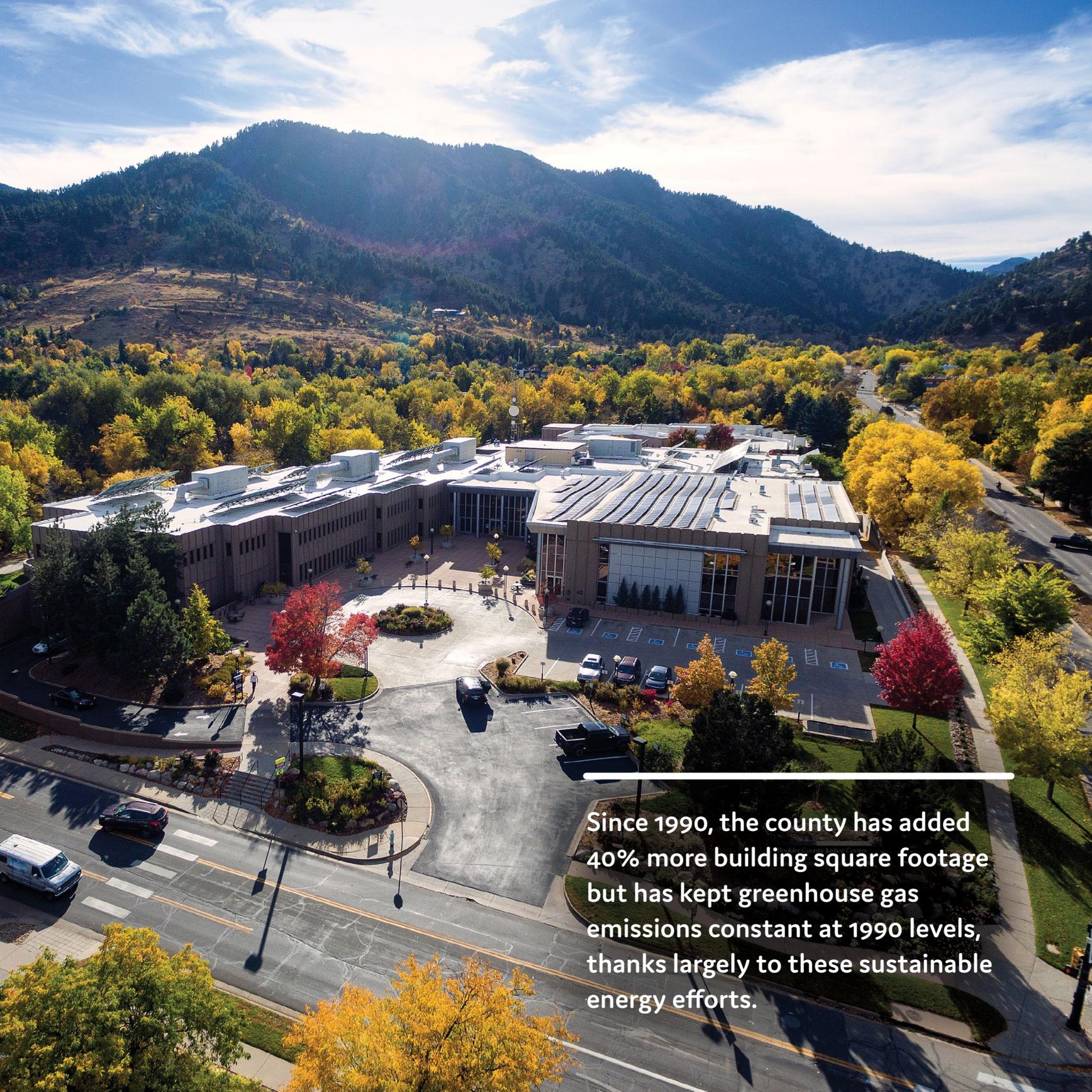
In 1998, the county began benchmarking energy use with the EPA's ENERGY STAR program. Several county buildings have achieved ENERGY STAR labels, designating them as top energy performers. In addition, three county buildings have achieved high USGBC LEED ratings—two Gold and one Platinum.

Some of the exciting measures the county has taken include the use of biomass boilers at the Boulder County Jail and the Open Space and Transportation

Complex. The boilers provide all the heating required for these buildings in the winter, using wood chips harvested from Boulder County-owned open space properties during forest fire mitigation work. Another energy efficient building is Josephine Commons, a new affordable-housing development for seniors and low-income families in Lafayette. This housing development features both geothermal and solar energy sources.

Boulder County is also offsetting energy use at our facilities with solar and wind energy. In 2005, the county began purchasing a significant amount of its electrical power from wind generation. In 2008, the county began installing solar PV systems and subscribing to solar gardens. A majority of the county's electricity needs are now sourced with renewable energy.





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Since 1990, the county has added 40% more building square footage but has kept greenhouse gas emissions constant at 1990 levels, thanks largely to these sustainable energy efforts.



## One of the Greenest Jails in the Country

The Boulder County Jail, opened in 1988, was designed to hold 287 beds. The jail has been reorganized over the years, though it still sits at just 103,400 square feet and now holds 536 beds. In 2009, Boulder County engaged an engineering firm (M. E. Group) to complete a baseline energy model assessment of the county jail. Through that process, it was determined that the majority of the energy usage for the jail was attributed to space heating.

With Boulder County's integration of alternative energy, upgrades to existing systems, and other changes, the jail is on track to reduce energy use by 59%. To optimize heating and energy performance, Boulder County Jail made the following energy upgrades:

- 2006**  
Installed laundry unit to reduce hot water use
- 2009**  
Added roof insulation and white, heat-reflecting roof
- 2010**  
Installed new roof over office and cell block, installed 99.75 kW solar PV system
- 2011**  
Upgraded building HVAC controls, upgraded chiller system, began new biomass-burning heating system
- 2012**  
Upgraded exterior lights to LEDs, added solar hot water system
- 2016**  
Replaced two air handlers with new units containing heat recovery wheels to improve efficiency and provide ventilation for the increased beds



3200 AIRPORT ROAD  
**Boulder County Jail**



**Loading Dock  
Deliveries  
Work Release  
Communications  
Center/EOC**



**Public Entrance  
Jail/Court  
Intake/Release**



TAKE ACTION

## Call to Action

To reach these goals, we need collective community action to reduce community-wide reliance on fossil fuels, to not waste energy, and to shift to a clean-energy economy. Here are great ways you can make a difference!

- ❑ Make your home tight, efficient, quiet, and comfortable. Participate in the EnergySmart program or WAP to optimize and finance your energy efficiency projects.
- ❑ Wondering where your business stacks up in energy efficiency? PACE can help identify efficiency projects, rebates, and the energy performance rating of your building.
- ❑ Make your home or business fossil fuel free and powered by the sun. Rooftop solar PV or a solar garden subscription are great ways to power your home or business with clean energy.
- ❑ Check out financing for energy efficiency and rooftop solar (as well as electric vehicles and electric bikes) through the Clean Energy Credit Union and through local solar companies and contractors.
- ❑ Share with your friends, family, and colleagues all the changes you are making in your life, home, and workplace to improve our environment and quality of life for current and future generations.





## RESOURCES

## More Information

### **Boulder County Comprehensive Plan**

[bouldercounty.org/  
property-and-land/  
land-use/planning/  
boulder-county-  
comprehensive-plan](http://bouldercounty.org/property-and-land/land-use/planning/boulder-county-comprehensive-plan)

### **Resolution for Sustainable Energy**

[assets.bouldercounty.org/  
wp-content/  
uploads/2017/03/  
sustainable-energy-path-  
resolution-2005-137.pdf](http://assets.bouldercounty.org/wp-content/uploads/2017/03/sustainable-energy-path-resolution-2005-137.pdf)

### **BuildSmart**

[bouldercounty.org/  
property-and-land/land-  
use/building/buildsmart](http://bouldercounty.org/property-and-land/land-use/building/buildsmart)

### **15 Elevations Credit Union**

[elevationscu.com/  
personal/loans/  
energy-loans](http://elevationscu.com/personal/loans/energy-loans)

### **16 Clean Energy Credit Union**

[cleanenergycu.org](http://cleanenergycu.org)

### **Resources for Businesses**

[PACEpartners.com](http://PACEpartners.com)

[copace.com](http://copace.com)

### **Resources for Homes**

[EnergySmartYES.com](http://EnergySmartYES.com)

[BoulderCounty.org/  
weatherization](http://BoulderCounty.org/weatherization)



**5**



**health**

**& wellness**





INTRODUCTION

Health and wellness are important aspects of environmental sustainability, as a healthy environment is inextricably linked to a healthy population.

Ensuring that all residents can breathe clean air, drink clean water, have safe places to be active, access and afford healthy food, and are prepared for extreme weather events as a result of climate change is vital to keeping our communities healthy. Boulder County generally enjoys the reputation of being a prosperous and healthy place, and holds itself to a high standard of health, wellness, and quality of life. Our high expectations are fueled by national “best of” lists that tout our Olympic-caliber athletes, locally grown “foodie” culture, and convenient bike paths. We treasure our landscape of rolling plains, foothills, and the Rocky Mountains, and our climate that promises 300-plus days of sunshine per year. Health data for our community reflects our high expectations: in general, we smoke less, have lower

Body Mass Index (BMI), eat more healthy foods, exercise more, and have lower rates of chronic disease than the nation as a whole.

However, looking only at broad health data can lull us into complacency. A closer look through an equity lens reveals that not all members of our community have equal access to such health and quality of life. Some people may be surprised to learn that nearly 20% of our children live in poverty, that our binge-drinking rates are among the highest in the nation, and that child obesity has made alarming inroads in our community.

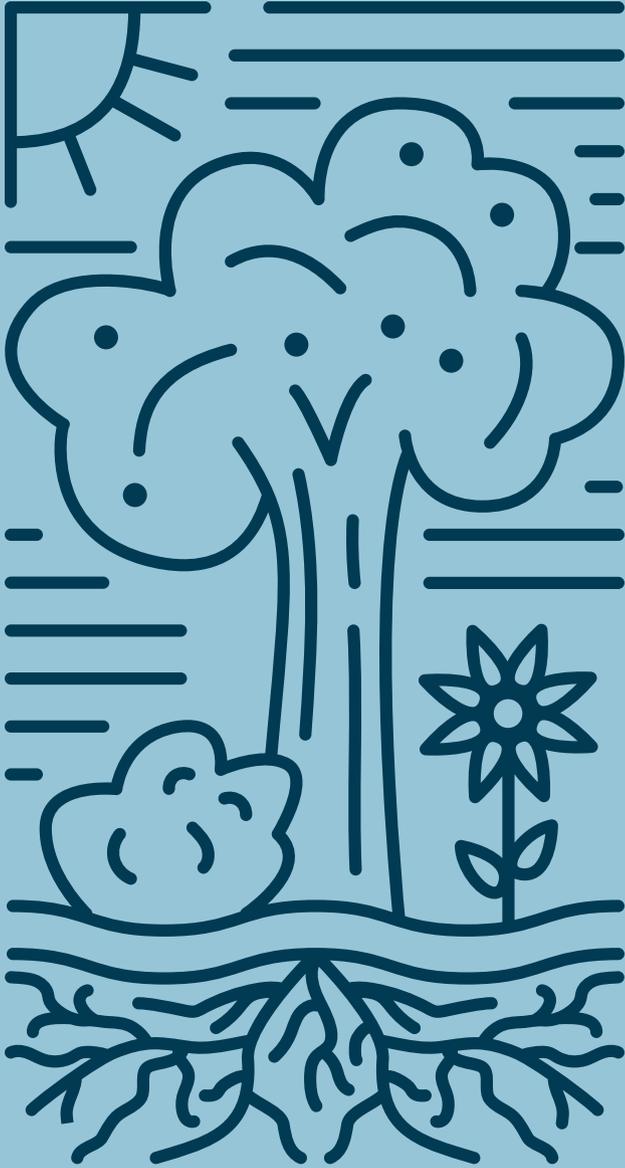
To ensure that the opportunity to live a healthy life is available to every Boulder County resident, the following goals and strategies have been identified for the next five years and beyond.



**Health equity is the realization by all people of the highest attainable level of health. Achieving health equity requires valuing all individuals and populations equally. It entails focused and ongoing societal efforts to address avoidable inequalities by ensuring the conditions for optimal health for all groups, particularly those who have experienced historical or contemporary injustices or socioeconomic disadvantage.**

*—Adewale Troutman,  
Health Equity, Human Rights  
and Social Justice: Social  
Determinants as the Direction  
for Global Health*





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## health goal

Ensure that Boulder County is a socially just and inclusive community, where physical and mental health, social well-being, and the environment are valued, supported, and accessible to all.



## COMMUNITY STRATEGIES

# Develop and implement a strategic plan for health equity to ensure that all people have full and equal opportunities to lead healthy lives

- Align work with and among our partners to place more focus on policy reform that promotes equity and social justice, and deliberately incorporates community voice and leadership to improve the health of the community and the environment in Boulder County.
- Collaborate with community residents and partners to change systems, structures, and policies that perpetuate inequities and structural racism. Partner with communities experiencing health inequities to inform and shape public health programming to ensure
  - clean air and water and safe food
  - access to quality and affordable education at all stages of life
  - opportunities for employment and a livable wage
  - access to safe, affordable, and stable housing
  - a safe and inclusive community

---

## Improve mental health

- Support an inclusive community, free of stigma, that demonstrates acceptance and understanding of its residents who are struggling with mental health issues by increasing the number of community members trained in mental health first aid;<sup>17</sup> supporting local and state policies to improve access to mental health care and support; and researching and evaluating community options for improved navigation to mental health services and programs.
- Reduce the incident of suicide by promoting a positive youth development (PYD) approach for youth-serving organizations throughout the county; supporting programming that prioritizes reducing suicide among youth who identify as lesbian, gay, bisexual, transgender, intersex, and questioning (LGBTIQ); supporting evidence-based programming and policy interventions for people ages 6 to 25; and supporting a more coordinated and cohesive service system for youth.
- Improve early childhood social and emotional development and reduce the rate of post-partum depression by expanding the Boulder County Assuring Better Child Health and Development (ABCD) Partnership for early childhood development delays; increasing support for families with young children; and decreasing adverse childhood experiences among young children.



## COMMUNITY STRATEGIES

### Continue the Healthy Eating and Active Living (HEAL) Coalition to collectively align existing and new interventions related to healthy eating, active living, and healthy weight

- Increase fruit and vegetable consumption and healthy food access among young children and their families in Boulder County.
- Increase breastfeeding duration among mothers and infants in Boulder County.
- Increase physical activity and active transportation among young children and their families in Boulder County.
- Reduce sugary drink consumption among young children and their families in Boulder County.

### Increase local capacity to respond to the potential impacts of climate change, such as increased heat emergencies and animal-borne diseases

SEE THE CLIMATE CHAPTER (PAGE 32) FOR ADDITIONAL CLIMATE CHANGE PREPAREDNESS STRATEGIES

## mental health

Mental health was chosen by Boulder County residents as the public health issue most impacting their lives and the lives of friends and loved ones. Mental health is a cross-cutting issue that contributes to sustainability, equality, inclusion, and resilience, and impacts our physical health too. It is associated with

- substance use
- chronic diseases, including diabetes, heart disease, and cancer
- early death
- suicide
- other more subtle impacts to physical health



### LOCAL TAX ON SUGARY DRINKS

Starting in 2012, Boulder County Public Health collaborated with residents and organizations across the county in the HEAL coalition to improve the health of children in our community. The coalition aimed to increase fruit and vegetable consumption, breastfeeding duration, and physical activity, and to reduce sugary drink consumption.

Because of the tremendous impacts to lifelong health, reducing sugary drink consumption became a focus area for collective action. Actions included

- developing the local “Make the Switch” campaign and partnering in the regional “Hidden Sugar” campaign<sup>18</sup>
- adopting organizational policies not to accept funding from manufacturers of sugary drinks and requiring healthy food and drinks at organization-funded meetings and events
- researching and supporting sugary drink taxes, including endorsement of the City of Boulder sugary drink tax by the Board of County Commissioners

In November 2016, the City of Boulder became the nation’s second city to vote in a sugary drink tax,<sup>19</sup> which levies a \$0.02/ounce tax on sugary drink distributors. The tax is estimated to generate \$3.8 million a year to support programs that promote health and wellness, prevent chronic disease, and ensure that all people have access to safe and clean drinking water, healthy foods, nutrition and food education, and places to be physically active. The programs specifically support people with low incomes and those most affected by chronic disease linked to sugary drink consumption.

**POLICY PRIORITIES**

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

**POLICY****WHAT YOU NEED TO KNOW****Increase funding for healthy eating and active living**

On average, one Coloradan dies every hour from heart disease. Healthy eating and active living reduce the risk for heart disease and cancer, two leading causes of death in Boulder County. Boulder County supports healthy eating and active living policies that promote

both health and sustainability, such as polices that improve access to healthy foods (including fruits and vegetables) and beverages, increase active transportation utilization, and support breastfeeding duration.





## Social Sustainability

The Boulder County Human Services Strategic Plan is a community blueprint focusing on social sustainability in Boulder County.<sup>20</sup> Implementing a livable community blueprint involves all sectors of the community and supports understanding of the interconnectedness among natural, economic, and cultural resources. It impacts not only where we live but how we live. In Boulder County, livability depends on linking together economic, social, and environmental sustainability. Decisions that influence transportation, water and air quality, local food, and other areas also influence social sustainability—strong local partnerships, a coordinated approach, public participation, and an appreciation of interrelationships among systems.

Successful implementation of the Boulder County Human Services Strategic Plan will

create a coordinated safety net for Boulder County's most vulnerable residents that is supportive, empowering, and responsive to emerging needs through

- integrating and coordinating delivery of human services
- prioritizing inclusiveness in service delivery and decision making
- coordinating human services with educational opportunities
- striving to meet basic needs such as food and shelter
- improving access to health care
- promoting economic well-being and self-sufficiency
- supporting safe and stable communities





TAKE ACTION

## For Your Health

Take care of your most precious resource—your health. Consider these suggestions for improved health and wellness:

- ❑ Remember to stay hydrated by drinking plenty of water (at least 1–1.5 liters per day), especially in place of sugary alternatives that can reduce the amount of fluid your body retains.
- ❑ Offer tap water at meetings and encourage attendees to bring their own reusable water bottles. New research indicates that consuming just two sugary beverages per week increases the risk of developing type 2 diabetes.
- ❑ The average worker eats one meal and two snacks, and makes 113 food decisions each day. Be sure to offer healthy choices like fruit, nuts, or “lite” popcorn to support health.
- ❑ Reduce portion sizes, order less food, rethink whether snacks are needed, and buy in bulk (e.g., purchasing a bunch of bananas, carrots, and cherry tomatoes for a snack) to save money.
- ❑ Offer healthy and sustainable snacks, such as apples, bananas, or oranges, which all come in nature’s compostable packaging!
- ❑ Bike to and from work for your health. You’ll get exercise and improve the air quality by not driving.
- ❑ Get outside and move! Consider biking to a trailhead instead of driving, to get more exercise and fresh air.
- ❑ Take a walk at work. If the weather is nice, consider turning your check-in meeting into a walking meeting. Check-in with your colleagues and get exercise at the same time.



## RESOURCES

## More Information

**Health Equity**

[bouldercounty.org/departments/public-health/health-equity](http://bouldercounty.org/departments/public-health/health-equity)  
[rwjf.org/en/library/research/2017/01/communities-in-action--pathways-to-health-equity.html](http://rwjf.org/en/library/research/2017/01/communities-in-action--pathways-to-health-equity.html)

**Healthy Eating and Active Living**

[bouldercounty.org/departments/public-health/healthy-eating-and-active-living](http://bouldercounty.org/departments/public-health/healthy-eating-and-active-living)

**17 Mental Health First Aid**

[mhfac.org](http://mhfac.org)

**18 Hidden Sugar Campaign**

[Hidden-Sugar.org](http://Hidden-Sugar.org)

**19 Sugar Sweetened Beverage Tax**

[bouldercolorado.gov/tax-license/finance-sugar-sweetened-beverage-tax](http://bouldercolorado.gov/tax-license/finance-sugar-sweetened-beverage-tax)

**20 Boulder County Human Services Strategic Priorities**

[assets.bouldercounty.org/wp-content/uploads/2017/02/strategic-priorities-2014.pdf](http://assets.bouldercounty.org/wp-content/uploads/2017/02/strategic-priorities-2014.pdf)

**Climate Friendly Purchasing**

[goodfoodpurchasing.org](http://goodfoodpurchasing.org)  
[foe.org/resources/meat-of-the-matter](http://foe.org/resources/meat-of-the-matter)



**6**

**local food  
& agriculture**





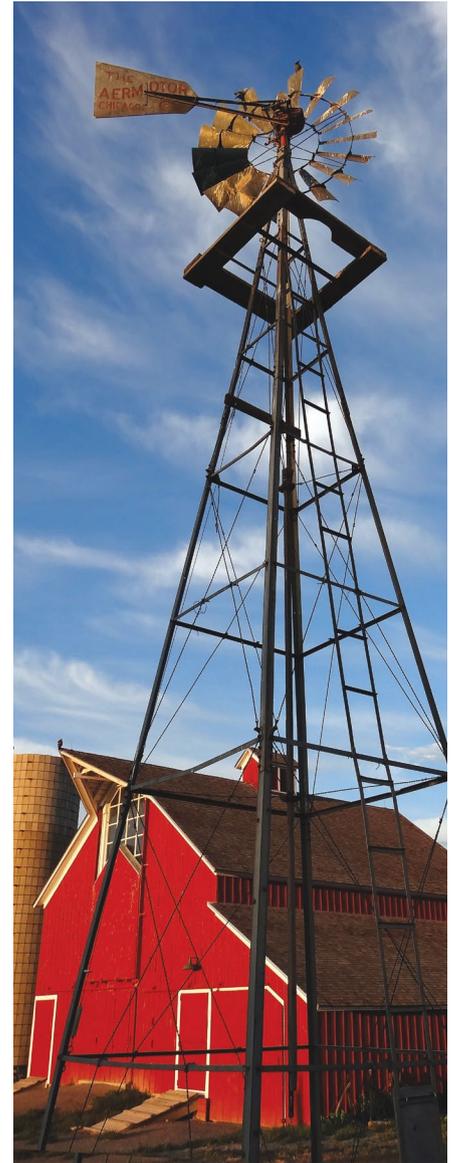
## INTRODUCTION

Agricultural lands not only preserve the rural character and quality of life that are important to Boulder County residents, but local food markets are important economic drivers for the county.

In addition, supporting sustainable farming practices and local agriculture is a critical step in reducing our greenhouse gas (GHG) emissions, which ultimately makes for a healthier place to live. Boulder County promotes a locally based food and agricultural system that advances Boulder County's economic, environmental, and social well-being. The vision seeks to improve the social sustainability, including health and nutrition, of all Boulder County residents, and to improve the viability of current and future agricultural producers within the county, while protecting and restoring the environment. Boulder County also encourages and supports practices and food markets that improve the availability and accessibility of local, healthy, and safe foods.

The county participates in regional agricultural efforts and strives to support sustainable practices on agricultural lands.

Ultimately, Boulder County encourages the preservation and sustainable use of agricultural lands for their contribution to cultural, environmental, and economic diversity.





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## local food & agriculture goal

Ensure a sustainable, local, safe, and healthy food supply that is accessible to all and supported by our community.



**COUNTY OPERATION STRATEGIES**

**Maintain and enhance agricultural viability and sustainability on Boulder County Parks & Open Space agricultural properties through management planning, infrastructure improvements, and agricultural stewardship practices**

- Meet with tenants to identify mutual goals that address the long-term management and resilience of the property, including potential infrastructure needs (e.g., storage facilities) that are important to achieving viable crop production and sustainable farming and ranching operations.
- Based on the above information, hold annual staff meetings to identify potential infrastructure projects and create an operating plan for each agricultural property owned by the county.
- Promote long-term agricultural stewardship and sustainability practices that enhance soil health and regeneration, reduce erosion, and conserve water. For example,
  - Incentivize and encourage water-efficient production systems.
  - Work with local universities and other agencies to understand and pilot carbon sequestration practices on Boulder County lands.
- Continue to promote dialog between farm operators and local beekeepers to evaluate bee health, and develop dedicated pollinator habitat on county agricultural properties.
- Continue implementing a strategic integrated pest management program.

**COUNTY OPERATION STRATEGIES**

## Support Boulder County's farm and ranch economy

- Explore local and regional markets with producers and buyers to maximize economic returns to local farmers and ranchers.
- Evaluate local policy and regulatory barriers to farm and ranch profitability, and explore challenges and opportunities to removing those barriers.
- Maximize the amount of food, fiber, and forage that is available locally by investing in farm and ranch infrastructure, food processing facilities, and food distribution channels.
- Work to nurture relationships among local producers, distributors, and potential buyers for the purpose of supporting business relationships and initiatives.





**COMMUNITY STRATEGIES**

## Offer education and outreach on local food and agriculture

- Provide presentations about Boulder County agricultural resources to interested classes, agencies, and organizations.
  - Provide tours of agricultural land.
  - Maintain a social, web, and print media presence.
- 

## Increase accessibility of local food for vulnerable populations

- Support donation of locally grown food when feasible.
  - Support charitable groups producing and creating access to food for vulnerable populations.
  - Invest in programs such as Double Up Food Bucks that make low-cost, locally grown fruits and vegetables available to vulnerable populations.
  - Explore local markets with producers and buyers.
- 

**Boulder County is committed to working with tenants, private landowners, educators, researchers, and other organizations to find the best strategies for local agricultural land stewardship.**

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**COMMUNITY STRATEGIES**

## Support access to safe and healthy agricultural products produced on lands in Boulder County

- Prevent foodborne illnesses by continuing to partner with retail food establishments to implement Active Managerial Control Practices and become Partners in Food Safety.
- Educate at least 200 food safety workers on five key foodborne illness risk factors per year.
- Continue to implement the Food and Drug Administration's voluntary national retail food program standards and the Food Safety Modernization Act for produce growers and processors.
- Explore opportunities to assist local producers in complying with the Food Safety Modernization Act and develop partnerships with Colorado State University (CSU) to provide education for compliance assistance.





**COMMUNITY STRATEGIES**

## Develop a suite of resources for producers that supports an economically sustainable and thriving agricultural community

- Work with the agricultural community and update the Boulder County Land-Use Code to help producers optimize and diversify economic opportunities that support Boulder County's policy vision for a thriving, diverse agricultural economy.
  - Foster experiential learning opportunities for beginning farmers and encourage mentorship and training among experienced and new farmers.
  - Coordinate farmer training through Colorado State University Extension and other applicable educational providers.
  - Provide opportunities for succession planning assistance for farm and ranch business owners.
  - Work with private tenants, educators, researchers, and other organizations to find the best strategies for agricultural land stewardship that optimize farm income and are environmentally sustainable.
- 

## Prioritize opportunities for organic operations and support expansion of certified organic production on public, county agriculture lands

- Provide incentives to county agricultural tenants pursuing organic certification through rent reductions during the three-year transition period to organic production and for the two years following that transition.
  - Share local and regional in-person and self-guided education opportunities on organic production strategies through local information distribution channels.
  - Convert at least 25% of Boulder County-owned agricultural lands to organic practices by 2020.
-

**POLICY PRIORITIES**

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

**POLICY****WHAT YOU NEED TO KNOW**

**Boulder County supports requiring mandatory labeling of the use of genetically engineered organisms in food products**

Consumers have the right to know what is in their food, so that they can make informed choices about whether or not to purchase genetically engineered food. Therefore, Boulder County

supports state and/or federal legislation to require the mandatory labeling of food and food products derived from or containing genetically engineered organisms prior to sale to consumers.





### DOUBLE UP FOOD BUCKS

The Double Up Food Bucks (DUFB) Program provides customers who rely on federal nutrition assistance programs with an incentive to purchase locally grown, healthy foods from farmers' markets. Supplemental Nutrition Assistance Program (SNAP, formerly food stamps) recipients can now double their benefits when buying fruits and vegetables at the farmers' markets held in Longmont, Boulder, and Lafayette.

The DUFB program increases low-income residents' access to healthy, local produce, and it supports our local economy and farmers. This program exemplifies an equitable, three-tiered approach to sustainability: socially, by providing underserved residents with the opportunity to take part in the local food culture; environmentally, by increasing the viability of small acreage fruit and vegetable farms; and financially, by increasing the purchasing

power of underserved residents so that they can access locally grown produce.

In 2013, the Boulder County farmers' markets sold a total of \$12,816 worth of local foods to SNAP recipients. In 2016, sales increased to nearly \$90,000. As a result of the DUFB Program, SNAP sales have increased by over 600% at the Boulder County farmers' markets, and thousands of low-income residents are able to access healthy, locally grown produce.

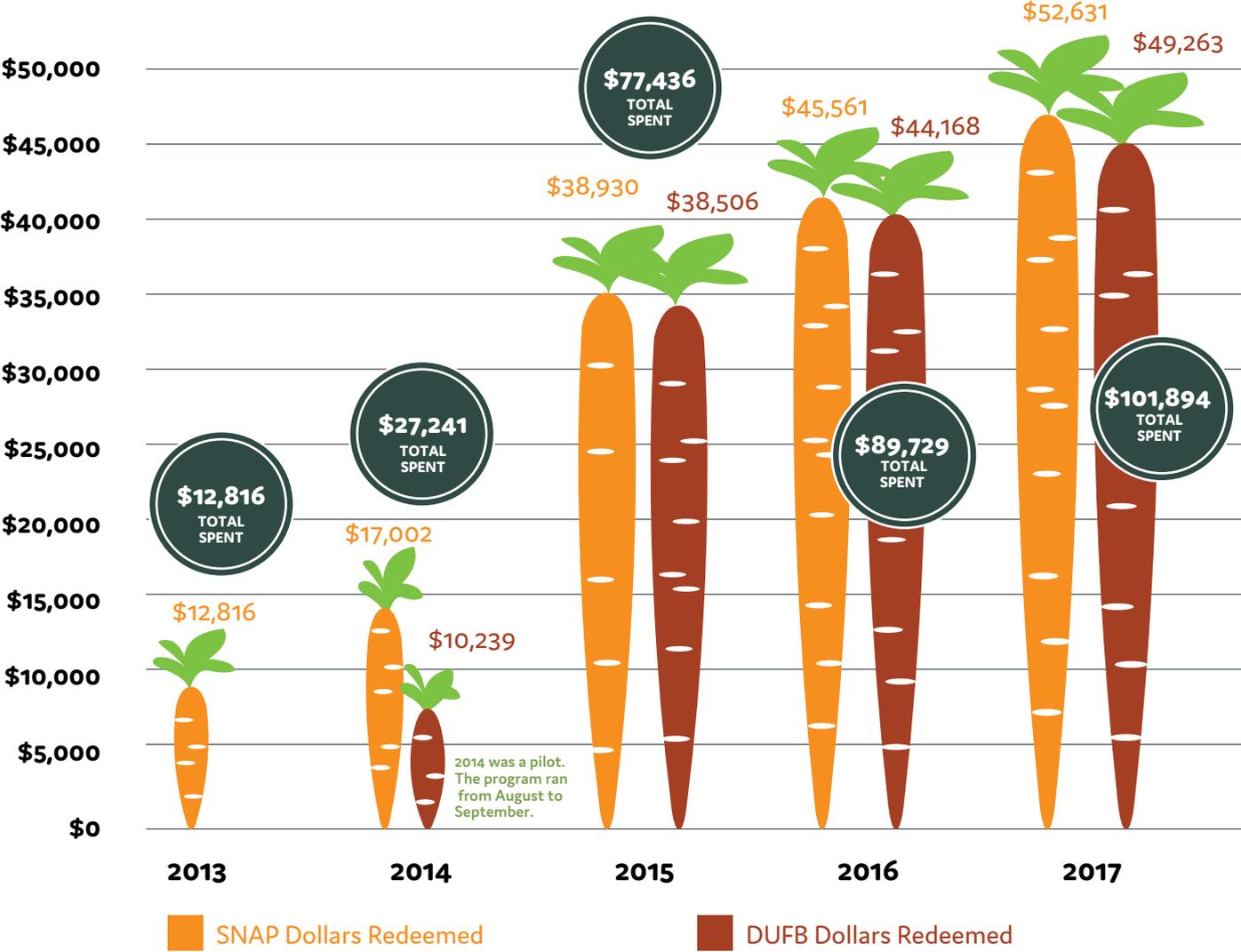
When surveyed, 89% of participants reported increasing their consumption of fruits and vegetables, 92% agreed that it was easier to purchase fresh fruits and vegetables, and 84% of participants said that they would not have come to the market without the incentives (compared to 70% nationally).

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**As a result, 89% of DUFB participants are increasing fruit and vegetable consumption.**



# DUFB and SNAP Program Dollars Redeemed





TAKE ACTION

## Be a Boulder County Locavore

The concept of eating local is an old idea that is suddenly very new again. To assist you, we offer our guide on how to eat locally in Boulder County:

### Partake in the local food economy

- Join a Community-Supported Agriculture (CSA) program and shop at your local farmers' market. Buy your meat from a local producer. Ask for and buy local food products at your grocery store. Learn about the food loops happening in Boulder County.

### Learn more about farmers and ranchers in Boulder County

- When they're not in their fields, you can find them at the farmers' markets, hanging out at their farm stands, or attending the Boulder County Fair or other outreach events. Stop to say hello. In the summer, Boulder County may offer farm tours, where you can meet the many farmers and ranchers who lease county properties and hear from them firsthand what it is like to be a Boulder County producer.
- Learn about the farming activities happening around you. From small, quarter-acre vegetable farms

to medium-sized cattle operations to large-scale wheat producers, Boulder County farmers produce a variety of foods for you to enjoy year-round.

### Grow and preserve your own food

- Plant basil in a window box, turn over a patch of grass for a small garden, or buy a few chickens. Don't have the skills for growing and preserving all that food? Talk to Boulder County's Colorado State University Extension Office to learn about classes they offer in all things self-reliant.

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**Loc•a•vore:** A person who strives to eat only locally produced food.



## RESOURCES

## More Information

**Educational Services  
and Tours**

[bouldercounty.org/  
open-space/education](http://bouldercounty.org/open-space/education)

**Food Assistance**

[bouldercounty.org/  
families/food/  
food-assistance](http://bouldercounty.org/families/food/food-assistance)



**7**

**transportation**





## INTRODUCTION

Whether working toward developing better transportation infrastructure, new bicycle facilities, improved trails, cleaner vehicles, or better transit services, Boulder County places a high priority on a sustainable transportation system. The fundamental goals and policies in the Boulder County Comprehensive Plan call for a compact development pattern that supports a smaller transportation footprint.

In December of 2009, the Board of County Commissioners adopted an update to the Transportation Element for the Comprehensive Plan to provide new direction for transportation projects, programs, and spending. This plan recognizes the need to develop policies and practices that create a sustainable transportation system that relies on the three pillars of sustainability: environment, social equity, and economy. The Transportation Element translates these three components of sustainability into action and helps the county achieve its vision to provide high-quality, safe,

sustainable, and environmentally responsible transportation to meet the mobility and access needs of all users.

In 2012, the Boulder County Transportation Department adopted a Transportation Master Plan, which identifies strategies for specific transportation corridors and transportation demand management programs such as the EcoPass. Moving forward, Boulder County will continue to focus on projects that reduce reliance on high-carbon energy sources, while maintaining or expanding affordable and convenient mobility for county

residents, employees, and visitors.

Boulder County plans to electrify its own vehicle fleet and encourage electric vehicle (EV) adoption by its own employees, the general public transit agencies, residents, and businesses. Vehicle electrification offers one of the best opportunities to significantly reduce the greenhouse gas (GHG) emissions from transportation. Transportation electrification is also important to reducing local air pollution. Analysis by the National Center for Atmospheric Research has found that vehicles and oil and gas development are the two major sources of emissions of ozone precursors. Boulder County, as part of the North Front Range Denver Metropolitan Nonattainment Area, currently exceeds national air quality standards for ozone.

All in all, Boulder County's policies and programs support the use of multimodal transportation and fuel-efficient vehicles or EVs, in order to decrease countywide GHG emissions. The results are cleaner air, reduced traffic congestion, decreased reliance on fossil fuels, and improved public health.



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## **transportation goal**

Provide environmentally sustainable transportation choices and support healthy, active lifestyles for all Boulder County residents.



**COUNTY OPERATION STRATEGIES**

## Reduce the GHG emissions from the county fleet

- Evaluate the usage of county vehicles in order to make informed decisions about which vehicles to electrify first and the necessary infrastructure to support those vehicles.
- Actively promote the adoption of hybrid, plug-in hybrid electric vehicle (PHEV), and battery electric vehicles (BEV) for Boulder County's fleet as appropriate technology develops.
- Promote the use of renewable diesel in the near term for the county's diesel-powered vehicles and other equipment to provide a substantial reduction in carbon emissions.
- Purchase PHEVs or BEVs for any new, light-duty replacement vehicles in the general fleet, starting in 2019, with exceptions for sheriff's office vehicles.
- Develop EV charging stations for fleet PHEVs in strategic county locations.
- As the technology matures, transition to EVs for medium and heavy duty fleet vehicles.

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## Encourage employee adoption of EVs and support employees who want to commute using zero emission vehicles

- Provide EV charging stations at key work locations across the county. Explore installing EV charging stations in each county parking lot, with a goal of providing charging in 10% of parking spaces.
- Incorporate EV infrastructure in any new construction and/or major remodels of county-owned buildings to ensure employee EV charging stations are integrated into county planning and buildings.
- Offer employees ways to participate in EV pooled purchase discounts.

**COUNTY OPERATION STRATEGIES**

## Ensure all Boulder County employees have access to multimodal means of commute travel, to reduce single-occupancy vehicle (SOV) commute trips, and explore creative ways to incentivize employees to reduce the carbon footprint of their commutes

- Continue to offer transportation incentives to all employees, such as Regional Transportation District (RTD) EcoPasses, Vanpool subsidies, B-Cycle membership, Bike to Work Day incentives, secure bike parking, e-bike charging stations, and employee showers within each building.
- Create new programs to mitigate vehicle miles traveled (VMT) such as parking cash-out programs, car-share opportunities, commute challenges with prizes, restricted employee parking, paid parking, and increased access to pool vehicles.
- Develop multimodal means of transportation for employees traveling while at work to reduce the use of fleet vehicles.

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## Develop a complete understanding of the environmental and economic impacts of Boulder County employee commuting behaviors

- Estimate current energy use, GHG emissions, and the cost impact of employee daily commutes and communicate this information to Boulder County employees, to encourage use of carbon-free commutes.



COMMUNITY STRATEGIES

## Incorporate smart growth principles into land-use decisions, such as transit-oriented development, convenient access to transportation options, and walkable communities

- Encourage Boulder County communities to locate and design new development in a manner that helps achieve regional sustainability goals. A key element is encouraging communities to add housing to allow in-commuters the ability to live in the communities where they work.
- Create building and Land-Use Codes that encourage the installation of EV charging stations.
- Locate county buildings and Boulder County Housing Authority (BCHA) housing facilities in areas that have convenient access to services and the multimodal transportation system, including regional transit.
- Continue to work with Denver Regional Council of Governments (DRCOG) to ensure the continuation of growth management strategies in the growing Denver Metro Region, such as urban growth boundaries and areas, to minimize sprawl.



**COMMUNITY STRATEGIES**

## Support the public adoption of EVs and assist in the installation of public charging stations

- Coordinate with the major cities across the county to set countywide goals for EV adoption.
- Promote the local public health benefits of EVs.
- Strengthen public outreach efforts to residential and commercial customers through Partners for a Clean Environment (PACE) and EnergySmart around EVs and charging.
- Partner with the chambers of commerce to encourage businesses to install charging stations at workplaces and to provide support for commercial entities interested in providing charging stations for their employees.
- Help businesses, nonprofits, other organizations, and individuals apply for Charge Ahead funds, which support EV charging stations, from the Regional Air Quality Council.
- Pursue opportunities for pooled purchasing programs for EVs and electric bikes.
- Coordinate efforts to approach local dealerships and vehicle manufacturers to advocate for more EV models to be made available at vehicle dealerships in the county.
- Review utilization and other data from the publicly available charging stations owned by Boulder County and EV registrations, to inform decisions about additional infrastructure locations or upgrades to current infrastructure.
- Urge RTD and Via to electrify transit routes in the county and region as soon as possible. Pursue partnerships with RTD, Via, the University of Colorado, utilities, municipalities, and the private sector to achieve complete transit electrification over a 12-year bus replacement cycle.
- Encourage utilities operating in Boulder County to develop transportation electrification plans that support widespread transportation electrification of both light duty and heavy duty vehicles.
- Explore the option to use “feebates” to incentivize the purchase of high-efficiency vehicles.
- Encourage electrification goals among Transportation Network Company vehicles (such as Uber and Lyft), carshare vehicles, taxis, and autonomous vehicles operating in Boulder County. Partner with utilities, municipalities, and the private sector to develop appropriate charging hubs.



COMMUNITY STRATEGIES

## Increase modal choice and decrease the SOV share of local and regional trips

- Continue to develop Boulder County's multimodal transportation system, including developing transit infrastructure, increasing transit service frequencies and geographic span of service, and expanding vehicle-sharing opportunities and travel demand management programs.
- Develop Boulder County's on- and off-street bike and pedestrian infrastructure and facilities with a focus on user safety and comfort.
- Establish partnerships and develop joint projects with Boulder County Public Health and other agencies to promote active transportation and improve public health outcomes through transportation improvements and services.
- Update transportation policies, plans, and standards to incorporate new travel systems and technologies into the design of transportation infrastructure to ensure low-carbon travel.
- Continue to offer transportation advising to the business sector to increase modal choice and decrease SOV use through Boulder County's PACE service.
- Work with Boulder County communities to establish multimodal connections to regional transit.
- Explore road usage fees.

**COMMUNITY STRATEGIES**

## Support EV adoption and charging station access for low-income and multifamily residences

- Provide incentives for charging stations at charging hubs located near areas with high concentrations of low-income/multifamily residents.
- Support EV DC fast charging throughout strategic locations in Boulder County.
- Develop an understanding of the current availability of charging in the multifamily and low-income housing sectors.
- Develop a pilot program that pairs access to charging at low-income and multifamily properties with a program to encourage purchase of new and used EVs.
- Work with city governments to adopt EV Ready building codes so that new or remodeled multifamily buildings are set up for easy and inexpensive charging station installation.
- Partner with utilities, including Xcel and Longmont Power and Communications, to develop pilot programs for utility owned and operated chargers in multifamily housing and electric carsharing in low-income neighborhoods.
- Consider providing rebates toward the purchase of new and used EVs by low-income residents.



COMMUNITY STRATEGIES

## Increase multimodal transportation options and incentives with schools to reduce GHG emissions

- Create, develop, and support policies, plans, and programs that reduce single-family vehicle trips to and from schools.
- Work with school districts to ensure that school property renovations support walking, biking, carpooling, and busing to schools.
- Continue to develop county transportation infrastructure that supports walking, biking, and busing to schools.
- Work with school districts to ensure new schools are constructed in areas already well served by the multimodal transportation network.
- Encourage school districts to replace fossil-fuel-powered school buses with electric buses.



**COMMUNITY STRATEGIES****Reduce barriers to using the transportation system and expand transportation programs and services that serve the needs of all members of our community, including low-income individuals and families, youth, seniors, and people with disabilities**

- Continue active partnerships with U.S. 36 Mayors and Commissioners Coalition, Commuting Solutions, CDOT, RTD, and other local partners to implement bus rapid transit and other multimodal improvements on State Highways (SH) 119, SH 7, SH 287, and other key corridors to complete high-performance, efficient, low-carbon, and convenient transportation options to all major destination communities.
- Continue to establish partnerships among Community Services, Boulder County Public Health, Housing & Human Services, and other agencies to coordinate programs to address transportation needs, as identified in agency programs and plans.
- Expand ways to fund and implement transit options for those who live, work, and recreate in Boulder County.

**SEE THE AIR QUALITY (PAGE 16) AND CLIMATE (PAGE 32) CHAPTERS FOR ADDITIONAL EMISSIONS REDUCTIONS STRATEGIES AND VEHICLE EFFICIENCY STRATEGIES.**



## Trip Tracker

Trip Tracker is a program that rewards staff and students (with help from their parents) for making green trips to and from school instead of traveling only by car. When participants walk, bike, bus, or carpool, they can earn Tracker Bucks to spend at participating locally owned businesses. Boulder County implements the program within the St. Vrain Valley School District (SVVSD) and Boulder Valley School District (BVSD) implements Trip Tracker in Boulder Valley Schools.

During the 2016-2017 school year, SVVSD Trip Tracker's actions resulted in:

99,824

Total "Green" Trips to Schools

70%

of those Green Trips were Active Modes (walk, bike, skate, etc.)





### LOCAL PUBLIC TRANSIT

Boulder County has created and increased many of our current transit options, including

- Ride Free Longmont
- L Route connecting Longmont to Denver
- FLEX Route connecting Ft. Collins to Longmont and Boulder
- JUMP Route extension connecting Boulder and Lafayette to Erie
- CLIMB bus connection to Gold Hill
- Hessie Trailhead Shuttle
- Implementation of the U.S. 36 BRT and bikeway
- Implementation of the Bike-n-Ride system

**EcoPass holders are seven times more likely to take public transit.**



### MOBILITY FOR ALL

Mobility for All has helped hundreds of low-income persons maintain access to employment, education, and medical services as a result of multimodal transportation assistance. Boulder County also helped form a Local Coordinating Council with participation from more than a dozen local, nonprofit human service agencies, several transportation providers, and community advocates. Mobility for All is a county initiative designed to help meet the needs of transportation-disadvantaged persons, including

- low-income individuals and families
- seniors
- people who do not drive or have access to a personal motor vehicle
- people with disabilities

Mobility for All provides

- subsidized transit for low-income persons in select county case-managed programs
- EcoPasses to two Boulder County Housing Authority sites
- improved transportation service coordination with human service agencies and transportation providers
- improved ability to serve more people with existing resources
- support for regional efforts to increase access to transportation services for low-income households, people with disabilities, and seniors

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**Boulder County is raising awareness that transportation is a basic social and economic need.**



## Mobility for All



Human-centered mobility and access strategies



300 B-Cycle annual memberships for low-income Individuals



Free RTD EcoPasses for 227 housing authority households



\$15,350 in RTD MyRide cards in partnership with financial counseling



Free Lyft rides for 182 housing authority residents in Lafayette

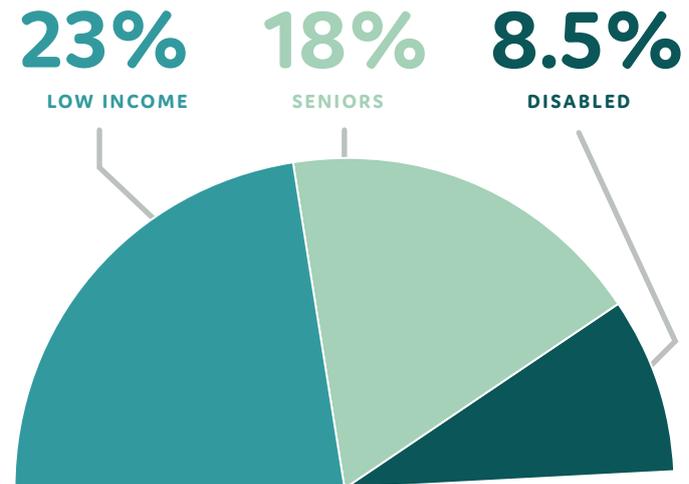
## True Cost of Owning a Vehicle

EXPENSES	COST PER MONTH*
Fuel	\$120-\$135
Maintenance	\$40-\$110
Repairs	\$30-\$55
Taxes and Fees	\$10-\$60
Insurance	\$140-\$160
Parking	\$10-\$100
Depreciation	\$50-\$80
<b>Total Per Month</b>	<b>\$400-700</b>
<b>RTD Unlimited Regional Pass</b>	<b>\$171**</b>

\* Based on Edmunds.com True Cost to Own tool

\*\* Full fare price. Assistance programs may offer free or up to 50% off passes.

## People We Serve





## Electric Vehicle Leadership in Colorado

Colorado has a unique opportunity to lead on reducing transportation emissions, making significant air quality impacts, and helping pave the way for other states to set more ambitious climate and electrification goals. Colorado counties and cities are leading the way by setting bold targets and policies for adoption of EVs. Expanding transportation electrification in local communities can increase the benefit of this new technology for residents, reduce GHG emissions, save the city and residents money, and help lead the way for greater EV adoption nationwide.

Colorado has taken many steps toward advancing transportation electrification in the last few years. We have a \$5,000 state EV tax credit, paired with a federal tax credit and a growing network of EV charging infrastructure, making Colorado one of the best places in the nation to buy an EV. The state of Colorado also recently released “Colorado’s Electric Vehicle

Plan,” which sets the goal of nearly a million EVs on the road by 2030. Achieving this goal is key to meeting state targets for carbon pollution and improving our air quality.

Colorado is also receiving a \$70 million settlement from the Volkswagen emissions scandal and plans to invest much of it in EVs, including charging infrastructure and support for electric buses and trucks. Colorado is part of the Regional Electric Vehicle Plan for the West, an agreement among seven states to build fast charging stations along 7,000 miles of highway corridors to support seamless regionwide travel. These are all good starts, but it will take local leadership to ensure that infrastructure and technology are expanded throughout the state. This is the moment for local governments to step out front and secure the benefits of transportation electrification for their communities and the state.





## POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County's legislative agenda:

## POLICY

## WHAT YOU NEED TO KNOW

**Support the development of sustainable, multimodal transportation systems and alternative modes of transportation**

Boulder County understands that investment in a regional transportation system reduces reliance on fossil fuels. Thus the county supports transportation planning and funding with a strong multimodal focus. Goals include timely completion of a transit system that connects the entire Denver metropolitan region (such

as FasTracks, approved by voters in 2004), development of multimodal infrastructure through safe bikeways and walkways, managed HOV/transit lanes, transportation demand management, and other transit services and alternative modes programs that provide people with modal choice.

**Link land-use, housing, and transportation planning and investment**

Consistency between land-use planning and transportation investment will result in decreases in GHG emissions, fossil fuel consumption, and transportation

infrastructure costs, while optimizing the use of existing infrastructure and amenities that require land-use planning and transportation investment.

**Support adoption of Advanced Clean Car emission standards**

The federal Clean Air Act gives California the authority to adopt its own emission standards for new motor vehicles, if they are at least as stringent as federal standards, and for other states to

adopt the advanced standards. Boulder County supports Colorado adopting the advanced vehicle standards, including those for zero-emission vehicles.



### POLICY

### WHAT YOU NEED TO KNOW

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#### **Support increased funding for transit, bike, and pedestrian infrastructure**

Boulder County supports an increase in new and innovative funding for transportation improvements in Colorado. Specifically, Boulder County supports funds committed to multimodal and alternative modes of transportation. Priorities for new funding should include completion of high-caliber Bus Rapid Transit on SH 119, completion of FasTracks and build-out of transit improvements in the Northwest Corridor, and local and regional multimodal and alternative modes infrastructure, including final-mile connections. Boulder County believes that any new road-capacity

funding should be invested in managed lanes that place prioritization on maximizing the travel of people (not just vehicles). The county also believes that managed lane projects must provide equitable travel choices in order to ensure that lower-income residents benefit from the public investment in a toll road. Boulder County supports funding sources that are tied to transportation use, including approaches based on vehicle miles traveled and distribution of federal and state transportation funds through regional planning organizations.



## POLICY

## WHAT YOU NEED TO KNOW

**Promote the purchase and use of zero-emission vehicles and investment in related technology and infrastructure**

Expanding the use of electric and fuel-efficient vehicles and the necessary infrastructure to support them will play an important role in achieving GHG emissions reductions from the transportation sector, advancing Colorado's statewide carbon reduction goals, and reducing dependence on foreign oil. Policy approaches that support the use of electric and fuel-efficient vehicles include investing in

electric and plug-in hybrid EV charging infrastructure, supporting "feebate" and other incentives for the purchase of electric and highly fuel-efficient vehicles, and promoting vehicle-to-grid technology, which enables electric and hybrid-electric vehicles to "plug" into the electric grid and provide power during the many hours that those vehicles sit idle.





## Benefits Boulder County helps bring EVs to Boulder

In August 2015, Boulder County, along with regional partners, ran the first-ever “bulk purchase program” for EVs. This program, now known as Benefits Boulder County, negotiated with the EV industry to give Boulder County residents and commuters huge discounts on select EVs in exchange for spreading the word about the deal. Two hundred forty-eight discounted EVs were sold during the initial program, and since then, a total of 392 EVs and 250 electric bikes have been sold to Colorado residents through this seasonal program. These technologies are enabling Boulder County residents in all communities to reduce their transportation costs while reducing GHG emissions. Benefits Boulder County has become a model used by grassroots organizations, local governments, utilities, and institutions across the country, due to its successes in increasing both education and adoption of emission-reducing technologies.

“  
**For decades, I used a bicycle to commute [between] my home [in] Fourmile Canyon [and Boulder]. It helped me maintain fitness and flexibility, and feel more connected with the natural world around me. When I turned 45, I decided to help my commute by getting an e-bike. I am 60 now, and it has helped me continue riding, since my strength is not what it used to be. In 2017, I moved to Boulder, [but] my e-bike still helps with longer rides and errands with heavier purchases.**

—Evan, Boulder resident

”

Zero Emission



EV ONLY  
chargepoint

LEAF

Reser  
GO C  
Ticket



TAKE ACTION

## Call to Action

To reach these goals, we need collective community action to reduce community-wide reliance on fossil fuels and to improve our air quality.

- ❑ If you drive to work, consider biking or taking the bus one day per week. The RTD<sup>21</sup> has a helpful trip planner. Small steps can lead to big strides!
- ❑ Invite friends and colleagues to split commute costs and reduce your carbon footprint by vanpooling and carpooling. WayToGo,<sup>22</sup> VanGo,<sup>23</sup> and Commuting Solutions<sup>24</sup> help commuters identify sustainable commute options.
- ❑ Move from a two-car household to a one-car household and save between \$4,800 and \$8,300 annually. Joining a carshare, such as eGo Carshare or zipcar, or on-demand transportation, such as Lyft or Uber, can help with this transition.
- ❑ If you have to purchase a vehicle, consider an EV. Go fossil fuel free at home and power your vehicle with rooftop solar photovoltaic, or purchase a subscription to a community solar garden.
- ❑ Consider using a remote conferencing service for a work-related trip to reduce your contribution to carbon emissions associated with air travel.
- ❑ Next time you move homes, consider a location that allows you to walk or bike to work and for errands. You can walk to work with fresh air and no congestion!



## RESOURCES

## More Information

**21 RTD**

[rtd-denver.com](http://rtd-denver.com)

**22 WayToGo**

[waytogo.org/getting-around/vanpool](http://waytogo.org/getting-around/vanpool)

**23 VanGo**

[vangovanpools.org/rp2/Home/Home](http://vangovanpools.org/rp2/Home/Home)

**24 Commuting Solutions**

[commutingsolutions.org](http://commutingsolutions.org)

### **Boulder County Comprehensive Plan**

[bouldercounty.org/property-and-land/land-use/planning/boulder-county-comprehensive-plan](http://bouldercounty.org/property-and-land/land-use/planning/boulder-county-comprehensive-plan)

### **Transportation Master Plan**

[bouldercounty.org/transportation/plans-and-projects/transportation-master-plan](http://bouldercounty.org/transportation/plans-and-projects/transportation-master-plan)

### **Colorado Electric Vehicle Plan**

[colorado.gov/governor/sites/default/files/colorado\\_electric\\_vehicle\\_plan\\_-\\_january\\_2018.pdf](http://colorado.gov/governor/sites/default/files/colorado_electric_vehicle_plan_-_january_2018.pdf)

### **Mobility for All**

[bouldercounty.org/transportation/multi-modal/transportation-assistance](http://bouldercounty.org/transportation/multi-modal/transportation-assistance)

### **Resource for Businesses**

[PACEpartners.com](http://PACEpartners.com)

**8**



**water**





## INTRODUCTION

In many respects, water is the lifeblood of Boulder County. Boulder County's rivers, streams, and reservoirs provide clean and plentiful drinking water for our cities and towns; are critical to supporting our economy, from farming to recreational tourism; and provide essential habitat to our abundant fish and wildlife populations.

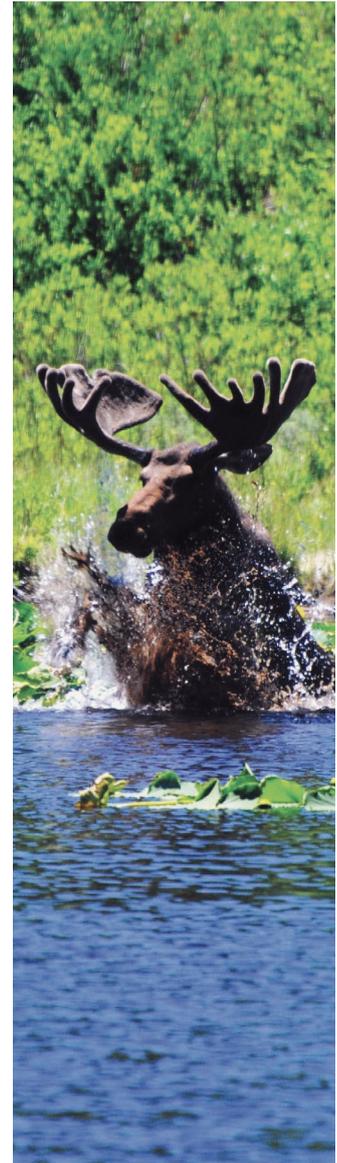
Within this context, Boulder County supports efforts that will lead to the development of sustainable water resource management practices and regulations to achieve greater conservation and more efficient use of our water supply. In Boulder County, we believe that healthy water quality and a sustainable water supply depend on the entire community, from the Board of County Commissioners, who develop and approve policy, to the businesses and residents who conserve water resources.

As a headwaters county, Boulder County enjoys relatively pristine water quality from mountain sources, and it is incumbent upon us to maintain or improve water quality for downstream users. Over the past

decade, Boulder County has committed to partnerships with communities working together to protect our water quality and coordinate watershed management.

In addition, we have learned that conserving water resources is a top priority among Boulder County residents. To this end, we are continuing to expand our sustainability services to offer water efficiency and conservation tools for our residents and business owners.

Water is a precious natural resource, particularly in the semi-arid climate of Colorado, and Boulder County is committed to ensuring that the county's future generations have clean and abundant water.





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## **water goal**

Ensure leadership and exemplify best practices in water efficiency and water quality efforts that ensure sufficient clean water for current and future natural landscapes and generations.



COUNTY OPERATION STRATEGIES

## Reduce Boulder County facilities' indoor water usage to 20% below the 2018 International Plumbing Code (IPC) requirement by 2020

- Ensure that new county buildings achieve all the U.S. Green Building Council's (USGBC) Leadership in Energy & Environmental Design (LEED) points within the water efficiency section of the USGBC new construction certification process.
  - Benchmark all county buildings' indoor water use per 2018 IPC by 2019.
  - Develop a plan to reduce water use to 20% below 2018 IPC by 2020.
- 

## Reduce outdoor water use

- Repair, upgrade, and adjust all irrigation systems with the most efficient available technologies.
  - Modify current landscaping practices and sprinkler systems to ensure monthly water usage and budget do not exceed lowest billing rate.
  - Finalize data collection on square feet of landscape being irrigated and service charges for all water-related utilities (drinking water, sewage, storm water).
  - Create and implement a plan to replace 20% of irrigated turf around county buildings by 2020.
-

**COUNTY OPERATION STRATEGIES**

## Continue improving water efficiency and quality and maintain the water supply on Parks & Open Space agricultural properties

- Use existing Parks & Open Space Water and Cropland Policies and Management Plans.
- Support local and state policies that help maintain agricultural viability and preserve open space values by retaining stream and ditch water supplies on irrigated lands throughout Boulder County.
- Utilize water quality monitoring data from internal and external sources to collaborate and share with other water quality monitoring efforts.
- Continue support of irrigation system improvements on county property that supply water to communities and agricultural producers.
- Support ecological stream restoration and in-stream flow efforts to aid species recovery, improve water quality, and create new areas for aquatic wildlife habitat and recreational activities.

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## Assess current and future drought and related vulnerabilities caused by increased climate and weather variability, population growth, and development

- Facilitate the collection and sharing of data by all appropriate water-managing agencies and Boulder County departments.
- Explore opportunities for collaboration and data sharing for water quantity and quality monitoring efforts, and identify appropriate uses for this data.
- Gather all existing data on drought from county agencies and incorporated areas.
- Support coordinated climate change response strategies for use by Boulder County water providers through a collaborative forum.
- Enhance water-conservation-related components of the Land-Use Code and participate in regional planning efforts to ensure that planning for new development within Boulder County and the Denver metro region adequately addresses water supply constraints and vulnerabilities.



**COMMUNITY STRATEGIES**

**Protect, improve, and ensure watershed health to secure an enduring supply of high-quality source water, while protecting the wildlife habitat, stream system functions, and aesthetics of our natural environment**

- Have no stream segments in the county on the state’s list of impaired or polluted waters by supporting the Keep It Clean Partnership and other intergovernmental agreements in minimizing pollution impacts in surface waters.
- Work collaboratively with external multistakeholder watershed groups that are engaged in efforts to promote healthy watersheds through water quality monitoring, stream stewardship and restoration projects, fire mitigation, public education, and related other activities.
- Support policies that regulate the negative impacts on water quality from oil and gas exploration and development.
- Devote expanded resources toward reducing storm water runoff in the upper watersheds and non-urbanized areas of the county.
- Maintain healthy forests in order to reduce wildland fire impacts to source waters.
- Ensure responsible natural resource extraction in ways that protect riparian areas and water quality.
- Engage in local source-water protection planning.
- Sustain local stream flows and water quality with minimal reliance on west slope diversions.
- Complete remediation of ranked abandoned mine sites.

**COMMUNITY STRATEGIES**

## Ensure that all on-site wastewater treatment systems are permitted and approved

- Make sure all wastewater treatment applications are reviewed and evaluated by Boulder County Public Health to ensure that they meet Boulder County wastewater treatment regulations that are a part of all property sales transactions.
- Conduct outreach to high-risk geographic areas likely to be impacted by aging and unapproved wastewater treatment.
- Maintain regulations to employ the best practices and technologies to protect groundwater.
- Maintain an active outreach and permitting process for unpermitted and unapproved wastewater treatment in Boulder County, with the goal of having all wastewater treatment permitted by 2023.

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## Expand water conservation education efforts with Boulder County residents and businesses

- Engage with statewide education campaigns and any new collaborative water conservation education initiatives to promote water use of under 85 gallons per day per person.
- Incorporate water conservation education and best management practices into the EnergySmart service.
- Continue water education provided to businesses and municipal agencies by the Partners for a Clean Environment (PACE) service.
- List homes that achieve the EPA's WaterSense certification in the green Multiple Listing Service (MLS).
- Expand existing youth water education programs to include water conservation and source water protection.
- Coordinate water conservation strategies that include similar messaging throughout Boulder County.
- Develop county Land-Use Codes and work with local municipalities to require all new, remodel, and addition projects to incorporate water efficiency measures.



WATER





### **BUSINESS SAVES WATER**

For more than a decade, Boulder County's PACE service has worked with local businesses and municipal operations to reduce their stormwater pollution and systematically standardize water efficiency. In past years, dozens of businesses have become certified in PACE's Water Conservation Area of Excellence. Studio Z Dental in Louisville is now using 77% less water than an average dental office. After installing a waterless suction system and auto shut-off pumps at each hand-washing sink, more than 200,000 gallons per year are being saved. This consciousness of water conservation led the business to voluntarily implement environmentally responsible purchasing practices, as well as composting and recycling programs for their office staff and clients. Water stewardship, just like our Colorado rivers, carries a positive momentum that flows into many other areas of environmental sustainability.



POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County’s legislative agenda:

POLICY

WHAT YOU NEED TO KNOW

**Promote the efficient utilization and conservation of water**

Colorado’s lakes, rivers and streams, and water delivery systems provide clean drinking water for our cities and towns and are critical to supporting the state economy, fish and wildlife populations, and our way of life. Within this context, state and local government water policy must result in water supply and management decisions that are environmentally and economically sustainable, in order to conserve, protect, and restore Colorado’s rivers. Boulder County staff participated

directly in the two-year-long effort to draft Colorado’s Water Plan, the state’s first comprehensive water plan. The inclusion of conservation, land-use, and watershed health metrics in the plan will move the state toward sustainable water resource management practices and create public policy incentives to achieve greater conservation and more efficient use of Colorado’s water supply. State legislation and other policy approaches will be important tools in this effort.



## POLICY

## WHAT YOU NEED TO KNOW

**Support the Clean Water Act**

Legislative and rule-making attempts to curtail the authority of the Clean Water Act would unnecessarily undo decades of regulatory effectiveness that Coloradans rely on to protect the quality of our water. These attempts

would undermine 40 years of collective experience and collaboration by numerous nongovernmental and governmental organizations to effectively support the Clean Water Act.

**Ensure safe and high-quality drinking water**

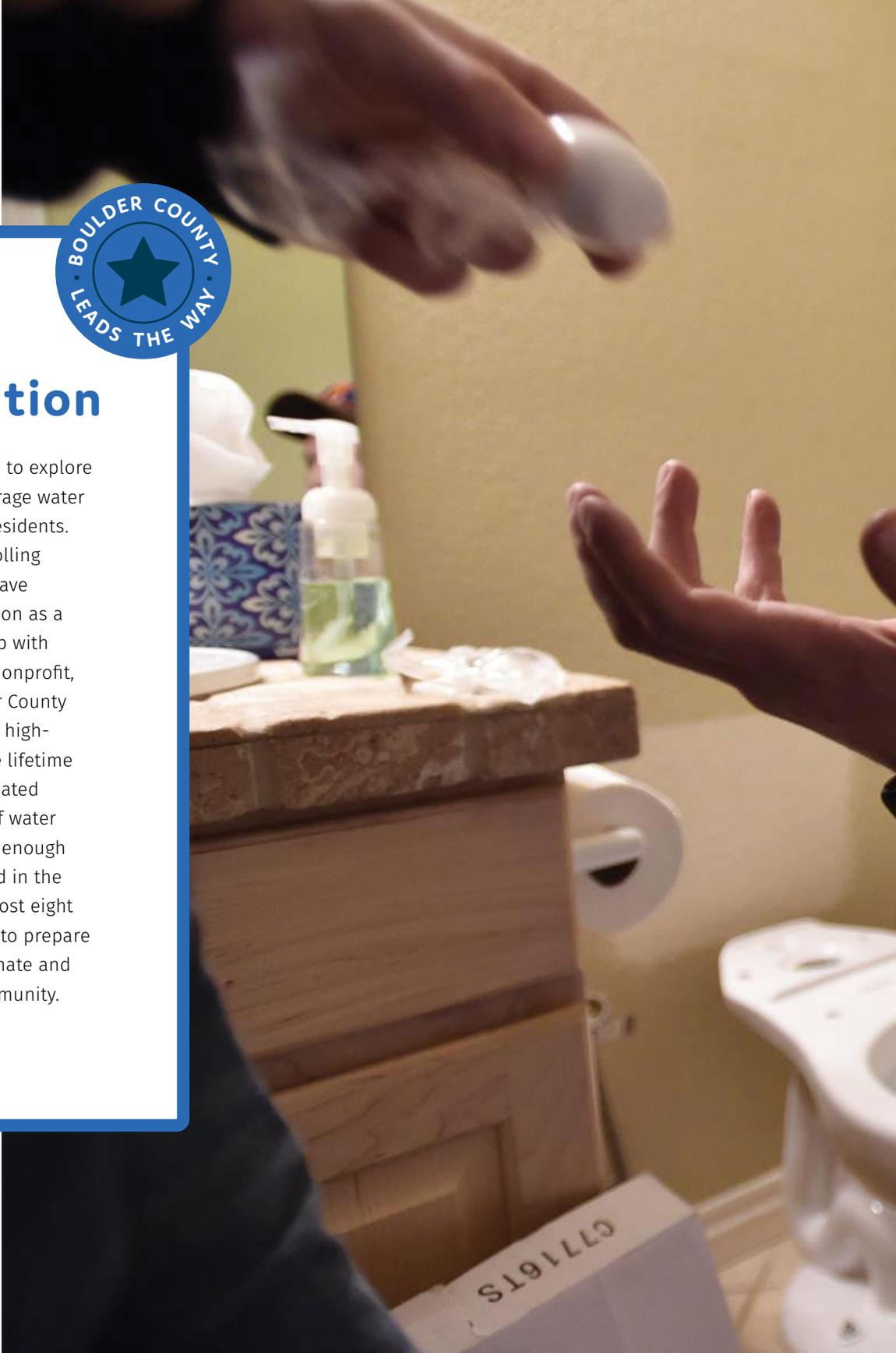
Access to safe drinking water is vital to life. Millions of Coloradans receive access to drinking water that is protected by the Colorado Department of Health and the Environment. However, funding levels for the Colorado Safe Drinking Water program have been flat since 2007 while the population of the state and the costs of protecting drinking water continue to rise. In August of 2017, the Colorado Safe Drinking Water program announced staff and service-level reductions that will result in “less staff time reviewing

self-reported monitoring data, less support to ensure required sampling is completed, and less time reviewing and addressing system operator qualifications,” among other program reductions that will “increase the number of violations issued to public drinking water systems.” Boulder County supports funding for the Safe Drinking Water Program to effectively serve the state’s growing population, to comply with the U.S. Safe Drinking Water Act, and to follow recommendations from the Flint Water Advisory Task Force.



## Water Conservation

Boulder County continues to explore innovative ways to encourage water conservation among its residents. For years, public policy polling and community surveys have reported water conservation as a top priority. In partnership with our local environmental nonprofit, ReSource Central, Boulder County has installed nearly 2,000 high-efficiency toilets. Over the lifetime of the program, it is estimated that 539 million gallons of water will be conserved. That is enough to supply every household in the county with water for almost eight days. This is just one way to prepare for the ever-changing climate and remain resilient as a community.







TAKE ACTION



## Saving Water

There are myriad ways to take action to save water. Here are just a few:

- Install water-efficient toilets, showerheads, and faucet aerators.
- Check all faucets, toilets, and showerheads for leaks.
- Only run the dishwasher when it is completely full.
- Share information with coworkers about how to conserve water indoors and outdoors.
- Have your irrigation system audited for leaks, broken equipment, overspray, or inefficient watering schedules.
- Learn and share about where your community's water supply comes from and how it is treated through a community tour.



## RESOURCES

## More Information

**Parks & Open Space  
Water Policy**

[assets.bouldercounty.org/wp-content/uploads/2017/03/water-policy.pdf](https://assets.bouldercounty.org/wp-content/uploads/2017/03/water-policy.pdf)

**Parks & Open Space  
Cropland Policy**

[bouldercounty.org/open-space/management/cropland-policy](https://bouldercounty.org/open-space/management/cropland-policy)

**Ways to Save Water**

[ResourceCentral.org](https://ResourceCentral.org)

[LoveColoradoWater.org](https://LoveColoradoWater.org)

[ColoradoWaterWise.org](https://ColoradoWaterWise.org)

[PACEPartners.com](https://PACEPartners.com)

**Help Prevent  
Water Pollution**

[keepitcleanpartnership.org/pollution-prevention](https://keepitcleanpartnership.org/pollution-prevention)



**9**

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**zero waste**





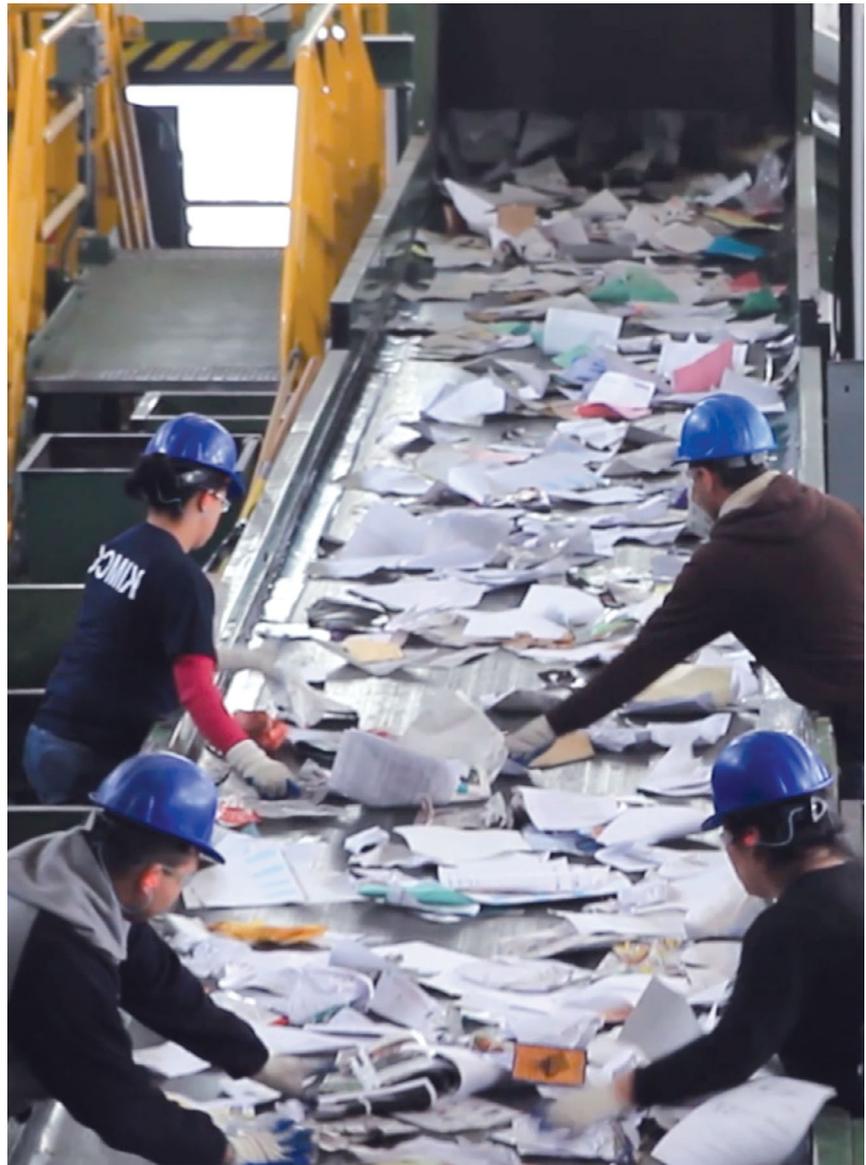
## ZERO WASTE

### INTRODUCTION

Boulder County’s goal of “Zero Waste or Darn Near” reflects a commitment to responsible and sustainable management of its waste streams.

Boulder County is working to achieve this goal through its policies, programs, and infrastructure, to help our community reduce, reuse, recycle (traditional and hard-to-recycle materials), compost, and safely manage hazardous materials. Boulder County is committed to ensuring accessible and affordable waste diversion opportunities to all residents countywide.

The jobs that are created in the reuse and recycling industries—from used building material outlets to creative reuse start-ups—help strengthen the Boulder County economy.





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## **zero waste goal**

Reduce the amount of materials consumed and discarded in the landfill and manage resources responsibly and effectively.



**COUNTY OPERATION STRATEGIES**

## Increase internal county diversion to 90% by 2025

- Require county employees and contractors to divert construction materials from internal county building and road projects, including new construction, deconstruction projects, large capital improvement projects, and remodels.
  - Increase composting by county employees through continued education.
  - Reduce contamination in compost and recycling streams.
  - Increase county employee participation in zero waste efforts through incentives and education programs.
- 

## Decrease the amount of total waste going to the landfill and reduce overall consumption

- Educate county employees through waste audits, campaigns, and other programs.
  - Measure and reduce the waste per capita for Boulder County employees.
  - Encourage staff to participate in hard-to-recycle collection events, green purchasing practices, and reuse initiatives.
  - Work with county staff to follow the Environmental Protection Agency's Food Waste Hierarchy, which promotes redistribution of food before disposal.
-

**COUNTY OPERATION STRATEGIES**

## Comply with Boulder County's internal zero waste purchasing policies and create new policies to further waste reduction

- Ensure that county employees purchase supplies, equipment, and parts that are reusable, locally recyclable, BPI-certified compostable, and/or made of 100% post-consumer recycled content where available, in accordance with Boulder County Purchasing Policy, Section 11.12 of the *Personnel & Policy Manual*.
- Support state and local development of end-use markets for recyclable/ recycled products and compost through county purchasing policies.
- Establish a list of environmentally preferable products, and explore enforcement strategies to ensure adherence to green purchasing policies.
- Purchase compost from permitted Colorado processors that show the U.S. Composting Council Seal of Testing Assurance. Purchase locally generated compost whenever feasible.
- Create policy to prohibit single-use or disposable products wherever possible.
- Work with county employees to reduce office supply and furniture purchases by following reuse protocols.





**COMMUNITY STRATEGIES**

## Increase construction materials diversion

- Support capacity for construction and demolition materials transfer, sorting, processing, and reuse.
- Work with municipalities within Boulder County to require residential and commercial deconstruction, and incentivize construction and demolition materials recycling and reuse.
- Require construction and demolition materials recycling and reuse in additional sectors.
- Create recycling opportunities for clean, damaged dimensional lumber.
- Enforce construction and demolition requirements and work with municipalities to develop a tracking and reporting system.

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## Increase food and yard waste diversion through composting

- Support local infrastructure for additional composting.
- Support curbside collection or drop-off center collection of compostable materials throughout the county, including mountain regions.
- Support at-home composting programs through education and incentives.
- Support opportunities for yard waste diversion.
- Support multifamily and business compost collection systems and education.
- Enforce current and future composting requirements.

**COMMUNITY STRATEGIES****Increase commercial diversion**

- Provide free waste audits for businesses and support for zero waste implementation by expanding outreach and advising services currently being provided through Boulder County Public Health's Partners for a Clean Environment (PACE) Program.
  - Update Land-Use Codes to improve commercial and multifamily recycling and composting requirements.
  - Support requirements for commercial and multifamily recycling programs and composting programs countywide.
  - Support requirements for commercial construction and demolition materials diversion.
  - Provide zero waste building planning assistance.
  - Provide incentives for businesses to adopt zero waste collection programs.
- 

**Reduce the amount of toxic materials purchased and increase safe disposal**

- Increase diversion of hazardous materials by expanding and increasing business drop-off at the Hazardous Materials Management Facility.
  - Educate consumers and businesses to reduce the purchase and use of toxic and hazardous products.
  - Educate students about hazardous materials through in-school presentations and projects.
  - Increase collection of residential and commercial hazardous materials at the Hazardous Materials Management Facility.
  - Increase awareness of electronics recycling opportunities.
-



## COMMUNITY STRATEGIES

### Support diversion through additional strategies

- Cultivate municipal contacts and advocates, and support municipal goal setting, policy work, and data tracking.
- Require zero waste planning for large events on public property countywide. Provide education and support for event planners.
- Develop zero waste branding and initiate comprehensive education program.
- Support food waste reduction and redistribution efforts countywide.
- Support requirements for residential volume-based collection with embedded recycling and composting countywide where feasible.
- Support opportunities for waste diversion and reuse at spring cleanup events.
- Provide zero waste education and support zero waste collection systems in schools.
- Offer metal and hard-to-recycle material recycling at additional locations.
- Share waste reduction efforts and correlation with climate change with the community.
- Support bans on sending recyclables, yard waste, and food waste to the landfill.
- Promote markets for county-generated recyclables and compost.
- Make waste diversion efforts accessible to all Boulder County residents.

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### Increase waste prevention through product stewardship programs

- Promote voluntary product stewardship opportunities offered by retailers and manufacturers.
- Support and advocate for product stewardship initiatives at the state and local levels.
- Have the Resource Conservation Advisory Board and other community partners identify a list of priority items to divert from the landfill.



### ZERO WASTE GRANTS

Established in 1997, Boulder County's Zero Waste Funding program has awarded more than \$1.1 million dollars to 240 unique projects throughout the county for education and infrastructure initiatives that promote waste reduction and diversion. Municipalities, nonprofit organizations, and businesses have the opportunity to apply for this funding each year.

Zero Waste Funding has helped support a number of innovative zero waste projects like these throughout the county:

- For its Reusable Plate Program, Planet Bluegrass purchased a mobile dishwasher trailer to move from disposable plates and utensils to reusable ones at all their music festival events.
- ReSource Central expanded the tools in their tool library.
- The Boulder County Hazardous Materials Management Facility increased the waste diversion of controlled substances and needle sharps.
- The City of Louisville built zero waste stations for their weekly summer Downtown Louisville Street Faire event.
- Eco-Cycle's Green Star Schools Program expanded zero waste education services at Boulder County schools.



POLICY PRIORITIES

The following are environmental sustainability policy priorities adopted through Boulder County’s legislative agenda:

POLICY

WHAT YOU NEED TO KNOW

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**Achieve statewide waste diversion goals established by the Solid and Hazardous Waste Commission**

Recycling and composting are proven to reduce carbon dioxide and methane emissions, and are key strategies in the fight against climate change. But Colorado’s waste diversion rate (the combination of recycling and organics diversion as a proportion of the solid waste stream) of 19% lags behind the national average of 35%. Boulder County supports the establishment of a meaningful and

achievable statewide solid waste diversion goal, as a tool for galvanizing statewide efforts, accompanied by legislation that grants Colorado’s Department of Public Health and Environment the authority to administer diversion programs, including, but not limited to, economic and technical assistance for local and regional waste diversion programs and facilities.



## POLICY

## WHAT YOU NEED TO KNOW

### Support carbon sequestration practices

Emerging research indicates that carbon sequestration through forestry, land management, and agricultural practices is a potentially powerful tool to absorb excess carbon from the atmosphere and help mitigate the effects of climate change. In addition to reducing heat-trapping emissions, carbon sequestration in soils is shown to improve soil health and crop yields, increase water retention, and

help restore native plant and animal species. Carbon sequestration practices include, but are not limited to, applying compost to rangeland and croplands, using slow-release fertilizers and nitrification inhibitors, planting cover crops, reducing tillage or growing crops without tillage, planting trees and shrubs as windbreaks on cropland, and applying biochar to reclaim and restore land and boost soil fertility.

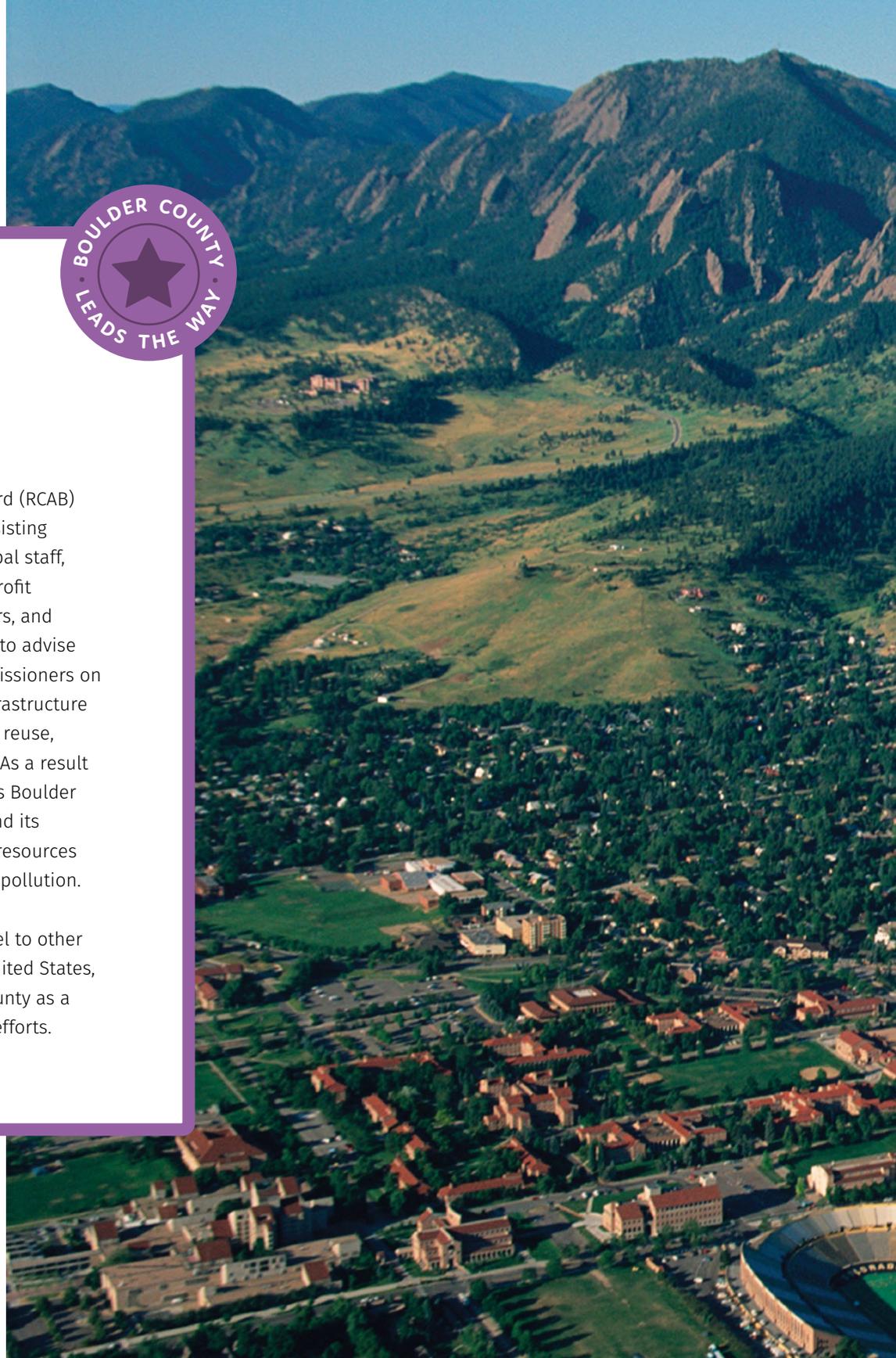




## Advisory Board

Boulder County's Resource Conservation Advisory Board (RCAB) is a 21-member board consisting of elected officials, municipal staff, representatives from nonprofit organizations, waste haulers, and citizens. RCAB's purpose is to advise the Board of County Commissioners on policies, programs, and infrastructure related to waste reduction, reuse, recycling, and composting. As a result of these efforts, RCAB helps Boulder County, its communities, and its partners conserve natural resources and reduce environmental pollution.

RCAB has served as a model to other communities across the United States, as they look to Boulder County as a leader in waste reduction efforts.







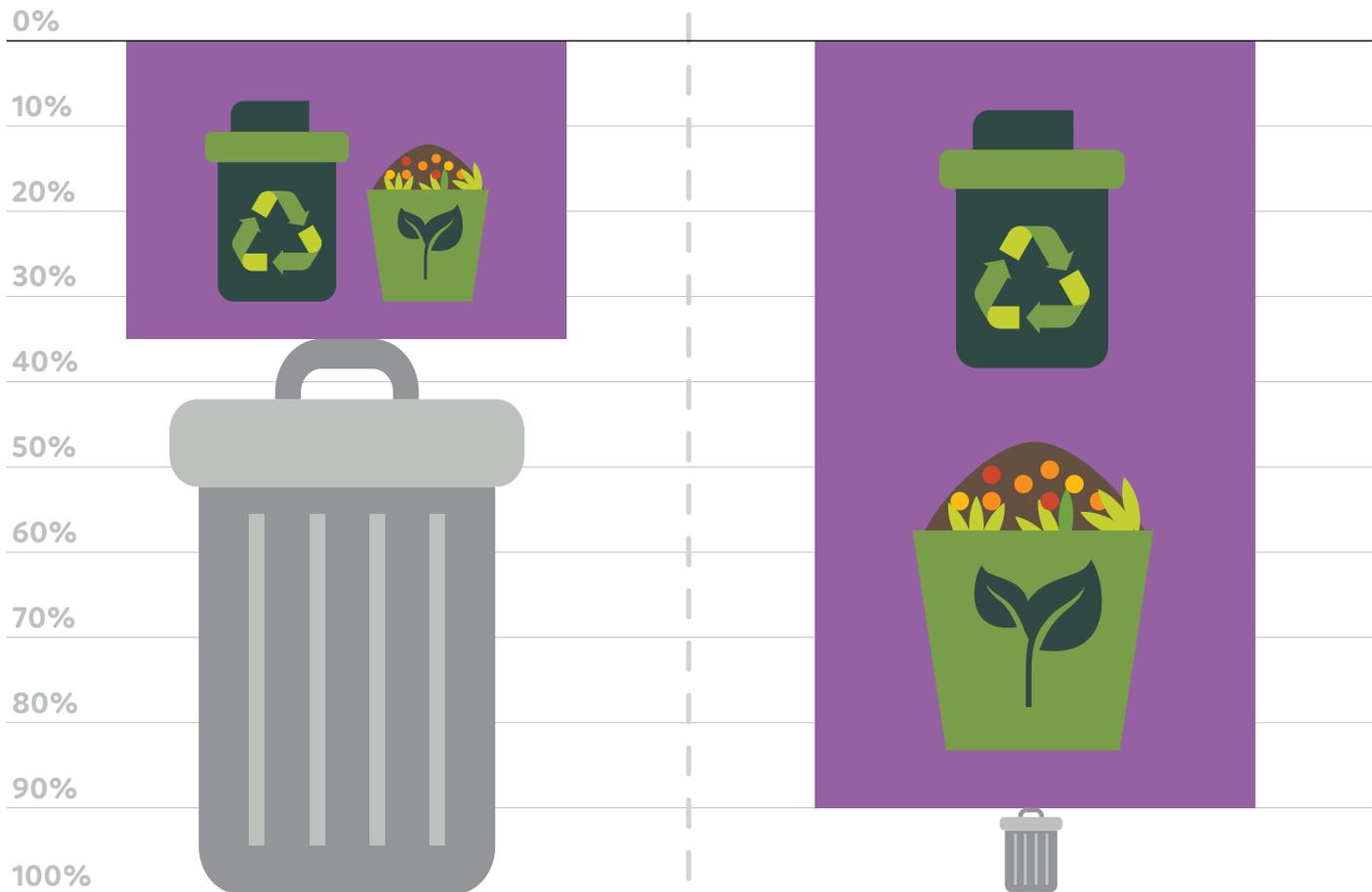
Waste reduction efforts play a large role in helping Boulder County work toward its climate goals. A global emissions perspective is missing from the standard protocol used to update the Boulder County greenhouse gas (GHG) inventory. The inventory can only account for the methane released from landfills, since most of the products we purchase are collected and manufactured outside of our county. However, zero waste efforts contribute to significant emissions reductions by avoiding “upstream” GHG emitted in the extraction, manufacturing, and transportation of raw materials.



# Boulder County Diversion Rate

**2017**  
**35% Diversion**

**By 2025**  
**90% Diversion**





TAKE ACTION

## How to achieve zero waste

Residents and businesses in Boulder County can do more than recycle and compost to help the county achieve zero waste. Try these steps:

- ❑ Ditch the disposables! Take a reusable mug, water bottle, and shopping bag when you go out.
- ❑ Look into joining a local zero waste advocacy organization or advisory board.
- ❑ Shop smart. Whether it's clothing, electronics, or household goods, look for items that are high quality, repairable, and long-lasting.

- ❑ Volunteer at a food rescue, food bank, or at a zero waste event.
- ❑ Reduce your food waste. It saves not only food but also money, water, and other resources.
- ❑ Visit Eco-Cycle's Center for Hard to Recycle Materials (CHaRM) to recycle materials such as electronics, block Styrofoam, mattresses, and more.
- ❑ Check out ReSource Central's ReSource Yard to donate or purchase used building materials or to become a member of their tool library.
- ❑ Take advantage of zero waste education opportunities around Boulder County such as composting workshops and U-fix-it clinics.





## RESOURCES

## More Information

### Resolution for Zero Waste

[assets.bouldercounty.org/wp-content/uploads/2017/02/zw-resolution-2005-138.pdf](https://assets.bouldercounty.org/wp-content/uploads/2017/02/zw-resolution-2005-138.pdf)

### Resource Conservation Advisory Board

[bouldercounty.org/government/boards-and-commissions/resource-conservation-advisory-board](https://bouldercounty.org/government/boards-and-commissions/resource-conservation-advisory-board)

### BuildSmart

[bouldercounty.org/property-and-land/land-use/building/buildsmart](https://bouldercounty.org/property-and-land/land-use/building/buildsmart)

### Resources for Homes and Businesses

[bouldercounty.org/environment/hazardous-waste](https://bouldercounty.org/environment/hazardous-waste)

[bouldercounty.org/environment/recycle/drop-off-centers](https://bouldercounty.org/environment/recycle/drop-off-centers)

[bouldercounty.org/food-waste](https://bouldercounty.org/food-waste)

[bouldercounty.org/environment/recycle](https://bouldercounty.org/environment/recycle)

[PACEpartners.com](https://PACEpartners.com)





THANK YOU!

Boulder County’s vision statement reads as follows:



**As trusted stewards of Boulder County’s future, we provide the best in public service.**



This sustainability plan is our community’s vision for a vibrant and healthy future. Join us in making great strides in meeting the aspirational goals. Thanks to everyone who has had a hand in crafting this plan!

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