



2018

BOULDER COUNTY COLORADO

**environmental
sustainability
plan**

table of contents

INTRODUCTION

- 2 A Letter from the Board of County Commissioners
- 4 A Note from the Boulder County Sustainability Coordinator
- 6 Introduction & Purpose
- 8 Timeline
- 12 The Plan Structure
- 14 Definition of Sustainability

CHAPTERS 1-9

CONCLUSION

- 180 Thank You
- 180 Credits



CHAPTER ONE

air quality

p. 16



CHAPTER FOUR

energy & buildings

p. 76



CHAPTER SEVEN

transportation

p. 122



CHAPTER TWO
climate

p. 32



CHAPTER THREE
**ecological
health**

p. 58



CHAPTER FIVE
**health
& wellness**

p. 96



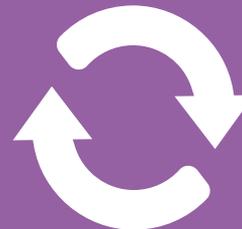
CHAPTER SIX
**local food
& agriculture**

p. 108



CHAPTER EIGHT
water

p. 146



CHAPTER NINE
zero waste

p. 162



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

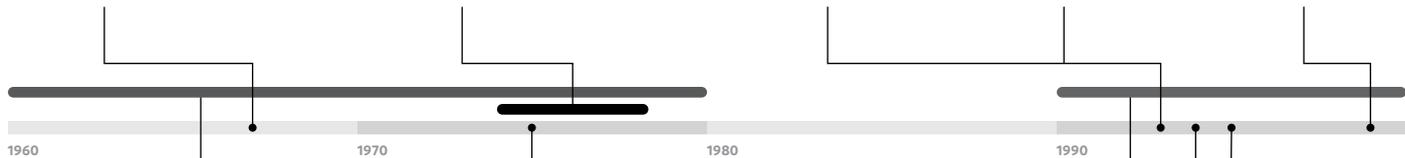
Voters pass the open space sales tax (0.25%) specifically for the purchase and maintenance of open space lands.

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.

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

Climate Change Preparedness Plan

bouldercounty.org/environment/sustainability/climate-change-2/preparedness-plan

Zero Waste Action Plan

bouldercounty.org/wp-content/uploads/2017/02/zwap2011.pdf

Sustainability Energy Plan

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

Human Services Strategic Priorities

assets.bouldercounty.org/wp-content/uploads/2017/02/strategic-priorities-2014.pdf

Parks & Open Space Cropland Policy

bouldercounty.org/open-space/management/cropland-policy

Parks & Open Space Water Policy

assets.bouldercounty.org/wp-content/uploads/2017/03/water-policy.pdf