

**Boulder County Comprehensive Plan  
DRAFT -- Sustainable Materials Management Element**

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**I. Purpose of the Sustainable Materials Management Element**

The purpose of this element is to set forth the goals and policies that will guide related regulations and management plans adopted by the county. The county’s zero waste, environmental sustainability, and related plans will carry out the goals and policies of this element, and will define detailed objectives, metrics for success, and related tools to support the county’s actions. The scope of the Sustainable Materials Management Element (SMME) includes:

- The management and use of discarded materials
  - with an emphasis on sustainable practices and resource conservation,
  - including full life-cycle management of materials;
- Upstream influence on design-for-end-of-life of material; and
- Waste reduction and reuse.

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This element and its goals shall guide the implementation of the county's plans on zero waste and sustainable materials management. The SMME shall help inform county policies and decisions related to growth and development that pertain to waste, including recycling, composting, discards, disposal, reuse, and waste reduction/repair facilities, programs, and operations. The terms 'discards, recyclables, and waste' as used in the SMME excludes radiological, biohazardous, medical, and industrial hazardous waste streams. This SMME does not encompass other sustainability matters such as energy or building performance.

### **History**

Boulder County has had a commitment to responsible and sustainable management of its waste streams since the mid-1970s, with several important milestones since that time:

- The original Solid Waste Element<sup>1</sup> of the *Boulder County Comprehensive Plan* was adopted in 1978.
- The general planning objectives which were adopted in 1978, following extensive public comment, were the basis of the County's 1982 Solid Waste Plan.
- The 1987 update of the Solid Waste Element included goals and policies.
- Planning efforts guiding waste management in the intervening years include, more recently:
  - The 2010 *Boulder County Zero Waste Action Plan* which set forth "a vision for attaining Zero Waste "or darn near" throughout Boulder County, including unincorporated area as well as municipalities, by 2025."
  - The 2012 Environmental Sustainability Plan that outlines many specific zero waste goals.

### **Sustainable Materials Management**

The EPA defines Sustainable Materials Management (SMM) as "a systemic approach to using and reusing materials more productively over their entire lifecycles. It represents a change in how our society thinks about the use of natural resources and environmental protection. By looking at a product's entire lifecycle we can find new opportunities to reduce environmental impacts, conserve resources, and reduce costs."<sup>2</sup> Further, SMM encourages the use of materials – throughout their life cycle, from manufacture through use, reuse and end of life.

As well, the county's commitment to SMM follows the EPA's waste management hierarchy. This hierarchy maps the most preferred strategies as, in order: source reduction and reuse, recycling and composting, energy recovery, and then lastly, waste treatment and disposal.<sup>3</sup> Energy recovery from waste for Boulder County excludes mass-burn waste-to-energy facilities but may include biomass-to-energy technologies.

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<sup>1</sup> Now re-named as the Sustainable Materials Management Element (SMME) to reflect the broader scope and intent of the County's approach to waste and materials management.

<sup>2</sup> US EPA, Sustainable Materials Management, [www.epa.gov/smm/sustainable-materials-management-basics](http://www.epa.gov/smm/sustainable-materials-management-basics), accessed October 7, 2016.

<sup>3</sup> US EPA, Sustainable Materials Management, [www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy](http://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy), accessed October 10, 2016.

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## II. Goals and Policies

- 1. Goal 1. County's Values.** Boulder County will promote SMM in its actions and decision making. The county values SMM for its environmental protection, including greenhouse gas emission mitigation, its economic soundness, and its contribution to community vitality and quality of life.

### Policies

- 1.1. Support for SMM Efforts.** Boulder County supports efforts that promote sustainable materials management (consistent with adopted plans and agreements) including: environmental stewardship, product stewardship, resource conservation, pollution prevention, mitigation of adverse climate impacts, and protection of public health.
- 1.2. Support Specific SMM Initiatives.** The County will strive to support initiatives that align with SMM including facilities, programs, granting mechanisms, policy mechanisms, education and outreach.
  - 1.2.1.** To the extent possible, the county shall support land use decisions that align with SMM, e.g., zoning adjustments or exceptions, and/or property acquisitions. Sustainable materials management values, functions, and impacts to County lands, shall be considered in the review of development proposals submitted through the Land Use department.
  - 1.2.2.** To the extent possible, the county shall support sustainable materials management efforts from public, private, and non-profit sector organizations.
  - 1.2.3.** Boulder County may acquire real estate interests in land for sustainable materials management functions, if periodic feasibility research and planning studies indicate the need for County-owned land for SMM facilities or operations.
- 1.3. SMM in County's Own Operations.** Boulder County shall implement SMM practices in its own operations for its facilities, purchasing, and its own generation of waste and discards, and the County shall promote the values of SMM among county departments.

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- 2. Goal 2. County's Facilitation of and Role in SMM.** Boulder County purposefully facilitates sustainable materials management activities taking place across the county through County-wide planning, management and education functions, including its active role in providing zero waste services.

**Policies**

**2.1. Various SMM Activities.** Boulder County considers various types of materials processing, management, and diversion technologies and processes to reach its zero waste and sustainable materials management goals. These include but are not limited to, in no particular order:

- a. Supporting composting and waste organics management (e.g., widely accessible composting facilities with related operations for organics diversion; on-farm composting; food waste management strategies; biogas technologies; other organic waste management; and/or biomass, wood waste, and biochar processing technologies).
- b. Supporting recycling of traditional and hard-to-recycle materials.
- c. Supporting construction and demolition waste reduction and processing options.
- d. Developing local secondary processing and end market options for recyclable materials.
- e. Supporting responsible management of hazardous materials throughout their life cycle.
- f. Finding responsible end-market solutions for diverse material types.
- g. Encouraging and supporting reuse, repurposing, repair facilities, workshops and/or services.
- h. Furthering the responsible end-of-life management of hard-to-recycle materials (e.g., electronics, mattresses, or other complex engineered products emerging in the waste stream).
- i. Siting disaster debris management sites in alignment with the *Boulder County Operational Disaster Debris Management Plan* and related county and state emergency planning policies.
- j. Following and evaluating forward-thinking technologies and processes for viability in service to sustainable materials management goals.
- k. Supporting policy strategies locally, regionally, and nationally that further product stewardship and other values of sustainable materials management.

**2.2. Scope of County Plans and Policies.** Boulder County prepares management plans and policies as appropriate for Sustainable Materials Management facilities, programs, education, and activities and uses the plans and policies to manage the Sustainable Materials Management resources and assets. The scope of planning and policies shall encompass:

- 2.2.1.** Planning for the establishment, maintenance, and needed improvement of all current and future County-owned and/or operated facilities that relate to Sustainable Materials Management, including but not limited to the Mountain Transfer Stations & Recycling Centers, Drop-off Centers, Boulder County Recycling Center, and Hazardous Materials Management Facility.

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- 2.2.1.1. Planning shall cover both short- and long-range forecasting of capacity needs for capital, expansion, and operation and maintenance needs, as well as address criteria in Goal 3.
- 2.2.1.2. Planning shall address ownership and operation scenarios and compensation formulas for all facilities, to optimize operational efficiencies and ensure fiscal stability.
- 2.2.2. Considering the relationship with and regulation of private, public, and non-profit sector collection, processing, and management of discarded, recyclable, compostable, and reusable materials.
- 2.2.3. Convening parties to consider and develop intergovernmental agreements (IGA) for SMM initiatives.
- 2.2.4. Setting performance goals and/or level-of-service standards for all county-owned SMM facilities, programs, or operations.
- 2.2.5. Planning for zero waste and Sustainable Materials Management using sustainability criteria (see Goal 3 for criteria); data on waste generation, population and waste trends; and land use. This shall be done in the context of the Comprehensive Plan and the county's goals and values (e.g., addressing the use of landfills in adjacent counties – monitoring lifespan and status of these landfills).
- 2.2.6. Structuring responsible financing mechanisms for sustainable materials management (see Sustainable Materials Management Policy 2.4).
- 2.2.7. Clearly defining the management and operational roles of county staff and the guidance and input roles of the county's Resource Conservation Advisory Board. (See Goal 5)
- 2.2.8. Responsible stewardship of the existing facilities, as appropriate for Boulder County.
- 2.3. **Monitoring, Evaluation, Innovation in Approaches.** Boulder County monitors and evaluates waste, recycling, composting, and related Sustainable Materials Management policies and activities both locally and more broadly, to inform management decisions. The county seeks to be innovative in its approaches to management of SMM resources, using knowledge of current conditions, latest science, best technologies and best management practices.
- 2.4. **Financing Mechanisms.** Boulder County shall use viable, responsible and legal financing mechanisms and related planning tools for SMM-related initiatives including but not limited to, in no particular order:
  - a. Capital improvement programming and forecasting
  - b. Tax incentives and/or surcharges (e.g., sales tax in the 1990s to generate capital for the Recycling Center)
  - c. Enterprise funding for facilities and operations
  - d. Public and private grants
  - e. Land use controls and ordinances
  - f. Multiple use and joint development practices
  - g. Fee and less-than-fee acquisition techniques
  - h. User fees

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- i. Public/private partnerships

**2.5. Promote Awareness of SMM.** Boulder County shall promote awareness of Sustainable Materials Management activities and initiatives taking place across the County through communication methods designed to reach a broad spectrum of the public, including waste generators, residents, stakeholders, organizations, and businesses.

**2.6. Education and Outreach.** Boulder County shall reach out to the public through educational programs, volunteer opportunities, special events, and regular interactions at Sustainable Materials Management facilities.

**3. Goal 3. Criteria for Implementing Goals.** Boulder County maintains and applies criteria for ensuring SMM principles are carried out at all stages of development and implementation.

**Policies**

**3.1. Criteria for Evaluating SMM Efforts.** Boulder County shall apply the following criteria when evaluating Sustainable Materials Management plans, policies, facilities, programs, and initiatives in and by Boulder County. Specifically, any initiatives reviewed shall:

- 3.1.1.** Mitigate or reduce waste (e.g., waste prevention and diversion to reduce mining of virgin resources).
- 3.1.2.** Ensure that facilities or operations are planned, located, designed and operated to prevent unacceptable air, water, noise and visual pollution, including taking into account the environmental impacts of the transport of materials, workers, etc. to and from a facility or operation.
- 3.1.3.** Measure and seek to reduce climate change (or carbon) footprint for Sustainable Materials Management activities by reducing adverse greenhouse gas emissions.
- 3.1.4.** Prevent and divert waste and to reduce emissions from mining, materials extraction and processing, and to reduce transportation-related emissions during full life cycle of materials used, reused, and processed at end of life; and
- 3.1.5.** Use sequestration to reduce carbon impacts (e.g., using compost to replenish depleted soils).
- 3.1.6.** Life-cycle analyses to determine the least environmental and human health impact from ‘cradle to grave’ of products used and/or purchased (e.g., to support move to cradle-to-cradle or circular economy practices).
- 3.1.7.** Reduce toxic materials used, and ensuring responsible end-of-life management of hazardous materials.
- 3.1.8.** Evaluate the economic/fiscal and social impacts (e.g., job creation, costs to county, revenue potential, environmental justice, etc.) of Sustainable Materials Management initiatives.

**3.2. SMM and Green Building Practices.** SMM and green building practices for both new and retrofit construction must be incorporated into policies and requirements including choices in design and materials that, for example:

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- 3.2.1.1. Support building longevity and resilience;
  - 3.2.1.2. Provide for safe deconstruction and materials reuse/recycling at end of life,
  - 3.2.1.3. Discourage demolition of structures; and/or
  - 3.2.1.4. Promote other sustainable initiatives such as energy efficiency and water conservation.
- 3.2.2.** Align with circular economy principles and practices (e.g., asset management, collaborative consumption, products designed for longevity, performance/service systems and incentivized returns, economic vitality for resiliency, and extended producer responsibility).
- 3.2.3.** Address issues of ‘new’ materials entering the waste stream for which reuse and/or diversion end markets have not yet been developed.
- 3.2.4.** Provide an opportunity to collect data on Sustainable Materials Management activities.

**4. Goal 4. PUBLIC INPUT. Boulder County actively engages the public in providing input to policies and practices related to sustainable materials management and resource conservation.**

**Policies**

- 4.1. RCAB.** The county commissioners shall appoint a Resource Conservation Advisory Board to provide a forum for public input and advice to the Board of County Commissioners and the Resource Conservation Division regarding sustainable materials management plans, programs, and actions.
- 4.2. Public Input on SMM.** Boulder County shall seek and consider public input about Sustainable Materials Management initiatives and management through a variety of informal and formal engagement tools.
- 4.3. When Public Hearings Must Occur.** Land acquisitions for Sustainable Materials Management facilities, capital improvement plans for Sustainable Materials Management facilities, and zero waste management plans and policies require approval by the Board of County Commissioners, after a public hearing and after review and input by the Resource Conservation Advisory Board.

**5. Goal 5. County’s Collaboration. Boulder County collaborates with stakeholders and partners to promote sustainable materials management values and practices.**

**Policies**

- 5.1. Invite Input.** Boulder County shall invite input from a broad spectrum of stakeholders relevant to the policy and management issues under consideration, including the Resource Conservation Advisory Board.
- 5.2. Collaborate with Stakeholders.** Boulder County shall collaborate with businesses, organizations, non-profits, educators, and partners to promote the county’s sustainable materials management values and practices.
- 5.3. Work with Authorities.** Boulder County shall work closely with federal, state, and local authorities

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to promote and achieve Sustainable Materials Management goals (e.g., state-level product stewardship legislation).

**5.3.1.** Boulder County shall strive for harmonization of policies at the local jurisdiction level, to ensure that local policies regarding discards, waste, diversion, reuse, etc. do not serve as disincentives to one another.

**5.4. Get Input Annually from Stakeholders/** Boulder County shall annually solicit input from and provide updates to municipalities and stakeholders on sustainable materials management priorities.

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