

## 4. Energy and Climate<sup>i</sup>

*Proposed new section title: **Environmentally Sustainable Community***

*Note: This may be combined with other policies around natural environment and agriculture and local food. Also please note that a further round of editing will occur to improve organization, reduce verbosity and redundancies, and renumber policies as necessary.*

Boulder’s efforts to promote energy efficiency and renewable energy are essential to reducing greenhouse gas emissions and helping to reduce the severity of future climate change. Promoting transportation options and a compact city form also contribute to climate action. The objective is to help address energy and climate goals and integrate them with other planning activities, such as decisions regarding development patterns, infrastructure, transportation, economic development, building and site design and natural resources. The city and county will continue to prioritize emission reductions programs that address climate action, create local economic opportunities, enhance community well-being and resilience and inspire other communities.

Changes in the dynamics of energy markets as well as the threat of climate change may profoundly affect our community both economically and physically. A number of factors are increasing uncertainty about future energy issues, but rapidly evolving technology and the economic benefits of energy efficiency and renewable energy are providing Boulder and Boulder County with new opportunities to take charge of our energy future and make greater use of local and regional energy resources. Changes and solutions related to energy and climate are occurring at a rapid rate and therefore necessitate an agile, predictive and responsive approach. Recognizing the need for a comprehensive strategy, Boulder’s Climate Commitment focuses on the areas of energy, resources, and ecosystems. Energy use (in buildings, mobility, and clean energy sources, and energy resilience) is the primary near-term focus due to the critical importance of reducing fossil fuel use. Simultaneously, the city and county continue to explore ways to use natural resources more wisely and reduce waste, and to understand how ecosystem management can help sustain our community and play a key role in climate stability. This chapter addresses:

- Climate Action and Greenhouse Gas Emissions
- Energy Conservation and Renewable Energy
- Energy-Efficient Land Use and Building Design
- Waste Minimization, Recycling, and Sustainable Purchasing

### ***Climate Action and Greenhouse Gas Emissions***

#### **4.01 Climate Action: Reduce Emissions**

The city and county will continue to take action to mitigate climate change, addressing its root cause of fossil-fuel related emissions. Both bodies will identify and implement innovative as well as cost-effective actions to dramatically reduce the community’s contribution to total global greenhouse gas emissions and power a vibrant future. The city’s goal is to reduce its energy-related emissions 80 percent or more below 2005 levels by 2050, and the Climate Commitment Strategy identifies interim goals before 2050.<sup>ii</sup>

## **4.02 Climate Adaptation Planning**

In addition to climate mitigation planning addressed in the policy above, the city and county will cooperatively develop and implement a climate change adaptation plan to identify current vulnerabilities and determine strategies to protect the community against the potential negative impacts associated with climate change. These challenges include droughts, flash flooding, communicable diseases, heat waves, fire mitigation and fire protection and increased road maintenance, among others. The city and county seek to improve the community's ability to effectively and quickly respond to and recover from adversity and disruptions.

## ***Energy Conservation and Renewable Energy***

### **4.03 Energy Conservation and Renewable Energy**

Boulder's transition to clean energy through innovative strategies, products, and services aims to dramatically reduce greenhouse gas emissions, enhance community resilience, enhance local environmental health and diversity, promote creative solutions, and support a vital and equitable economy. The city and county will plan for and implement innovative programs and opportunities for individuals, businesses and organizations to reduce energy consumption. The city will support private decisions to use renewable energy and preserve options for developing renewable energy in the future.

The city and county will set goals to ensure that the community has access to reliable, competitively-priced and increasingly clean energy.<sup>iii</sup>

### **New Policy: Local Energy Generation Opportunities**

The city and county support innovative programs and opportunities for individuals, businesses and organizations to develop and share local energy generation and will consider the local and regional impacts of distributed energy development<sup>iv</sup>. The city will support private decisions to use renewable energy, develop local renewable energy resources and preserve options for developing renewable energy in the future. The city will review and consider revisions to regulations to support on-site energy generation, including solar and wind.<sup>v</sup>

### **New Policy: Clean Mobility**

The city recognizes accelerated retirement of fossil-fuel based transportation is a critical element of the city's emissions reduction strategy. To achieve this, the city supports efforts in three broad areas: reducing vehicle miles traveled, replacing fossil fuel-based transportation and continuing to plan a built environment that reduces the need for people to drive. The city supports innovations in these areas of transportation and clean mobility.<sup>vi</sup>

### **New Policy: Energy System Resilience**

The city recognizes that energy resilience is necessary for properly functioning emergency infrastructure and overall community resilience. The city supports a communitywide network that can deliver basic services in case of a grid disruption through strategies such as modernizing, on-site generation, storage technologies and reduced demand.<sup>vii</sup>

## ***Energy-Efficient Land Use and Building Design***

### **4.04 Energy-Efficient Land Use**

The city and county will encourage energy conservation through land use policies and regulations governing placement and orientation of land uses to minimize energy use, including co-location of mixed use developments that are surrounded by open space.<sup>viii</sup>

### **4.05 Energy-Efficient Building Design**

The city and county will pursue efforts to improve the energy and resource efficiency of new and existing buildings. The city and county will consider the energy consumption associated with the building process (i.e., from the raw materials through construction),<sup>ix</sup> improve regulations ensuring energy and resource efficiency in new construction, remodels and renovation projects, and will establish energy efficiency requirements for existing buildings. Energy conservation programs will be sensitive to the unique situations that involve historic preservation and low-income homeowners and renters and will ensure that programs assisting these groups are continued.

## ***Waste Minimization, Recycling, and Sustainable Purchasing***

### **4.06 Building Construction Waste Minimization**

To minimize construction waste, the city and county will strongly encourage renovation of existing buildings over demolition. The city and county will support policies and programs that promote the reuse of materials salvaged after deconstruction as a resource.<sup>x</sup>

### **4.07 Waste Minimization and Recycling<sup>xi</sup>**

The city and county will pursue and support programs and activities that reduce the amount of waste that must be landfilled and pursue Zero Waste as a long term goal. Neither entity is responsible for waste hauling; they rely on a strong network of nonprofit, for-profit, governmental and community partnerships to invest resources toward zero waste systems. Policies, programs and regulations will emphasize waste prevention, reuse, composting, recycling and the use of materials with recycled content. The city and county will pursue the goal of 85% waste diversion in residential single-family, residential multi-family and commercial uses by 2025.

### **4.08 Environmental Purchasing Policy**

The city will maintain a robust Environmental Purchasing Policy for the city organization that promotes the purchase of recycled and compostable products and encourages consideration of materials, length of use, re-use and disposal options, as well as cost when procuring materials and products.

#### Relevant Links:

- CAP and Community Guide
- Waste Reduction MP
- Built Environment Policies – energy efficient land use
- Economy: sustainable business practices

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## ENDNOTES

<sup>i</sup> Slightly reorganize the chapter to reflect Boulder’s Climate Commitment (draft Oct. 2015), and reflect ongoing work being done related to Boulder’s Energy Future, building codes, and Zero Waste Strategic Plan (2015). Boulder County suggests additional alignment with several plans and policies including:

- Zero Waste Action Plan (2010),
- Environmental Sustainability Plan (2012),
- Solid Waste Element of the Comprehensive Plan (is in the process of being updated in 2016)

The following plans may also be relevant in a resilience section:

- OEM’s All-Hazards Recovery Plan (2013),
- Boulder Recovery Plan Support Annex A – Damage Assessment (2013),
- OEM’s Emergency Operations Plan (2014),
- Disaster Debris Management Plan (2016)

<sup>ii</sup> This policy has been modified to reflect Climate Commitment goals.

<sup>iii</sup> Planning Board expressed support for innovative solutions such as solar gardens, etc. This policy more generally reflects that intent.

<sup>iv</sup> This is new language suggested based on the city’s Climate Commitment. Planning Board also suggested language about sharing infrastructure and resources. It is framed as a city policy that would need to be verified with county.

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<sup>vi</sup> This policy is consistent with the TMP and Climate Commitment and reflects Planning Board input. It is framed as a city-only policy.

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<sup>viii</sup> Modified language generally suggested by Planning Board to clarify intent behind “clustering” of development (which is a term typically used in rural areas).

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~~The policies in this section support the city and county’s goals of meeting energy needs, reducing greenhouse gas emissions, and adapting to climate changes:~~

- Climate Action and Greenhouse Gases Emissions
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### *Climate Action and Greenhouse Gas Emissions*

#### **4.01 Greenhouse Gas Climate Action: Reduce Emissions**

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innovative as well as cost-effective actions to dramatically reduce the community’s contribution to total global greenhouse gas emissions, and power a vibrant future. The city’s goal is to reduce its energy-related emissions 80 percent or more below 2005 levels by 2050, and the Climate Commitment Strategy identifies interim goals before 2050.<sup>ii</sup>

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The city and county ~~will pursue an energy path that not only dramatically reduces carbon emissions, but also promotes innovation, competition and economic vitality, and~~ will set goals to ensure that the community has access to reliable, ~~competitively-competitively~~ priced and increasingly clean energy.<sup>iii</sup>

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