

**Boulder City Council  
STUDY SESSION**

**Tuesday  
May 10  
6-9 PM**

**6-7:30 PM**

**Potential 2016 Ballot Items and an Ongoing  
Strategic Look at the Fiscal Future of the City of  
Boulder**

**7:30-9 PM**

**Boulder's Climate Commitment:  
Transitioning Our Energy System**

**Council Chambers  
Municipal Building  
1777 Broadway**

Submit Written Comments to City Council, ATTN: Lynnette Beck, City Clerk, 1777 Broadway, P.O. Box 791, Boulder, CO 80306 or Fax to 303-441-4478 or E-mail: [council@bouldercolorado.gov](mailto:council@bouldercolorado.gov)

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## **CITY OF BOULDER STUDY SESSION**

**To:** Mayor and Members of City Council

**From:** Jane S. Brautigam, City Manager  
Tom Carr, City Attorney  
David Gehr, Deputy City Attorney  
Kathy Haddock, Senior Assistant Attorney  
Lynnette Beck, City Clerk  
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Peggy Bunzli, Executive Budget Officer

**Date:** May 10, 2016

**Subject:** Potential 2016 Ballot Items and an Ongoing Strategic Look at the Fiscal Future of the City of Boulder

### **I. PURPOSE**

This memorandum and the staff presentation at the study session will:

- Identify potential items and next steps for the 2016 November city ballot;
- Report relevant and current information involving potential city, school district, county, regional and state ballot items.

The focus of the discussion at the study session will cover the time period from 2016 through 2039 (when the last sales and use tax will sunset) and continues the focus on long range fiscal sustainability and resilience for the City of Boulder.

## II. QUESTIONS FOR COUNCIL

Does council want staff to move forward with next steps to:

*Revenue Items:*

1. Place any tax or debt items on the November ballot?

*Charter Items:*

1. Place any proposed charter changes or additions on the November 2016 ballot?

*Other Items:*

1. Bring forward any additional ballot items or information on other items for the 2016 November ballot?

## III. BACKGROUND AND ANALYSIS

Annually since 2006, the City Council has taken a long range, comprehensive strategic look at potential ballot items they may want to place before the voters in November. The two Blue Ribbon Commission (BRC) reports (see **Attachment 1** for a brief summary of the reports) have been the blue prints for the long range fiscal planning in the city. The two reports addressed operational costs in the city and did not address capital needs.

The numerical aspects of the two operational plans were updated in 2015, and show that the financial steps taken have ensured a structurally balanced budget and eliminated the previously identified structural gap. To begin to address the capital side, a \$49 million capital bond was approved by the voters in 2011. This bond issuance was done without a tax increase and the annual debt service payments are made with funds that were available from bond issuances that had been paid off, previously voter approved new revenues, and savings derived from operating efficiencies. The main focus of this bond issuance was to address infrastructure priorities, deficiencies, and basic needs that the city could not address with operating dollars.

In November 2014, voters approved a .3 percent, 3-year sales and use tax increase that is being used to fund community, culture, and safety capital investments. The focus of this tax is on high priority and new projects as opposed to ongoing maintenance backlogs. Projects funded through this tax will provide a significant impact to the community in a short amount of time. An update of the community, culture and safety tax projects is included at **Attachment 2**. Updates on the progress of these projects will be coming to council in the second quarter of 2016.

For the projects that have been completed or are in process, the new operating impacts have been absorbed in the ongoing operating budget. This will not always be possible. As new projects come on line that have major operating impacts, new sources of revenues will be needed, since these costs cannot be funded with current revenue sources. The BRC recognized the need to identify operating costs and corresponding revenues for

future capital investment and this principle has been incorporated in the city's financial policies, in support of maintaining structural balance.

The Annual Budget process is a part of the city's overall planning and financial strategy work, designed to meet the goals of the community. **Attachment 3** shows the calendar for the city's Annual Budget process. The City of Boulder was able to manage the challenging and, at times dire financial situations it found itself in during the 2000s, because of three primary financial policies. These are:

- Ongoing annual expenses will be matched to and not exceed ongoing revenues.
- One-time money will be used for one-time expenditures.
- Adequate reserves (one-time money) will be carried to provide time to adjust to economic downturns and natural disasters.

While these financial policies sound very simple, they are not simple to implement and maintain. Wants, needs, and desires always exceed available resources. To offset these challenges and to maintain the fiscal balance that the city has achieved, prioritization and tradeoffs have to occur. This balance and due diligence has resulted in a solid financial foundation and excellent bond ratings. The latter means lower debt payments, which free up funds to pay for other projects and services.

The remaining component of the city forward-looking strategic analysis is the review of revenue items that need to be addressed in the near, intermediate, and long term, as well as review of any potential ballot items to consider in 2016 and the future.

To help provide a broader context and additional background information, **Attachment 4** contains a summary of ballot items that have passed and failed in the past 14 years. **Attachment 5** contains a summary of the taxes that sunset in the future. **Attachment 6** contains a summary of sales tax rates and mill levy comparisons for nearby and comparative communities.

#### **A. Near Term Ballot Items for Consideration 2016-2021**

This category includes taxes that will sunset by the end of 2021, or that have previously been discussed as potential ballot issues. This timeframe corresponds to the current year plus five year look that is found in the fund statements of the annual budget each year. This time spectrum also includes information regarding what staff has observed regarding the competing citywide needs for capital and operating investment, requiring additional revenue currently and in the future.

<b>1. 0.3 percent Sales Tax for Community Culture and Safety Capital Projects</b>	
<b>Revenue Generated</b>	Approximately \$9.6 annually (estimate used when ballot item was considered for placement on 2014 ballot)
<b>Expiration</b>	December 31, 2017.
<b>Description:</b> This tax was approved by voters in November 2014. It provides for a 3-year, 0.3 percent sales and use tax to be used for capital projects This tax was originally proposed to determine if accumulations of sales and use tax collections could be used to fund multiple projects by having a tax dedicated to paying for capital projects. The first projects to be completed by using the tax did require increases in operating costs, so no part of the new tax was dedicated to new operating costs. Once the 3-year period is over, it was expected that council may want to consider asking voters to extend the tax to use this tax for additional capital projects and to contribute to new operating costs. In 2015 dollars, the city has over \$750 million of unfunded capital projects. Of that amount, close to \$250 million will need to be considered and addressed in the next five years	

<b>2. Utility Occupation Tax – Municipalization segment</b>	
<b>Revenue Generated</b>	Approximately \$2.0 annually
<b>Expiration</b>	<p>This part of the tax is the occupation tax that pays for the study of the potential creation of an electric utility. It sunsets the earlier of December 31, 2017, when the city decides not to create a municipal utility, or when the city commences delivery of municipal electric utility services.</p> <p>The Municipalization process is currently before the Public Utilities Commission to determine the assets the city can acquire related to the separation of the system. Due to the large number of unknowns at this time staff does not recommend putting this item on the ballot in November of 2016.</p>
<b>Description:</b> There are two parts of the Utility Occupation tax: <ul style="list-style-type: none"> <li>○ The first part of the utility occupation tax, discussed in #5 listed below, took the place of the franchise tax for electricity and is approximately \$4.35M annually. It is used to pay for general fund basic services (fire, police, parks, library, etc.). This tax sunsets on December 31, 2022.</li> <li>○ The second part of the utility occupation tax, the part discussed here, pays for the study of to the potential creation of an electric utility and is approximately \$2.0 million annually.</li> </ul>	

<b>3. Funding needs for start up and transition costs for a possible city electric utility</b>	
<b>Revenue Generated</b>	Unknown at this time
<b>Expiration</b>	Unknown at this time
<b>Description:</b> Since this is a comprehensive look at citywide strategic financial planning, this item serves as a placeholder for future years at this time. There are many aspects of this project that are unknown. More information will be available within the next year. Options for funding the start up costs are being further analyzed. Staff will return to council at a later time with additional information on this topic. Staff does not feel it needs to be considered in 2016.	

<b>4. Increases in either sales tax or property tax to cover current ongoing or new operating costs.</b>	
<b>Revenue Generated</b>	Unknown at this time
<b>Expiration</b>	Unknown at this time
<b>Description:</b> .1 percent of sales tax generates approximately \$3.5M of revenue per year. A one mill increase in property tax generates approximately \$3.1M of revenue per year. The current sales and use tax rate is 3.86 percent. The current mill levy of the City is 11.981 and the maximum levy allowed under the charter is 13.000 mills. Any increase in the current mill levy or sales and use tax rate must be approved by the voters. Comparative rates for surrounding communities can be found in <b>Attachment 6</b> .	
<p>The two recessions of the 2000s reduced revenues and available funding for staff, operations, and capital projects. Due to voter approval of various expiring taxes and new taxes that have supported specific programs or capital projects, the city is now on a solid financial foundation. However, resources for a variety of wants, needs, and desires expressed by various people or groups of people within the community cannot be provided with current revenue levels. Some are basic high priority needs such as for fire and police buildings. Some are new operating needs for expansion or implementation of new programs and services for such areas as the Library/Arts, Human Services, Transportation, Housing, and Parks and Recreation areas. Others are for projects that have yet to be fully determined and are in the developmental stages such as Broadband. Since 2006, the city has looked comprehensively at all programs and services and not focused on one fund, program or service. This comprehensive look at city needs has helped make significant headway across the city as a whole.</p> <p>Basics learned during the recessions and the financial long range planning work done by the Blue Ribbon Commissions I and II are that new costs should be accompanied by new revenues if they cannot be absorbed within current revenue flows. In many areas, the city has been able to absorb these kinds of new costs by finding savings and efficiencies and reallocating resources to highest priorities. Due to the sheer size of backlog in capital programs and associated new operating costs, new revenues will be needed to start addressing these items. <b>Attachment 7</b> provides a short summary of some of the items staff has been made aware of, through the capital improvement program, operating budget process, departments, boards and commissions, or various community organizations or members. None of these items have a current method to fund them and new resources will be needed (in some cases for both capital and new operating costs).</p>	

**B. Intermediate and longer term ballot items for consideration 2022 and beyond**

This category looks at city revenue ballot issues from 2022 through 2039 when the last time-limited sales and use tax expires. Items in this category are not up for current consideration. They are presented so council members are aware of taxes that sunset in future years.

<b>5. Utility Occupation Tax – General Fund portion</b>	
<b>Revenue Generated</b>	Approximately \$4.35 million annually
<b>Expiration</b>	December 31, 2022
<b>Description:</b> This portion of the occupation tax is a general fund revenue that took the place of the franchise tax for electricity. The voters approved a 5-year extension of this portion of the tax in November 2015.	

<b>6. Climate Action Plan Tax</b>	
<b>Revenue Generated</b>	\$1.8 million annually
<b>Expiration</b>	March 31, 2023
<b>Description:</b> The Climate Action Plan Tax funds programs and services to reduce greenhouse gas emissions. Some examples include EnergySmart energy efficiency services and rebates for the residential and commercial sectors, and SmartRegs implementation assistance and rebates for residential rental properties. The tax also funds 5.25 positions to support the programs and services. The voters approved a 5-year extension of this portion of the tax in November 2015.	

<b>7. 0.15 percent Sales and Use Tax Currently used for General Fund Operations</b>	
<b>Revenue Generated</b>	Currently \$5.25 million annually
<b>Expiration</b>	December 31, 2024
<b>Description:</b> This tax sunsets but is not dedicated. It is used to fund General Fund programs.	

<b>8. 0.25 percent Sales and Use Tax Currently Dedicated to Parks and Recreation</b>	
<b>Revenue Generated</b>	Currently \$8.75 million annually
<b>Expiration</b>	December 31, 2035
<b>Description:</b> The tax is spent on the following programs listed in order of magnitude of funding: park operations and ground maintenance, major renovation and refurbishment of park and recreation facilities, capital improvement program, sports fields maintenance, department administration, planning and project management, civic park complex improvements, and city-wide historical and cultural facility maintenance. Examples of the latter are Columbia Cemetery, Chautauqua, and Harbeck House.	

<b>9. 0.15 percent sales and use tax this is currently dedicated to Open Space. In 2020 it will be dedicated to Transportation, and in 2030 restrictions will be removed and the funds will be available for general city purposes.</b>	
<b>Revenue Generated</b>	Currently \$5.25 million annually
<b>Expiration</b>	Please see description below
Description: This tax is currently dedicated to Open Space. In 2020 it will be dedicated to Transportation, and in 2030 restrictions will be removed and the funds will be available for general city purposes and managed through the General Fund. The tax sunsets in 2039.	

**C. Information Regarding Other Types of Revenues and Ballot Items**

Items such as a real estate transfer tax, a local income tax, or increases in the gas tax have not been included in this memo. Such taxes, which are currently prohibited in the Colorado constitution or in the case of the gas tax, prohibited by state tax law, could be lobbied for at the state level and would need to be added to the legislative agenda.

The current federal prohibition against taxing internet sales continues to erode the tax base of the city. This prohibition also puts bricks and mortar establishments within the city at an operational disadvantage. At the same time, any internet retailer that has an office or store (a physical presence) in the city must collect retail sales tax from a purchaser and remit the sales tax to the city. Annual internet sales nationwide continued to increase by double digit growth during 2015. Changes to this inequity have been stifled at the federal level for several years and are regularly in danger of being barred forever.

The city of Boulder and many other local government organizations and associations have worked tirelessly to inform congress of this inequity between bricks and mortar businesses and online businesses. Based on a study conducted by the Leeds Business School Business Research Division in 2013, the City of Boulder estimates its current losses to be in excess of \$5.5 million per year in sales tax collections due to internet sales. This equates to over \$143 million of sales per year.

Beginning April 1, 2016, Amazon started to collect and will remit sales taxes charged and collected for purchases made within the city limits. Since they are one of the major companies using online sales and have no presence within the city limits this is an important step in moving forward in this area.

**D. Charter Amendments for the City of Boulder Charter**

The charter committee has met and will be suggesting charter changes for consideration.

- Height limits. More information on the suggested height limit charter change will be available in an addendum to this memo, which will be distributed after the Charter Committee meets in early May.
- Blue Line Definition. This would specify the exact location of the blue line basically coincident with the eastern boundary of the city’s foothills open space.

- Council Compensation – Insurance. This would allow Council members and their families to elect to participate in the life and health insurance programs available to full-time, non-union, employees of the city with the city paying the same portion of the premiums as paid for full-time, non-exempt employees.

A brief memo is attached regarding this area of the ballot process (**Attachment 8**).

**E. Ballot items that may be brought forward by other means or levels of government**

The City Council is provided this information to understand what other levels of government will be doing in the coming years. The information provided for this study session is based on what is known at this time. It is recognized that change may occur in the future that will impact issues that may need to be considered by City Council.

The following ballot item descriptions could influence the city’s decisions with regard to revenue related ballot measures and timing.

- ***Renewal of the .10 percent Scientific and Cultural Facilities District (SCFD)***

The SCFD tax was originally passed in 1988. The Scientific Cultural Facilities District Tax or Cultural District (CD) tax is a 0.1 percent tax. The tax boundaries for SCFD are basically the same as the Regional Transportation District (RTD) boundaries. Although state collected, after the tax is collected it is distributed to localities in which it applies for the purpose of supporting scientific and cultural organizations in the Metro Denver region.

The SCFD board has decided to ask for the renewal of this tax in November 2016, two years prior to its 2018 expiration date.

SCFD distributes over \$52 million annually to over 300 organizations in 7 counties. Additional information can be found at <http://www.scfcd.org/>.

- ***Boulder County***

At this time, staff is aware that Boulder County is considering various items for the ballot in November. The following are ideas that have been mentioned but no decision has been made.

- Extension of a 0.025 percent existing open space sales tax that would expire at the end of 2019. Proceeds starting in 2020 would be split for Open Space and for other sustainability purposes.

The County may be asked to refer some of the following measures, but nothing is definite at this time.

- Property tax increase to pay for subdivision paving

- Affordable housing tax. Staff from the city, county, Longmont, BHP, BCHA and Longmont Housing Authority have been discussing and developing a regional housing goals and strategies document. The idea has been to provide a platform for all municipalities and the county to have a discussion of the current housing affordability issues. Expanding financial resources is a central idea and the county staff asked the commissioners if they're open to a county-wide tax. The response was yes with direction to explore alternatives (property vs. sales, new vs. expanding existing tax, amount, target populations, highest priority uses) through polling in April. At this point the two main ideas are a new tax that would be effective 1/1/17 or an expansion of Worthy Cause that would be effective 1/1/19. The commissioners also want to see a community proposal for the idea. The working group is generating polling questions and drafting a letter that will be circulated to non-profits and advocates.

- ***Boulder Valley School District (BVSD)***

At this time, staff is not aware of any tax that BVSD plans to put on the ballot in November.

- ***Regional Transportation District (RTD)***

At this time, staff is not aware of any tax that RTD plans to put on the ballot in November.

- ***Colorado Department of Transportation (CDOT)***

At this time, staff is not aware of any tax that CDOT plans to put on the ballot in November. The Colorado Contractors Association has polled voter sentiment and has indicated that there is support for a state-wide sales tax for transportation infrastructure funding. They are currently engaging various interest groups to help gauge support and potentially craft a package. Based on this process there could be something coming forward.

- ***State of Colorado***

There are numerous items being considered or discussed by the legislature and topics that may come forward through the citizen initiative process. At this time, staff is aware that the State of Colorado will put the following on the ballot in November:

- **Single-Payer Health Care ([Initiative 20](#))** - Seeks to create a new health care financing system called ColoradoCare that operates as a political subdivision of the state. Estimates new state tax revenue for FY2019-20 at \$25billion (Revenue Impact memo [here](#) )

Staff is also aware that it is *possible* that the State of Colorado will put the following on the ballot in November:

- **Voter Tax Credit** (Initiatives #[58/89](#)) - Seeks to impose a tax of 0.5 percent on taxpayers reporting income in excess of \$405,000 to fund a tax credit available to those who can prove they submitted a ballot in a general election
- **Increased State Minimum Wage** (Initiatives [101/102](#)) – Increases state minimum wage to \$12/hour by 2020
- **DeBrucing of State General Fund** (Initiatives [116/117/118](#)) – All three versions exempt state general funds from TABOR for at least 10 years.
- **Tax Increase for Transportation** – (Not yet filed) – Possible 3/4 cent state sales tax increase for transportation needs. This is the same possible ballot item discussed in the CDOT section above.

- *Various initiatives that may be brought forward via the city process*

The following initiatives have been formally filed with the City Clerk as of April 28, 2016. It is possible that other initiatives could occur in the coming months.

- Charter Amendment: Occupancy No Less than Number of Bedrooms (section 190, 191). This would add a section to the Boulder Home Rule Charter prohibiting the city from enacting limits on occupancy of dwellings that are less than one person for each bedroom.
- Code Amendment: Sugar-Sweetened Beverage Product Distribution Tax. This would impose a tax on distributors of sugar sweetened drinks and syrups with the revenues being used for city health programs related to health effects of sugary drinks.

#### **IV. NEXT STEPS**

Based on council guidance provided at the study session, staff will bring back more detailed information on ballot items council wants to consider further, and the timeline that will need to be met.

The date by which the final reading of any ballot issue should be completed is Tuesday, August 19. This will allow the City Clerk’s office time to complete all administrative requirements and meet all deadlines required in Colorado laws for elections.

## **ATTACHMENTS**

1. Brief History of Long Range Fiscal Planning
2. Update on Community, Culture, and Safety Voter-Approved Capital Projects
3. Annual Budget Process Calendar
4. Tax Measure Results, 2002-2015
5. Expiration of Current Taxes
6. Municipal Sales and Use Tax Rates and Property Mill Levy Comparisons
7. Partial List of Unfunded Projects
8. Charter Committee Memo (Kathy's memo)

## BRIEF HISTORY OF LONG RANGE FISCAL PLANNING

The genesis of the long range fiscal sustainability and resilience work for the City of Boulder began with the Blue Ribbon Commission I (BRC I) report that was presented to council in January of 2008. The primary finding of the first study was that revenues for tax supported funds were increasing at three percent per year and expenditures were rising at four percent per year. Based on this mismatch, and if the trend was not changed, an annual deficit of \$135 million would occur by the year 2030. This shortfall was termed the GAP. Since then, steady progress has been made in reducing this projected \$135 million annual shortfall. The numerical aspects of BRC I and Blue Ribbon Commission II (BRC II) were updated in 2015, and show that the financial steps taken have ensured a structurally balanced budget and eliminated the previously identified structural gap. BRC II is discussed in further detail below.

The BRC I report focused mainly on revenue issues and how they are influenced by Colorado's public finance structure, policy choices, inflation, and demographic shifts that are occurring within the community. The report highlighted a number of observations, challenges and recommendations to help stabilize and create a more predictable revenue stream for the city. There were several key action items recommended by the report that have been presented to and approved by the voters. A full summary of ballot items for the past fourteen years can be found in **Attachment 4**. Ballot items approved by the voters since the BRC I report have been:

- Renewal and removal of sunset and dedications provisions (to improve flexibility in future years) for the 0.38 percent and 0.15 percent sales and use tax;
- Removal of the last Taxpayer Bill of Rights (TABOR) limits on property tax;
- An increase in the accommodations tax;
- An update of the growth impact fees and excise taxes;
- A renewal and extension of the dedicated 0.25 percent sales and use tax for parks and recreation;
- Renewal and extension of the utility occupation taxes that replaced the franchise tax and to support the municipalization study;
- Renewal and extension of the CAP tax;
- Renewal, reallocation and removal of the sunset on the 0.33 percent sales and use tax that was originally set to expire at the end of 2018;
- Renewal of and reallocation of the sunset on the 0.15 percent sales and use tax that was originally set to expire at the end of 2019;
- Approval of new taxes on non-medical marijuana (sales and use, and excise);
- Approval of new 3-year, 0.3 percent sales and use tax used to fund community, culture, and safety capital investment; and
- Approval of new taxes on short-term rentals.

In addition, the following fiscal issues were also approved by the voters:

- Converting Open Space sales tax revenue bonds to general obligation bonds which will reduce the interest rate and remove a ten percent reserve requirement when issued;
- Authority to use pension obligation bonds without a tax increase to stabilize payments in the old hire fire and police pension plans; and
- Issuance of \$49 million of Capital Improvement bonds without a tax increase with a focus on addressing deficiencies in capital projects.

Long range fiscal analysis continued with the work of a second Blue Ribbon Commission (BRC II). BRC II focused on the expenditure side of fiscal sustainability and presented their report to the City Council in 2010. Major recommendations included:

- Enhancing the city's budget process;
- Implementing performance measures for city services;
- Updating compensation policies; and
- Implementing the budget stabilization plan.

Each of these recommendations has been or is being implemented.

Other changes that have contributed to narrowing the GAP have been the implementation of best practices in financial policies. The two policies having the greatest impact have been the following:

1. On an annual basis, ongoing revenues will be matched to ongoing expenditures, and one-time revenues will be used only for one-time expenses.
2. Adequate reserves shall be maintained to offset unexpected downturns in the economy or natural disasters (each fund is analyzed individually to determine the appropriate level of reserves that should be maintained for each fund).

The changes on both the revenue and expenditure sides of the equation for current operating costs are expected to eliminate the GAP. The GAP does not include new capital and operating costs as programs are added. If programs and new service are added without adding new revenues or reducing current expenditures the GAP will widen. While great progress has been made, there is additional work to do. This will require a continued emphasis on both looking at revenues of the city and continuing to control expenditures in coming years.



## UPDATE ON COMMUNITY, CULTURE, AND SAFETY VOTER-APPROVED CAPITAL PROJECTS

May 10, 2016

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### EXECUTIVE SUMMARY

This memorandum provides background on the Community, Culture, and Safety (CCS) projects and an update on the current status and next steps on implementation of the 13 projects. In the November 2014 election, City of Boulder voters approved a temporary three-year 0.3 percent sales and use tax increase (ballot initiative 2A). The revenue from this tax increase is to be used for capital improvements for specific Community, Culture and Safety projects. The ballot language projected that the new tax will yield \$27,600,000 for these projects.

Of the 13 individual CCS projects throughout the city, one is complete. While the ballot measure did not require funds to be expended by a specific date, staff is expecting substantial completion of the 13 projects by the end of 2018.

Council will continue to be updated on CCS project progress through information packet memos or heads ups, as appropriate, based on specific milestones. In addition, the Capital Improvement Program (CIP) document will continue to include a special section on the CCS projects until all are completed.

Public updates will be provided through the [CCS website](#), press releases, social media and commemorative events as some of the key projects are completed. Travel impacts to streets or multi-use paths related to CCS project work will continue to be shared with the public and media on the [www.BoulderConeZones.net](http://www.BoulderConeZones.net) map.

### FISCAL IMPACT

- These capital projects were approved by City Council as part of the 2014 voter-approved 2A ballot initiative, the City of Boulder's Capital Improvement Program, and the City of Boulder budgets. Staff time for these projects has been included in the project budgets or in annual work plans.

### COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

- **Economic:** Capital investment in the community will help Boulder maintain economic competitiveness and diversity. Additionally, a revitalized Civic Area and enhancements to the city's cultural facilities is projected to draw additional visitors to Downtown Boulder.

- **Environmental:** It is expected that some of the capital investments that are funded with this tax increase may generate more travel to the City of Boulder to enjoy the improvements made in the city. At the same time, the investments will include efficient and effective improvements to infrastructure, which would help address environmental sustainability.
- **Social:** Improving and enhancing community assets will benefit the entire community, including user groups ranging in age, income levels and backgrounds. It is projected that these projects will provide more opportunities for everyone to enjoy the uniqueness of the quality of life in Boulder.

## **BACKGROUND**

In November 2014, voters approved a temporary three-year 0.3 percent sales and use tax increase. The revenue from this tax increase is to be used for capital improvements for specific Community, Culture and Safety projects. The ballot language projected that the new tax will yield \$27,600,000 for these projects. Specifically, the ballot measure requires that the funds be used for capital improvement projects that include:

- Up to \$ 8,700,000 for capital improvements for the boulder Civic Area generally bounded by Canyon Blvd, Arapahoe Ave, 9th Street and 13th Street to create a vibrant and active urban park and civic area including recreation amenities, community spaces, safety improvements, and connections and access improvements to and through the Civic Area,
- up to \$ 3,270,000 for capital improvements in the University Hill commercial district and high density residential areas including lighting, irrigation and to improve public streets,
- up to \$ 5,125,000 for capital improvements to the Boulder Creek Path and its environs generally between 3rd and 17th streets, including lighting and path improvements to increase safety,
- up to \$ 600,000 for public art and to preserve or restore the existing art collection,
- up to \$ 3,850,000 to improve the Dairy Center for the Arts property,
- up to \$ 1,500,000 for improvements to Chautauqua park and its environs for access, pedestrian, safety, and lighting improvements,
- up to \$ 4,000,000 for capital improvements at the Museum of Boulder provided that the Museum of Boulder has first raised and dedicated an equal amount and in compliance with terms, conditions, and timing approved by the city council, and
- any remaining funds to be appropriated by the boulder city council to fund capital improvement program projects;

## **PROJECT HIGHLIGHTS**

Of the 13 individual CCS projects throughout the city:

- One is complete,
- Two are under construction, and
- 10 are in the design and planning phase.

As of April 30, 2016, 21.5 percent (\$6.0 million) of the total funding (\$27.6 million) had been spent, with an additional 12.2 percent (\$3.4 million) encumbered.

The individual projects are grouped into 7 categories, which are briefly highlighted below, along with the current status of the projects as of the end of April 2016.

***University Hill Infrastructure Improvements*** – This project includes; replacing and expanding pedestrian-scale lighting in major pedestrian corridors; creating an “event street” which will allow the ability to easily close a section of Pennsylvania for pedestrian-friendly events; and, designing and installing an irrigation system for trees along the sidewalk as well as replacing failing trees and installing city-standard grates and guards. The tree irrigation project is expected to be completed in May 2016. The lighting project is expected to start construction in May 2016, and the event street project is currently in design; lighting work is expected to be completed in September 2016, and the event street is expected to begin work in 2017.

***Civic Area Improvements*** –

These improvements are part of the first phase of the larger Civic Area redevelopment project and Master Plan which was adopted in July of 2015 with the park design plan approved in November of 2015. Detailed project information can be found at [www.bouldercivicarea.com](http://www.bouldercivicarea.com) and project components generally include:

- A redefined park space along Boulder Creek between the Library and Broadway that accommodates a range of daily activities and events to draw people to the park.
- A premier children’s play area that emphasizes natural play elements and compliments Boulder Creek.
- Many safety enhancements including lighting, unobstructed views, clean and safe amenities and clear access to and through the park.
- Improvements to community spaces such as the Library café/courtyard, the north library plaza, the north municipal lawn and the sister cities plaza.
- Creating gateways (possibly via art) with a realigned creek path and the new 11th Street Spine that will connect areas north and south of the site.

The project is currently in the final design phase and is expected to begin in summer 2016.

***Boulder Creek*** – Projects include; design and construction of lighting along five path segments; design and construction of a separated pedestrian path along four segments of multi-use path; design and construction of a new pedestrian and bicycle underpass at 13<sup>th</sup> Street and Arapahoe Ave; and, Stream bank stabilization, erosion protection, habitat restoration, and recreation enhancement at Eben G. Fine Park. The Eben G. Fine park improvements were completed in early May, and a project completion celebration was hosted for the community on May 5. The lighting and pedestrian path projects are in design and are expected to begin construction in winter 2016. The 13<sup>th</sup> Street and Arapahoe Ave underpass is expected to begin construction in 2018.

***Public Art*** – Includes new public art projects for the Civic Area, University Hill, Boulder Junction garage east face, North Boulder, a Temporary Neighborhood Series, and additional maintenance projects. Maintenance work began in 2015, and new installations and additional maintenance work will occur in 2016 and 2017. The selection process for projects will begin following the adoption of the permanent public art policy in summer 2016, and work is expected to be completed by the end of 2017.

***Chautauqua*** – Improvements include: pedestrian lighting, and improved access and pedestrian safety along Baseline Road via new sidewalks, re-aligned parking, enhanced pedestrian crossing treatments, and related safety enhancements like lighting and wayfinding signs. The project received a Landmarks Alteration Certificate on April 6 for improvements within the historic district. The Chautauqua Association is coordinating with the city and the Landmarks Board for approval of the lighting plan. Construction is anticipated to begin in Winter 2016.

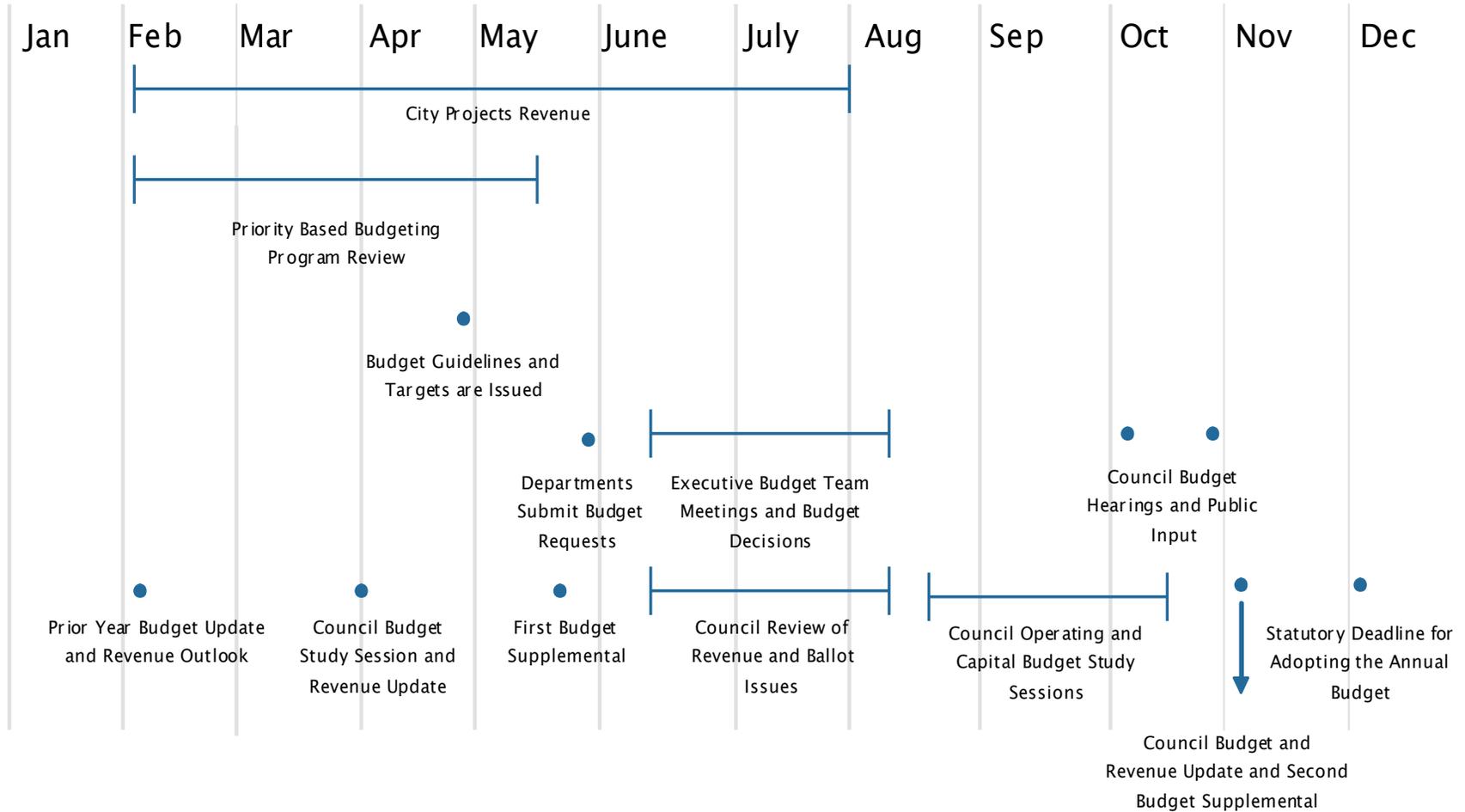
***Dairy Center for the Arts (via a reimbursement agreement)*** – Add soundproofing, dressing rooms, reconfigure one theater into a black box theater, expand and modernize the building’s lobby and façade, and modify an outdoor deck area as a special events space. Payments are made on a reimbursement basis. Work is approximately 25% complete and is expected to be completed by the end of 2016.

***Museum of Boulder (via a reimbursement agreement)*** – Convert the building into an expanded museum that will accommodate larger displays, Smithsonian-class traveling exhibits, science and technology exhibits, as well as enhanced programming and space for children. Payments are based upon a one-to-one match of the Museum of Boulder’s fundraising. To date, \$2.5 million in payments have been made to the museum.

#### **NEXT STEPS**

Council will continue to be updated on the CCS progress through information packet memos or heads ups, as appropriate, based on specific milestones. In addition, the Capital Improvement Program (CIP) document will continue to include a special section on the CCS projects until all work is completed.

## ANNUAL BUDGET PROCESS CALENDAR



## TAX MEASURE RESULTS, 2002 - 2015

	Ballot Measure Summary	2002	2003	2006	2008	2009	2010	2011	2012	2013	2014	2015
1	.15% Sales Tax for Public Safety	X										
2	.15% Sales Tax for Open Space		P									
3	.15% Sales Tax for General Fund Services		P									
4	One Year .15% Sales Tax for Fire Training Center			P								
5	Climate Action Plan Tax			P								
6	.38% Sales and Use Tax				P							
7	De-Brucing: Remaining Property Taxes				P							
8	.15% Sales and Use Tax					P						
9	Increase of Housing Excise Tax					X						
10	Accommodations Tax Increase From 5.5% to 7.5%						P					
11	Utility Occupation Tax to Replace Franchise Fee						P					
12	Increase Utility Occupation Tax by \$1,900,000							P				
13	Climate Action Plan Tax Extension								P			
14	.25% Sales and Use Tax for Parks and Recreation Renewal								P			
15	.15% Sales and Use Tax for Transportation									P		
16	0.33% Sales and Use Tax for Open Space and General Operations									P		
17	0.15% Sales and Use Tax for Open Space, Transportation and General Operations									P		
18	Recreational Marijuana Tax									P		
19	0.3 Cent Sales and Use Tax Increase for three years until December 31, 2017										P	
20	Short Term Rental Tax											P
21	Extension of Utility Occupation Tax - GF Portion (Not for Municipalization) to December 31, 2022											P
22	Extension of Climate Action Plan Tax to March 31, 2023											P
X	= Measure Failed											
P	= Measure Passed											

**EXPIRATION OF CURRENT TAXES**

	<b>Tax Expiration Date</b>	<b>2016 Projected Revenue</b>
<b>Near Term (2016-2021)</b>		
0.30% Sales and Use Tax for Community, Culture and Safety Projects	12/31/2017	\$9.60M
Utility Occupation Tax- Energy Strategy	12/31/2017	\$2.00M
<b>Intermediate and Long Term (2022 and beyond)</b>		
Utility Occupation Tax- General Fund	12/31/2022	\$4.35M
CAP Tax	3/31/2023	\$1.80 M
0.15% Sales and Use Tax- General Fund	12/31/2024	\$5.25 M
0.25% Sales and Use Tax- Parks and Recreation	12/31/2035	\$8.75 M
0.15% Sales and Use Tax	12/13/2039	\$5.25 M
<b>Other Expiring Items</b>		
Authorization for Executive Session	12/31/2017	N/A

## MUNICIPAL SALES AND USE TAX RATES AND PROPERTY MILL LEVY COMPARISONS

### Sales and Use Tax Rate Comparison with Neighboring Cities

City	Sales and Use Tax Rate (%) <sup>1</sup>
Longmont	3.275
Arvada	3.460
Superior	3.460
Louisville	3.500
Lafayette	3.500
Thornton	3.750
Westminster	3.850
Boulder	3.860
Broomfield	4.150

<sup>1</sup> March 11, 2016, Colorado Department of Revenue, "Revenue Online"

### Property Tax Rate Comparison with Neighboring Cities

City	Property Tax Rate (mills)
Westminster	3.650
Arvada	4.310
Louisville	6.710
Superior	9.430
Thornton	10.210
Broomfield	11.457
Boulder	11.981
Longmont	13.420
Lafayette	14.335

**PARTIAL LIST OF UNFUNDED PROJECTS**  
**Summary as of April 28, 2016 for Major Capital and Operational Items Known at This Time**

Category	Capital Cost	New Operating Cost	Comments
Fire Station #3	\$20M	\$500K	
Scott Carpenter Aquatics Facility renovation	Unfunded \$5.3M (Funded \$8M)	To Be Determined (TBD)	
Valmont City Park South new facility development	Unfunded \$44M (Funded \$4M)	TBD	
Boulder Reservoir South Facility renovations	Unfunded \$0M (Funded \$4M)	TBD	
Mapleton Park redevelopment	Unfunded \$7.3M (Funded \$0)	TBD	
BCH property	\$100M rough estimate	Unknown at this time	903 and 955 Alpine? \$6M?
Boulder Energy Future	Transition Costs TBD	Transition Costs TBD	
Housing	\$5 to \$7M annually?		Unmet needs
Ponderosa purchase	\$5M purchase		Future infrastructure unknown though considered to be major
Arts		\$1.5M to \$2M annually	Estimate only at this time
Broadband	Unknown at this time	Unknown at this time	Depends on model used
Fire stations – all others	\$25M	\$1.1M	
Civic Area	Estimate unknown at this time – will be significant	Unknown at this time (Downtown heavy use park – higher cost per acre)	
Parking Garage on the Hill	Certificate of Participation (COPs) - \$19M	Will depend on actual operating results of the garage	
Living Wage		Depends on the level –currently being analyzed	
P3 funding in general			Payments per year or other agreements
Transportation	See CIP Budget	See future operating budget	
Police Master Plan	Office space 30,000 sq. ft. \$16M+	Unknown at this time	
Radio Infrastructure	\$6M could be more as more services are added	Unknown at this time	
See COB CIP Budget Appendix A p. 339 for an expansive listing	Varies depending on the project	Varies depending on the project	

TO: Cheryl Pattelli, Director of Finance

FROM: Kathy Haddock, Senior Assistant City Attorney

DATE: April 28, 2016

RE: Charter Committee and Initiatives to Date

### **Charter Committee**

The Charter Committee (Lisa Morzel, Sam Weaver and Mary Young) have met several times about proposed amendments to the charter. Several issues have been discussed, however, the committee is only recommending two issues to council: (1) Clarifying the definition of the Blue Line in Section 128A, and (2) Allowing council members and their families to participate in the city's life and medical insurance plans as if the councilmembers were a full-time, non-union, exempt employee.

Blue Line. The prohibition against extending city water west of a certain line that was adopted in 1959 was an ingenious and very successful way to protect the foothills backdrop of the city. The prohibition was adopted as section 128A of the charter and is commonly referred to as the "blue line." As more and more infill development has happened, the precise location of the blue line has become an issue. The description in the charter was a compilation of measurements by metes and bounds, elevations, ditches and from center of streets. All properties in the city boundaries or that had water taps in 1959 were allowed to remain. As a result, while the general location of the blue line is clear, when you look at individual properties near the boundaries, it is not clear. More precisely defining the blue line for clarity has been discussed over the years but has not been pursued because it was a huge undertaking. Now seems to be the time

Staff researched writings from 1959. Those documents make clear that the blue line was not intended to weave among properties to keep some in and neighbors out, but was intended to stop any further development up the foothills. Since the city's open space program began in the 1960s, the city has actively purchased interests in those properties in fee or by conservation easement, resulting in the properties being protected from development by the city's property interest rather than the blue line. Several properties are partially below and partially above the blue line. Some properties have water service agreements with the city, but have not been annexed because of uncertainty about the precise location of the blue line. When considering elevations, separately from the blue line, some properties below the blue line are construed as above.

Staff has taken a more microscopic view of the blue line and recommends using the eastern boundary of the foothills open space properties as a more defined location of the blue line. Staff will have maps at the study session. In preparing the recommendation, the revised location of the blue line, at the direction of the committee, staff followed several principles: (a) do not expand the opportunity for larger building footprints on any properties (which means the line still bifurcates properties that have development on the lower part of the lot so the existing development can be served, but expansion of the footprint to cover the entire lot cannot occur);

(b) include all of the properties that have either water or sewer service agreements with the city, which includes the Knollwood and Spring Valley subdivisions; (c) bring the line below properties in which the city has an open space property interest and where the line includes western portions of Lee Hill and other areas that have not developed; (d) include all of the properties for which there was a separate exception to the blue line approved by the votes, which includes the Flagstaff House, NCAR, and water to certain fire hydrants for fire protection purposes; and (e) do not require expansion of the city water infrastructure.

Staff will present the map comparing one interpretation of the present blue line and the proposed specific description for the blue line at the study session.

Insurance for Councilmembers. This proposal would amend the charter to allow councilmembers and their families, starting with the council elected in 2019, to participate in the city's life and health insurance programs to the same extent and contribution as the city provides to full-time, non-union, exempt employees. The 2019 date was chosen so that the benefit would not apply to a councilmember sitting on the date of the election.

### **Initiatives**

Several groups have asked questions about various initiatives, but only three have formally submitted a version to the clerk for review of the format. That review and approval is required before anyone signs the petition. Only one of those submittals has been approved to date, but the other two can meet the requirements of the format with amendments if the petition committees determine to do so.

Occupancy Minimum. This initiative is a charter amendment that prohibits the occupancy allowed for any dwelling to a minimum of the number of bedrooms in the dwelling, with the terms used following the definitions in the 2015 edition of the *International Residential Code*. The format of this petition has been approved.

The names of the five-member petition committee on the submittal are:

- Theodore K. Koenig
- Laura Gonzalez
- Amanda Miller
- Shuichi Ushijima
- Allina Robertson

Tax on Distributors of Sugar-Sweetened Drinks. This initiative is (a) a TABOR question to approve a .02% per ounce tax on the distribution of drinks with added sugar and the sweeteners (like syrups) used to produce such drinks, not including (1) sweeteners sold separately at a grocery store; (2) milk products; (3) baby formula; (4) alcohol, and (5) drinks taken for medical reasons and (b) an amendment to the Code that adopts new code provisions describing how the tax is to be imposed, how the revenues are to be distributed, and the procedure for appointment of a panel of health experts by the manager that will give binding directives to city council of how to distribute the revenues. The format of this petition was not approved for a variety of reasons including more than one subject and violating the charter. The

denial included suggestions of changes that could be made to have a petition(s) format that met the applicable legal requirements.

The names of the five-member petition committee on the submittal are:

- Dakota-Rae Westveer
- Lynn Gilbert
- Brenden Nackerman
- Nicole Christensen
- Manuela Sifuentes

Term Limits. This initiative amends the charter to impose term limits on councilmembers not exceeding three terms in a lifetime. The format of this petition was not approved for reasons related to the petition itself and not the amendment proposed.

The names of the five-member petition committee on the submittal are:

- Andy Schultheiss
- Michelle Estrella
- Jessica Yates
- Brady Robinson
- Chris Ozeroff

### **Timeline**

Council has until its last meeting in August to certify the ballot measures it determines to place on the ballot for the November, 2016 election.

In order to qualify for the November, 2016 election, initiative petitions with sufficient signatures must be certifiable by the City Clerk by July 11. All initiative petitions that are sufficient will be certified to council for its first regular meeting in July, July 19<sup>th</sup>. Council can either adopt the ordinances proposed, or they are placed on the ballot. Amendments to the charter and TABOR issues cannot be adopted only by council and would be placed on the ballot. The petitions require approximately 4,632 valid signatures (the precise number for some of the initiatives is determined based on the voters registered on the date the petition is submitted).

Please let us know if you have questions.



**TO:** Mayor and Members of City Council

**FROM:** Jane S. Brautigam, City Manager  
Heather Bailey, Executive Director of Energy Strategy and Electric Utility Development  
David Driskell, Executive Director of Community Planning and Sustainability  
Kendra Tupper, Energy Services Manager  
Jonathan Koehn, Regional Sustainability Coordinator  
Brett KenCairn, Senior Environmental Planner  
Yael Gichon, Energy Sustainability Coordinator  
Matt Lehrman, Energy Strategy Coordinator  
Sarah Huntley, Deputy Director of Communications  
Colette Crouse, Communication Specialist  
Emily Sandoval, Communication Coordinator

**DATE:** May 10, 2016

**SUBJECT:** Study Session – Boulder’s Climate Commitment: Transitioning Our Energy System

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## **I. Executive Summary**

The Boulder community has a long history of climate action leadership. Analysis conducted during the past few years has led to a much greater understanding of the importance of how we use energy and where it comes from as we evaluate the challenges and solutions to climate change. Recent analysis and the pioneering work of other leading cities support the consideration of an accelerated goal of 100 percent renewable electricity by 2030. This aspirational goal is foundational for a “whole energy system transition;” that is, the need to remove fossil fuels from the electrical, heating and transportation systems. This goal is driven by the scientific realities and global urgency acknowledged in Paris last fall, as well as the recognition that more local renewable-based energy can advance other community goals and generate benefits such as economic vitality, local environmental health, equity and resilience. These factors are proposed as significant criteria in designing and evaluating a whole energy system transition strategy, which is the focus of this memorandum.

This memorandum provides context for the critical role that energy plays within Boulder’s overall climate strategy (energy, resources, and ecosystems). It further describes current work efforts and potential next steps toward developing a transition strategy for energy in Boulder. It connects a comprehensive energy strategy (electricity, natural gas and transportation fuels) to the “electric utility of the future” strategy—whether through municipalization or through partnership

with the existing investor-owned utility—as the foundational elements necessary to achieve Boulder’s emission reduction goals and secure our energy future.

Staff has not recommended a specific path or strategy to achieve the proposed goals. Based on council’s feedback, staff will work with stakeholders to develop a number of alternative paths. Staff recognizes that the goals, particularly the short-term goals, are very ambitious and could be difficult. This memorandum is intended to make the case that the transition to clean electricity is not only necessary, but achievable. Numerous agencies such as the International Energy Agency, Stanford University, the United Nations, the Rocky Mountain Institute, Google and others have analyzed the feasibility of transitioning to clean energy with respect to barriers, requirements, resource and market availability, and cost and have all come to the same conclusion: a 100 percent global transition to renewable energy is possible both technically and economically; the key barriers are social and political.

It is important to note that these goals should be considered independently of the effort to create a municipal electrical utility. A municipal utility is a means to this end because it allows the city to control its energy source. Council or the community may decide to take an “off-ramp” or push forward to the creation of the utility. Regardless of whether Boulder is served by an investor-owned utility or locally owned utility, each presents its own unique challenges in transforming our energy system and reaching a goal of 100 percent renewable electricity in the next 14 years (i.e., by 2030). The significance of this discussion is the importance of having aspirational goals to push our community toward a sustainable and resilient future.

## **II. Questions for City Council**

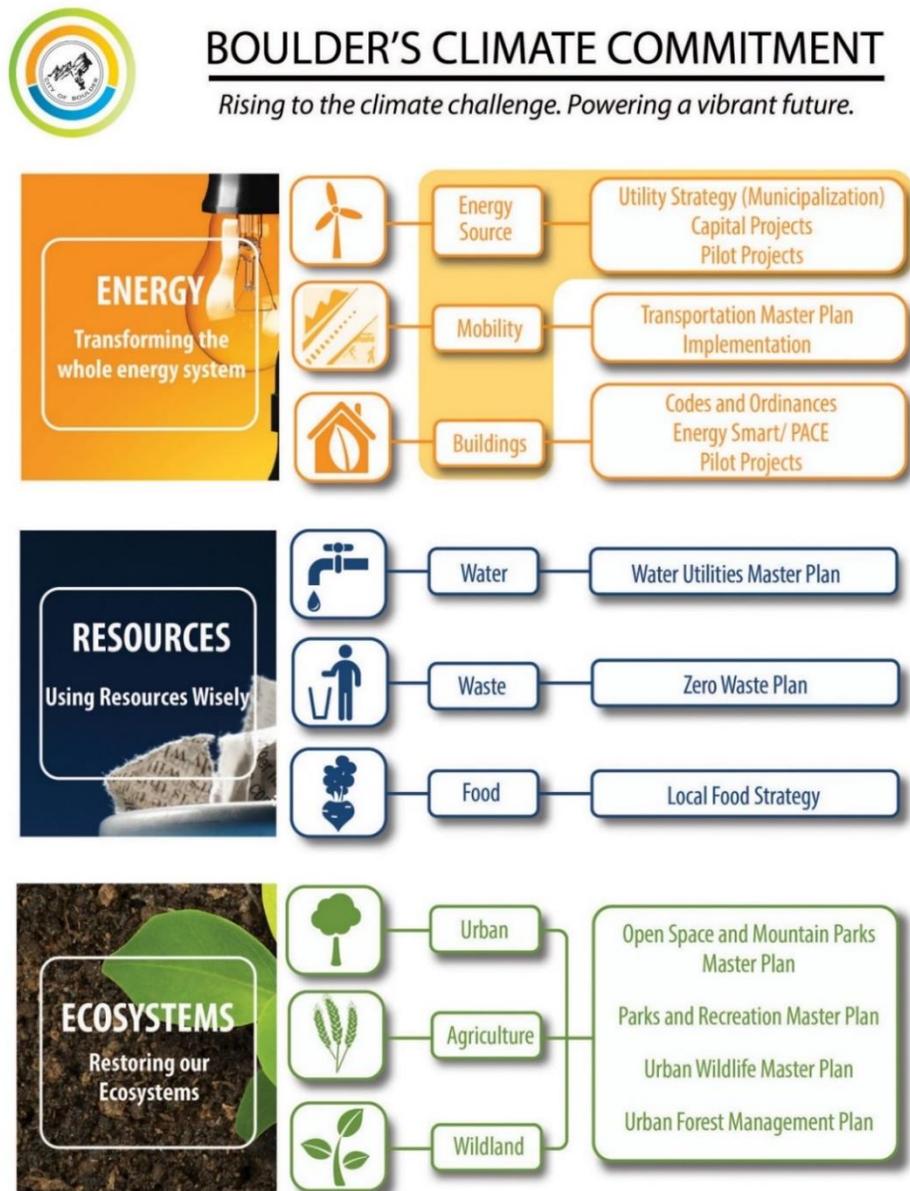
1. What questions does council have about the concept of a whole energy system transition and how this relates to the climate, energy and utility strategies?
2. Does council agree the city should set a goal of 100 percent renewable electricity by 2030? Does council believe that a different target would be appropriate?
3. Does council have feedback about the inclusion of other criteria in evaluating pathways to achieve a comprehensive energy system transition and the 100 percent renewable electricity goal, e.g., economic vitality, environmental health, resilience and social equity?
4. What questions does council have about community and stakeholder engagement?

## **III. Introduction and Background**

The historic gathering of nations in Paris this past December resulted in an unprecedented world consensus about the serious threats to civilization if climate change is allowed to continue on its current trajectory. Resulting climate action agreements call for nations to implement major initiatives to keep global warming to less than 1.5 degrees Celsius (C) by the year 2050. Central to these proposed actions is a rapid, global transition off of fossil fuels.

At a local level, there are a range of actions to support this global call to action. Building on more than a decade of foundational local climate action efforts, city staff teams working with consultants and community members have developed a new draft [Climate Commitment strategy](#) (previously shared with Council, and now under review through a community engagement process) that identifies three core action areas: transforming our energy system; using other resources as wisely as possible; and restoring and enhancing the ecosystems that provide us with critical life-support services.

The Climate Commitment strategy serves as the umbrella under which all the goals, targets and the accompanying strategies are integrated. The diagram below shows the three core action areas of the Climate Commitment and the corresponding strategies, as well as the interrelation between various components.



These three focus areas of the Climate Commitment strategy have informed Boulder's annual work plan as the city has integrated emission reduction strategies into master plans and advanced strategies related to building codes, zero waste, transportation and water. Climate action has been the primary impetus of municipalization, which, without a new partnership with Xcel Energy and/or changes in the regulatory and legislative arenas, remains the most viable way for the city to achieve its clean electricity and community energy goals. There is much less clarity, however, around other aspects of energy system transition; for example, how we will transition off natural gas and petroleum.

What happens in each of the energy sectors impacts the others. For example, a growing number of electric vehicles will reduce transportation-related emissions while also raising electricity consumption. Similarly, if there is a shift from natural gas to electricity in many consumer appliances, emissions related to natural gas will decrease while emissions related to electricity will increase. The broader goals of the Transportation Master Plan to reduce vehicle miles traveled to 20% below 1994 levels by 2035, reduce mode share for Single Occupant Vehicles to 20% of trips by residents and 60% of work trips by non-resident employees by 2035 also directly interplay with transitioning our energy system. These changes present benefits and challenges that should be forecast and managed. The first step toward doing this is developing a comprehensive energy transition strategy, which city staff plans to prioritize in 2017 and beyond following clarity around the outcome of the municipalization process.

### **Energy System Transition and the Central Role of Renewable Electricity**

The need to transform Boulder's energy system is not a new topic for City Council or the community. The realization that Boulder needs to change its energy supply led to the exploration of municipalization. Through this process the city has gained an increased understanding about the electric system serving Boulder in addition to limitations and greater awareness of the potential opportunities and benefits to transition to a more localized distributed renewable energy system.

Analysis conducted by the city in addition to the work of other communities, research organizations and academic institutions suggest that the transition of electricity supply off of reliance on fossil fuels can happen even faster than what seemed possible even a few years ago. While the transition to renewable energy in natural gas and transportation uses may require the longer 2050 timeframe envisioned in the draft Climate Commitment document, a growing body of information suggests that transitioning electricity to 100 percent renewables within the next 15 to 20 years is technically and economically feasible, with multiple potential community benefits. As a result, City Council is being asked to consider a more aggressive clean electricity goal than what was previously proposed. Regardless of whether the goal is to be achieved by an investor-owned or municipal utility or some variation in between, it establishes a fundamental milestone to guide energy transition planning efforts, decision making and investment at every scale—from

individual households and businesses to city- and system-wide energy generation and management infrastructure. This is a foundational goal for supporting whole energy system transition and achieving an overall 80 percent reduction in carbon emissions.

#### **IV. Analysis**

##### **Renewable, Clean, and Local**

As Boulder pursues a 100 percent renewable electricity supply by 2030, it is necessary to discuss several key terms that will inform the energy transition strategy, regardless of whether the city forms a local electric utility or continues to be served by Xcel Energy. The terms “renewable” and “clean” are often used interchangeably, which overlooks some nuances that distinguish the two. Additionally, the term “local” must be discussed and its importance as a part of the larger vision clearly understood.

Staff proposes to use the term renewable<sup>1</sup> rather than clean to describe electricity generating sources that enable the community to meet its electricity emissions reductions goals. Clean has been co-opted by fossil fuel interests to make a relative comparison between emissions-producing fossil fuel technology. Local generation in this context is assumed to be generated within the boundaries of Boulder County. Boulder also seeks to achieve a portion of its 100% renewable electricity from local renewable generation. Complete definitions of renewable, clean and local in the context of this memorandum are included in Attachment A.

##### **Whole Energy System Transition**

As part of the analysis conducted for the [Climate Commitment Study session in 2015](#), staff and consultants evaluated the emissions reduction potential of all existing and anticipated programs. This analysis included the following programs and projects:

- Energy Efficiency programs--Energy Smart and PACE;
- Energy ordinances (both SmartRegs and the recently passed Building Performance Ordinance);
- Transportation Programs—all TMP programs plus allowances for electrification of a significant portion of the light-duty vehicles in the community;
- Solar adoption; and
- Multiple utility scenarios.

One of the important findings of this analysis was the determination that to achieve an 80 percent or greater overall emissions reduction by 2050, the electricity supply would have to be 100

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<sup>1</sup> The Colorado Renewable Energy Standard (RES) defines “renewable” as electricity generated from fuel sources compliant with the RES, such as wind, solar, and hydro.

percent renewable. In addition, shifting a significant portion of existing natural gas and petroleum uses to electricity is needed as long as the source of electricity is renewable.

This analysis has been confirmed and reiterated by many cities around the world. Last July, Boulder hosted a “Breakthrough Convening” including representatives from five other leading US cities—Seattle, Portland, San Francisco, Minneapolis and Boston—to discuss strategies for whole energy system transition. This meeting resulted in a first-ever framework for cities exploring similar transitions. Subsequent to this meeting, Boulder and 10 other cities involved in the Carbon Neutral Cities Alliance were awarded funding to further develop key elements of this framework.

As part of their transition planning efforts, many cities have also begun framing their climate and energy goals in terms other than strictly carbon emissions reduction. In North America, cities such as Vancouver and San Diego have adopted 100 percent renewable energy as a primary goal and metric for success.

The implementation of renewable energy technologies cannot be delivered by the city alone, nor can the outcomes be realized in a short time frame. Staff recognizes that the City of Boulder will need to cooperatively work with the private sector to achieve these ambitious targets. In developing the potential pathways to achieve the goals, careful attention will need to be paid to the existing short-term barriers, particularly how to overcome the intermittency of renewable electricity generation and the energy policies and technologies needed to deliver a 100 percent renewable electricity portfolio by 2030.

## Goals, Targets and Timeframes

Table 1 below provides a summary of proposed milestones for both the community related to the goal of energy supply, reflecting the accelerated goal of 100 percent renewable electricity by 2030.

**Table 1 – Energy related milestones to achieve 80% emissions reduction goal in the area of energy supply**

GOAL AREA: Greenhouse Gas Emissions		Milestones		
		2020	2030	2050
<b>TARGET 1: Emissions reductions</b>	Reduce greenhouse gas emissions by at least 80% below 2009 levels before 2050	40%	60%	80%
GOAL AREA : Energy Supply		Milestones		
		2020	2030	2050
<b>TARGET 2: Renewable Electricity</b>	Derive 100% of electricity from renewable sources based on total community consumption	50%	100%	100%
<b>TARGET 3: Local Electricity Generation</b>	Total installed capacity of clean electricity from local sources	50 MW	100 MW	175 MW
<b>TARGET 4: Natural Gas Replacement</b>	Percentage reduction in community natural gas consumption	15%	40%	80%
<b>TARGET 5: Petroleum Replacement</b>	Percentage reduction in community petroleum consumption	5%	25%	80%

### 100 Percent Renewable Electricity: Rationale and viability

There are significant uncertainties and risks associated with fossil-fuel based electricity. The future of fossil fuels is increasingly unstable. In the electricity sector, overall consumption is leveling, and in some cases, declining, and coal-fired power plants are being scheduled for closure. Rapidly dropping prices for renewable electricity generation from wind and solar, as well as more stringent environmental regulations and the increasing cost of extraction, are making coal increasingly untenable as an energy source. Three of the four major global coal companies have now filed for bankruptcy. These trends were strengthened by the Paris climate agreement because it sent important signals to the global market about the need to retire fossil fuels rapidly. Reinforcing this concern are the findings by the Intergovernmental Panel on Climate Change and other major scientific assessments indicating that the majority of remaining fossil fuels must be left in the ground if the targets set in Paris are to be reached.

That said, the ability to achieve a renewable electricity target must be secondary to maintaining a safe, stable and affordable electricity supply. The quality of Boulder’s energy cannot be compromised, and the cost to customers is vital. These vulnerabilities exist with any energy portfolio, particularly with a continued reliance on fossil fuels. The cost for fossil-fuel based generation is not expected to decline. Meanwhile, the economics of renewable electricity are rapidly improving. The price of residential and non-residential rooftop solar systems has dropped 50 and 57 percent respectively since 2009,<sup>2</sup> utility-scale solar has declined 50 percent<sup>3</sup> and the cost of wind power has dropped by 25 percent since 2009.<sup>4</sup> In a growing number of areas, wind energy is already becoming the least cost source of electricity even without production tax credit subsidies. The result is that renewable energy accounts for almost half of the world’s new power plant capacity in 2014 and 2015, and that there are “unmistakable signs that the much-needed global energy transition is underway, but not yet at a pace that leads to a lasting reversal of the trend of rising CO2 emissions” according to the International Energy Agency (IEA).<sup>5</sup> Complementing the growth in renewable generation, the energy storage market is projected to quadruple in size by 2019<sup>6</sup> and double again by 2020.<sup>7</sup>

Despite this progress towards more renewable electricity, there are a significant number of existing coal and natural gas generation plants that are projected to run through their original lifespans (in many cases beyond 2050). Because of this business model that calls for the continued support of these outdated generation facilities, many investor-owned utilities have been slow to invest in renewable electricity.

### **Transitioning to 100 Percent Renewable Electricity: Is it possible?**

Examples from around the world show that making the transition to 100 percent renewable electricity is a political — not a technical — decision. By pioneering this movement, local governments can be incubators of regionally appropriate best practices and policies.

Numerous groups and reports have cited 2050 as a target for achieving a near complete transition off of all fossil fuels, but the reality is that achieving the necessary reductions called for in Paris

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<sup>2</sup> Barbose, Galen and Darghouth, Naim. Lawrence Berkeley National Lab. “Tracking the Sun VIII.” August 2015. P. 50. Accessed at: [https://emp.lbl.gov/sites/all/files/lbnl-188238\\_1.pdf](https://emp.lbl.gov/sites/all/files/lbnl-188238_1.pdf).

<sup>3</sup> Bolinger, Mark and Seel, Joachim. Lawrence Berkeley National Lab. “Utility-Scale Solar 2014.” September 2015. P. 13. Accessed at: <https://emp.lbl.gov/sites/all/files/lbnl-1000917.pdf>.

<sup>4</sup> Bolinger, Mark and Wiser, Ryan. Lawrence Berkeley National Lab. “Wind Technologies Market Report.” August 2015. P. 48. Accessed at: <https://emp.lbl.gov/sites/all/files/lbnl-188167.pdf>.

<sup>5</sup> International Energy Agency. “World Energy Outlook 2015.” Pgs. 1 and 7. Accessed at: <https://www.iea.org/Textbase/npsum/WEO2015SUM.pdf>.

<sup>6</sup> U.S. Energy Storage Monitor Q2 2015. GTM Research and Energy Storage Association. September 2015. P. 10. Accessed at: <http://energystorage.org/system/files/attachments/us-energy-storage-monitor-q2-2015-es-final.pdf>.

<sup>7</sup> U.S. Energy Storage Monitor 2015 Year-in-Review. March 2016. Accessed at: <https://www.greentechmedia.com/research/subscription/u.s.-energy-storage-monitor>

require a much quicker transition, especially in the electricity sector. The Paris Agreement is explicit in the need for more rapid emissions reductions: “estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions do not fall within least-cost 2 °C scenarios... much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2 °C above pre-industrial levels.”<sup>8</sup> As such, more than 50 cities have announced they are on their way to 100 percent renewable energy, including Marin and Sonoma Counties in California, Sydney, Australia, and Copenhagen, Denmark. Some are aiming for 2020, others by 2030 or 2035.

More importantly, several U.S. communities have already achieved 100 percent renewable electricity. In 2013, [Greensburg, KS](#) — a town of less than 800 residents about 100 miles from Wichita — became the first city in the United States to go 100 percent renewable, powering their homes, businesses, and municipal buildings via wind power. In 2014, [Burlington, VT](#) joined Greensburg, becoming the largest city in the United States to be powered by renewable energy sources. [Georgetown, TX](#) joined the 100 percent clean coalition in 2015.

It took just three years for four U.S. cities to make the transition to 100 percent renewable electricity — and experts expect that pace only to quicken in the coming years. Just a few months ago, [San Diego](#) — the country’s eighth-largest city — made a commitment to transition to 100 percent renewable energy by 2035. In total, [12 U.S. cities](#) have made commitments to transition to 100 percent renewable energy, though many have yet to solidify those commitments as law or define an actionable strategy by which they will achieve them.

The path to 100 percent renewable electricity begins with setting a goal and timeframe. Achieving the goal is technically and economically feasible, but getting from here to there by 2030 or even 2050 will require thoughtful planning and development of an achievable transition strategy.

### **Boulder’s Electricity Provider**

Converting Boulder’s energy supply is about more than replacing fossil fuel with sun and wind as new electricity sources. The current system model is based on large-scale centralized combustion-driven generation. Generation is often isolated from residential uses due to health and operational concerns. Electricity is distributed and sold across a largely passive grid to largely passive bill-paying customers who are paying more for the fuel to burn than for the capital equipment needed for generation and distribution. In the new technology-driven energy

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<sup>8</sup> Report of the Conference of the Parties on its twenty-first session.” Paragraph 17. P. 4. Accessed at: <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>.

model, in which energy can be generated anywhere, by anyone, at varying scales, every customer becomes a potential energy generator. Energy can be stored, shared and managed at the local level; customized solutions can be provided to individual properties, neighborhoods or districts. Investment is focused on capital infrastructure, while the “fuel” is free. Energy system transition is much more complex—and promising—than simply replacing large-scale fossil-fuel generation with large-scale wind and solar generation. It is an entirely different system structure and business model, with potential community benefits well beyond the promise of reduced greenhouse gas emissions.

In recent months, Xcel Energy unveiled its new plan for Colorado’s energy future. City staff is encouraged by Xcel’s proposed offerings and approach, which seem to be taken directly from Boulder’s own Energy Future vision and planning efforts. Xcel’s plans include efforts such as grid modernization, the addition of new utility-scale and distributed wind and solar, and new energy storage pilots. While there are currently few details as to how each of these efforts will cut the use of fossil fuels, and some disagreement about what it will (and should) cost consumers, the staff will review the specific plans. As always, city staff will examine the Public Utility Commission filings closely and participate in the process to ensure there are enforceable commitments that would give customers and communities the greatest benefit while mitigating costs and risk. A summary of the filings and what has been proposed to date is included in Attachment B.

### **The Role of Local Generation**

Boulder can achieve its renewable electricity targets through a mix of both central and distributed generation resources. There are clearly benefits to utility-scale renewable electricity resources like solar farms and arrays. At the same time, to achieve many of the other benefits possible through a transition to 100 percent renewable electricity, a significant portion of this new generation capacity and infrastructure needs to be located much closer to the end user.

In 2011, city staff commissioned Local Power Inc. to investigate [Boulder’s opportunities for local energy generation](#). The study looked at Boulder’s ability to transform its energy supply along three overall themes while maintaining a competitive cost of service and grid reliability:

1. Democratizing energy decision making, so customers and the local community have more direct control and involvement in decisions about their energy.
2. Decentralizing energy generation and management, reducing reliance on external energy sources.
3. Decarbonizing the energy supply, by using local renewable and clean fuel sources as much as possible.

While preliminary, the report indicated there are substantial electricity localization opportunities within Boulder, and within the Boulder region. In fact, a recent partnership with the National Renewable Energy laboratory, and [Mapdwell](#) revealed that the city could install rooftop solar capable of generating more than half of Boulder’s annual electricity requirement.<sup>9</sup> This would represent an increase of over 25 times the amount of rooftop solar installed in Boulder today.

Distributed energy resources (DERs) offer economic, social, and environmental benefits that can improve the performance of local electricity generation. A complete discussion of these benefits is included in Attachment C. In summary, the transition to 100 percent renewable electricity by 2030 is possible, and desirable. The question is no longer whether the world will transition to renewable energy but rather how long the transition will take and how it can be achieved in a manner that maximizes the benefits today and for future generations. While staff believes that achieving the goal is possible, the team also acknowledges that the goal is aspirational, and will require significant planning and development work in the coming years to fully design and implement.

**Energy System and Community Well-Being: Benefits of a whole energy system transition**

As leading cities have begun to take on a larger role in analyzing and planning for a low carbon energy system, they have come to recognize that there is more at stake in the structure and operations of their local energy system than just emissions reduction. Local environmental quality, health and well-being, energy resilience, and energy equity are all significantly impacted by how all aspects of the local energy system—electricity, natural gas and petroleum—are managed. This shift is increasingly evident in the growing number of high profile cities that have made commitments to 100% renewable energy goals (discussed above).

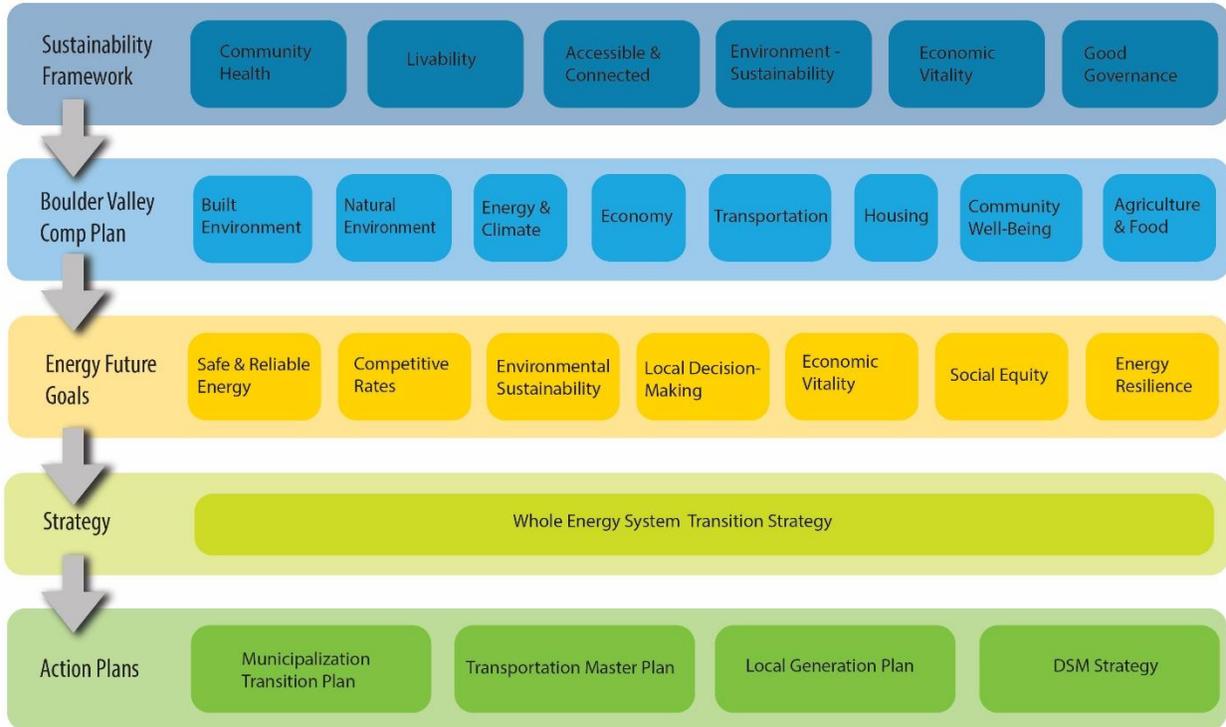
This proposal is consistent with the original vision developed in Boulder when it first began exploring alternatives to the existing fossil-fuel based electricity utility in the 2000s. At that time, a broader set of community energy goals were developed that provided criteria by which any potential alternative to the existing system should be evaluated. These goals were linked to both the larger Boulder Valley Comprehensive Plan’s primary focus areas and the Sustainability Framework intended to ground all city policies in core community values, shown in the diagram below.

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<sup>9</sup> Based on Boulder energy consumption data provided by Xcel.



# Climate-Energy Vision



*Economic Development –*

Currently, Boulder spends an estimated \$300,000,000 on all forms of energy annually. The majority of these expenditures leave the community as illustrated in the graphic below.

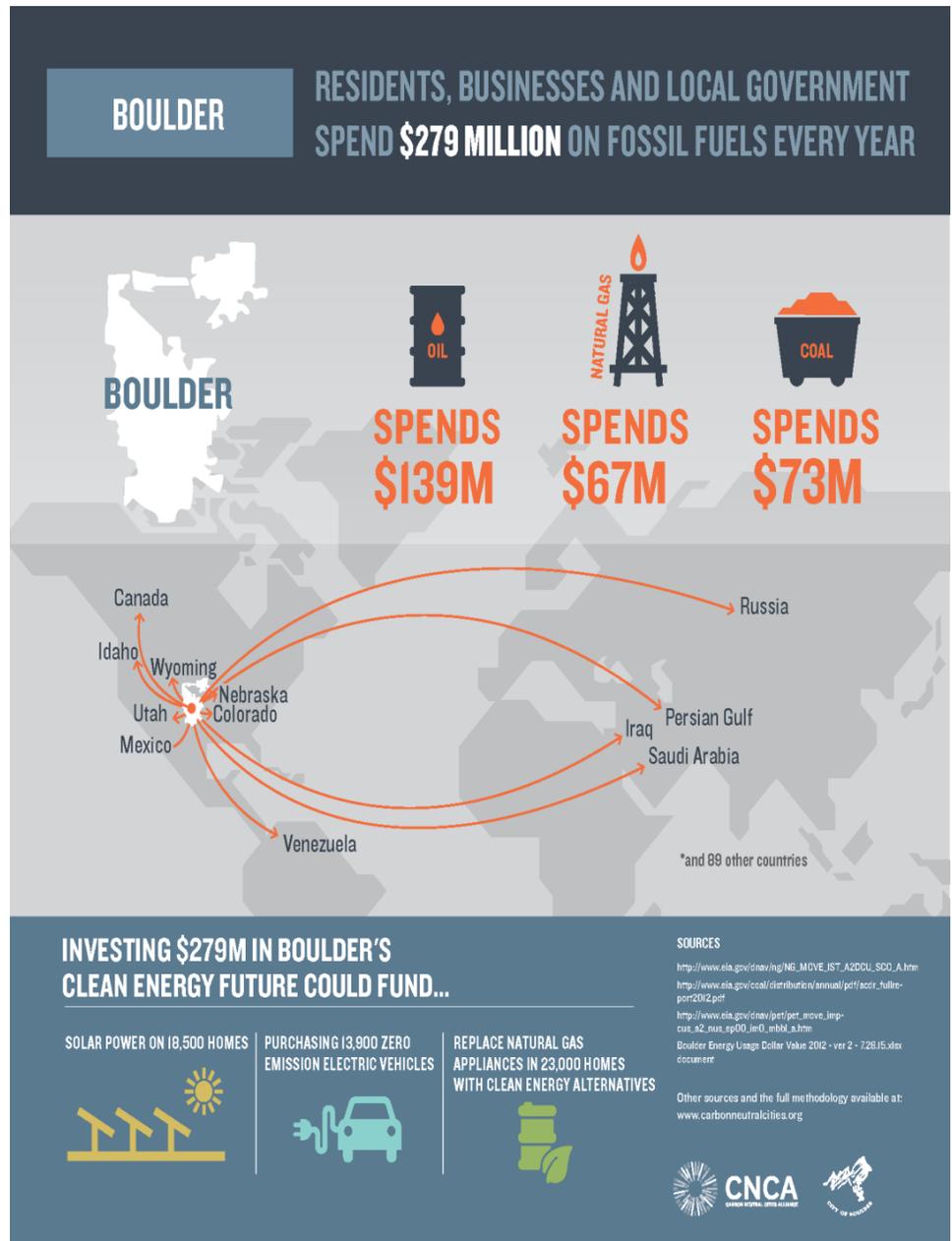
In a future scenario where Boulder might shift the majority of its energy uses to renewable sources that are built and owned outside the community<sup>10</sup>, this local disinvestment would continue and the multiple benefits from locally based, locally owned generation would be lost.

*Energy Resilience*

Similarly, large scale off-site energy resources—whether fossil-based or renewable—perpetuate significant energy system vulnerabilities if grid power is interrupted.

*Energy Equity and*

*Empowerment –* A third major area of energy system influence is the level of local participation and control over the energy system and services. There is a rapidly growing field of practice demonstrating the potential of energy system change as an opportunity to support community development and asset building opportunities among low and moderate income households. These community development objectives are often not included as part of conventional energy system ownership, design and management.



<sup>10</sup> These sources would need significant investment in energy infrastructure to be scalable at this level.

### **Planning for Success: How will we get there?**

To make a 100 percent renewable electricity by 2030 a reality, many things need happen. An energy strategy or energy master plan, which includes the electric utility strategy, needs to be developed. An energy strategy will lay out the actions to achieve this goal and incorporate criteria by which Boulder will measure its success.

To develop Boulder’s energy strategy, the outcome of municipalization needs to be more certain. Therefore, this strategy’s full development has been deferred until 2017 when the current legal proceedings will be further along. It is important, however, that the work the city currently has underway in the energy area positions Boulder well for this overall transition. There is tremendous value in setting targets and milestones that speak to both the need for emissions reductions as well as the other benefits.

While not intended to be a comprehensive review of all of the energy related efforts in the city, the following list highlights a number of initiatives already underway that support the direction outlined in this memorandum.

#### Highlights of select services supporting the whole energy system transition

##### Buildings:

- Updating Energy Codes: Aiming for net zero energy codes by 2031 and phasing in non-energy sustainability requirements (consultant has been retained and work is underway for code updates later this year and next, as well as better analysis to define “the path to net zero”)
- Building Performance Ordinance: Improving commercial building efficiency (ordinance implementation is underway)
- EnergySmart: Providing residents and businesses with energy advising services and rebates (annual targets continue to be met or exceeded, supporting progress toward full compliance with the city’s SmartRegs requirements)
- City Facilities: New energy performance master contracts are underway, continuing improvements of energy efficiency in city assets and planning and designing for a net zero city facility in the Alpine-Balsam area.

##### Resilience:

- Department of Energy Resilient Electricity Delivery Infrastructure grant to explore development of a renewable energy system-based resilient power system for the 63rd St water treatment plant, a critical city facility.

##### Local generation:

- Mapdwell: Map tool to assess local solar capacity
- Solar strategy: Development of a comprehensive solar strategy to maximize the uptake of local, distributed solar.
- Solar grants: Grant fund for solar on affordable housing and non-profit facilities.

- Solar Benefits Boulder: Partnership with county to offer pooled purchase discounts for rooftop solar to residential and commercial customers

#### Alternative fuels/Fuel Switching:

- Thermal Decarbonization Pilot: Carbon Neutral Cities Alliance (CNCA) funded project analyzing options for accelerating the retirement of residential natural gas appliances and replacement with renewable electricity-based alternatives (partnered with San Francisco)
- Electric Vehicle Benefits: Project (includes solar) designed to increase adoption of electric vehicles (both cars and bikes) through group discounts. The city was also awarded a Regional Air Quality Council grant for five charging stations with a focus to promote workplace EV charging.
- Renewable diesel: Feasibility study of switching from standard and biodiesel to renewable diesel. Awaiting funding decision from Regional Air Quality Council.
- On-going work with Via Mobility Services to convert HOP transit fleet to e-vehicles

#### Planning:

- Whole Energy System Transition: a project to develop Whole Energy System Transition strategies for different types of city neighborhoods/areas (also funded through CNCA, partnered with Seattle and Minneapolis)
- City Operations – Climate change preparation and adaptation workshops planned for key staff members who will then tackle these challenges as part of working groups for Buildings, Fleet, Materials and Solid Waste, Employee Commute and Water/Wastewater Treatment

### **Next Steps**

These projects are designed to generate information that can be integrated into the emissions reduction projections software the city developed during 2014 and 2015. The city is now working with the Urban Sustainability Directors Network (USDN) and other technical advisors to continue to update and improve this tool so it can be used to evaluate a range of potential alternatives to the existing energy system and infrastructure.

By 2017, these projects will have generated sufficient information and analytical capabilities to consider development of a community whole energy system (electricity, natural gas and petroleum) transition plan. This process could be designed to incorporate the significant information and knowledge developed through the municipalization exploration process and the additional information on natural gas and petroleum replacement strategies currently in development. The key to successfully leveraging this knowledge and outside funding is scalability, which today is limited because the city does not own and control the local electric distribution system.

## **V. Community Engagement**

### **Ongoing Community Engagement Efforts**

In 2016, the city has continued to raise the profile of climate issues in our community, to build awareness of the connection between sustainability and energy goals and climate goals, and to develop collaborative partnerships and systems of coordination to support future communitywide climate initiatives. The city has accomplished this using four main strategies and tactics:

1. Strategically and consistently publicizing climate-related content through varied communications channels so as to reach a broad, diverse audience;
2. Connecting climate to other city initiatives to support the community in visualizing climate action and the synergy between community efforts ranging from sustainability to community vitality;
3. Engaging key stakeholders in conversation, interactive workshops and ideation competitions to improve understanding of local climate challenges and opportunities and invite solutions-oriented feedback on the city's proposed climate strategy; and
4. Developing platforms to facilitate coordination of communitywide action and track progress towards climate goals.

A brief summary of some of the recent work in each of these areas is included in Attachment D, and a high-level summary of the community engagement process (area 3) is included below.

### **Engagement Process Overview**

This overview provides a summary of efforts to date and details the relationships and connections established with various organizations in and around the Boulder community.

Engagement efforts completed or ongoing: 20+

Participants: 1400

Since September, city staff have completed more than 20 successful engagement events, competitions and surveys involving approximately 1100 total participants. In addition to feedback gleaned from these initiatives, the city has received valuable feedback from approximately 300 community members through a community survey as well as from energy and sustainability practitioners through two USDN webinars and one workshop with City of Boulder employees. Table 2 summarizes the outreach activities conducted to-date, most of which were in-person.

**Table 2**

<b>Organization</b>	<b># Attendees Signed In</b>
Empower Our Future	20
Dojo4	17
Boulder Shambhala Center (2 workshops)	24
Urban Sustainability Directors Network	50
City of Boulder – Solar Benefits lunch	16
Sierra Club	22
Youth Opportunities Advisory Board	4
UU Church Boulder & Citizens’ Climate Lobby	15
CU Energy Club	16
COP 21 Kick Off & Follow-up Event (4 mtgs)	275
Bartlett Center	20
CU environ design	25
Boulder Chamber	7
City of Boulder Employees (2 climate lunches)	73
Boulder Valley School District	50
MIT Climate CoLab Competition	100
#TogetherWeWill Earth Week Event	400+
Boulder Climate Survey	300
<b>TOTAL</b>	<b>~1400</b>

### **Community Climate Survey**

As part of the larger climate outreach effort, the city has worked with social scientists and communication specialists to develop a comprehensive baseline survey that will provide information about the community’s attitudes, actions and priorities related to climate action. The Boulder Climate Survey is being distributed online and in hard copy and has been translated into Spanish for outreach to the Latino community. To date, more than 250 responses have been collected and collated. In addition to the survey, the city is working with local creative firm Vermillion to conduct a series of four community small-group discussions to further refine the city’s understanding of key issues and opportunities across a range of different community values and perspectives. The Boulder Climate Survey and small group discussions will shape the city’s future climate messages and engagement strategies.

### **Future Communications Efforts**

The climate team will continue extensive community outreach and engagement efforts through June 2016. Based on the city’s proposed climate strategy and feedback gleaned through the engagement process, staff will develop the final community action portion of the Climate Commitment document as well as a communitywide climate action campaign and associated branding in late summer/early fall. A final draft of the Climate Commitment document will be released for community comment in the fall and a final draft incorporating community feedback

will be presented to council for review in late 2016. Staff is working with Vermillion to develop branding for the community climate action campaign anticipated to launch late fall/early winter. This branding will emphasize the urgency and opportunity for climate action in Boulder. Staff expects to complete the branding process by summer 2016.

In 2017, the city will continue to support ongoing climate initiatives such as Earth Week and the climate action campaign launched fall 2016. The city looks forward to continuing a new partnership with K-23, a film production company, to produce compelling, action-oriented videos that reach a wide audience and inspire community members to contribute to Boulder's climate future. The city will also support a future online community climate blog and community-managed social media sites by regularly providing guidance and contributing content. In addition, the city will develop and begin to implement an engagement plan to involve key stakeholders in the development of the city's whole energy system transition strategy.

### **Attachments**

Attachment A: Definitions of Renewable, Clean and Local

Attachment B: Summary of current Xcel Energy filings at the Public Utilities Commission

Attachment C: Benefits of Local Power and Distributed Energy Resources (DERs)

Attachment D: Ongoing Community Engagement Efforts

## Definitions of Renewable, Clean, and Local

### Renewable

In the discussion of Boulder’s electricity future, the term “renewable” will begin with the technologies described in the Colorado Renewable Energy Standard (RES) legislation. The RES defines “renewable” as electricity generated from fuel sources compliant<sup>1</sup> with the Colorado Renewable Energy Standard (RES).<sup>2</sup> Due to the limited potential power available<sup>3</sup> and remote locations of Colorado’s coal mines, Boulder will not procure electricity from coal mine methane. Boulder will also seek to incubate new renewable electricity technologies in partnership with local companies and research organizations.

### Clean

The term “clean electricity” is often used to describe technologies such as wind turbines and solar panels that generate emissions-free electricity. More recently, usage of “clean” has been co-opted by fossil fuel interests to make a relative comparison between emissions-producing fossil fuel technology. For example, natural gas is described as leading the way in the transition to “cleaner” sources of energy.<sup>4</sup> Similarly, “clean coal” technology refers to methods to improve the efficiency of existing coal plants, remove some, but not all, of the emissions from burning coal, and in its most advanced form, capturing, storing and ensuring stored emissions are never released.<sup>5</sup> Nuclear power is also referred to as “clean” or “emissions free” which is true in terms of carbon emissions but which ignores the emission of radioactive gasses as well as the challenge of waste disposal.

### Local

Local generation in this context is assumed to be generated within the boundaries of Boulder County. Boulder also seeks to achieve a portion of its 100% renewable electricity from local renewable generation. While staff believes that local generation fueled by non-renewable resources might play a role in the transition and are valued over non-local resources, in order to

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<sup>1</sup> Approved sources are: geothermal electric, solar thermal electric, Geothermal Electric, Solar Thermal Electric, Solar Photovoltaics, Wind (All), Biomass, Hydroelectric, Landfill Gas, Wind (Small), Anaerobic Digestion, Fuel Cells using Renewable Fuels Recycled Energy, Coal Mine Methane (if the PUC determines it is a greenhouse gas neutral technology), Pyrolysis of Municipal Solid Waste (if the Commission determines it is a greenhouse gas neutral technology). For the latter two technologies, the RES defines “greenhouse gas neutral” as: “the volume of greenhouse gases emitted into the atmosphere from the conversion of fuel to electricity is no greater than the volume of greenhouse gases that would have been emitted into the atmosphere over the next five years, beginning with the planned date of operation of the facility, if the fuel had not been converted to electricity, where greenhouse gases are measured in terms of carbon dioxide equivalent.”

<sup>2</sup> <https://www.colorado.gov/pacific/energyoffice/renewable-energy-standard>

<sup>3</sup> [https://www.colorado.gov/pacific/sites/default/files/atoms/files/Coal%20Mine%20Methane%20Report%202016%20FINAL%203\\_2016.pdf](https://www.colorado.gov/pacific/sites/default/files/atoms/files/Coal%20Mine%20Methane%20Report%202016%20FINAL%203_2016.pdf)

<sup>4</sup> <http://thinkaboutit.org/clean>

<sup>5</sup> [http://www.nma.org/pdf/fact\\_sheets/cct.pdf](http://www.nma.org/pdf/fact_sheets/cct.pdf)

be counted towards the community target, local generation must also be fueled by renewable sources.

## Summary of current Xcel Energy filings at the Public Utilities Commission

Xcel Energy is in the process of initiating a series of proceedings with the Public Utilities Commission that form the basis for the company's "Our Energy Future" strategy. These separate but intertwined cases seek to implement meaningful changes to the Xcel customer experience in the form of new rate design, new options for renewable electricity and new investments in the distribution system. As of May 10, 2016, all proposals are still under review. Portions or all of each proposal may be approved, modified or rejected before the PUC issues its final decision.

<b>Proceeding</b>	<b>Description</b>	<b>Anticipated Decision</b>
<b>Phase II Rate Case</b>	Sets new rate design and rates for all customer classes. Includes increased fixed charges for residential and small commercial customers.	<i>September 2016</i>
<b>Solar*Connect</b>	Adds one new 50 MW solar array to create a voluntary solar purchase program available to all customers. The price may be a premium or discount depending on the cost to acquire the new solar array.	<i>Q4 2016</i>
<b>Renewable Energy Standard</b>	Defines strategy to comply with Renewable Energy Standard Act, including amount of solar to be installed and incentive pools for Solar*Rewards and Solar Gardens. The current proposal seeks to reduce REC payments to residential solar customers to 0.5 cents/kWh.	<i>October 2016</i>
<b>Grid Intelligence and Security</b>	Proposes to upgrade distribution infrastructure with smart meters and other intelligent grid technology.	<i>December 2016</i>
<b>Electric Resource Plan</b>	Forecasts future demand and the types of generation to be procured to meet demand. Recent company statements indicate the proposal, to be filed by June 1, 2016, will contain at least 1,000 MW of new wind and solar.	<i>February 2017</i>

## Benefits of Local Power and Distributed Energy Resources (DERs)

Examples of DERs include rooftop solar, battery storage, home automation systems, programmable thermostats and grid integrated water heaters. DERs can generate, store, reduce or shift electricity consumption, enabling the ability to diversify energy options, turn buildings into profitable power plants for residences and businesses and spur a wave of small-business job creation. Benefits described in more detail below include overall efficiency of the system, reduced transmission costs, increased economic opportunities, local economic vitality and many more.

- DERs improve the overall efficiency of the power system. Local energy generation reduces line losses and extends the lifespan of existing transmission infrastructure by minimizing wear-and-tear from use. Importantly, distributed generation creates a stronger, more resilient power system in the face of extreme weather, human error or terrorist attack. Just like diversifying a financial portfolio to mitigate risk, distributed generation diversifies our power supply – in terms of location, size and fuel source.
- The competitive cost of large-scale renewables is largely due to the fact that these projects benefit from economies of scale; there is an assumption that smaller-scale decentralized projects will necessarily be more expensive. To some extent this is true. However, the cost of new transmission lines required to access remote power plants is significant. According to the Edison Electric Institute (an association of investor owned utilities), its members alone will spend \$85 billion on transmission infrastructure between 2015-2018.<sup>1</sup> As renewable technologies drop in price, transmission costs become an increasingly significant factor in the overall cost of energy, offsetting the advantages of scale offered by remote power plants.
- Prioritizing distribution generation can save consumers money, and we're beginning to see broader recognition of this fact. Just recently, the Minnesota Public Utilities Commission ruled that building distributed solar projects rather than new natural gas plants is a better deal for electricity customers. The ruling specifically acknowledged the ability of local solar to meet demand on hot summer days without adding to transmission congestion.
- Moving electricity long distances is inherently inefficient. The further the distance, the more electricity is lost along the way – a process known as line losses. The U.S. Energy Information Administration estimates that, on average, transmission line losses total 7% of all electricity generated.
- Opening the energy market to small-scale generation also creates economic opportunities. No longer are individuals, businesses, and organizations limited to consuming energy — they can generate it, as well.

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<sup>1</sup> Edison Electric Institute. "Actual and Planned Transmission Investment by Investor-Owned Utilities (2009-2018). October 2015. Accessed at: [http://www.eei.org/issuesandpolicy/transmission/documents/bar\\_transmission\\_investment.pdf](http://www.eei.org/issuesandpolicy/transmission/documents/bar_transmission_investment.pdf).

- The development of local, renewable power projects diversifies the energy supply, which insulates consumers from fossil-fuel price spikes and shortages. Diversifying the energy supply also protects communities from blackouts by mitigating the impact of any single power station or power line failing.
- Energy conservation and energy efficiency are assumed to be essential parts of Boulder's energy future. Combining these resources with renewable energy technologies is more economically beneficial, more rapidly achievable, and more broadly applicable than emphasizing any single resource alone.
- DERs support Boulder's energy goal of environmental justice by shifting away from energy generated at large centralized facilities that are disproportionately impacting low-income communities and communities of color in Colorado. A substantial amount of Boulder's electricity is forecasted to come from coal and natural gas plants in sister communities such as Commerce City and Pueblo Colorado. By investing in local renewable generation, and local control of energy resources, Boulder can shift away from exporting its pollution, leading to healthier communities.

## Ongoing Community Engagement Efforts

A brief summary of work completed in each of the four tactical areas described in the memo are included below.

### 1. Publication of climate-related content

Beginning in third quarter 2015, communications staff implemented a strategy to regularly publicize climate-related content through city and community partner communications channels so as to reach a broad, diverse audience and relay the full scope of climate issues. Channels include the main city Facebook and Twitter accounts, press releases, Inside Boulder News, Inside Boulder, city and community electronic newsletters, the city printed newsletter, city- and community-hosted public events, in-person presentations to community groups, door-to-door canvassing, new and revamped project websites, online surveys, and online video.

Throughout the summer and fall of 2016, communications staff will continue to publicize and work on several ongoing projects. See [page four](#) of this attachment for a full list of ongoing city-supported efforts.

### 2. Connection of Climate to City Initiatives

Beginning in third quarter 2015, communications staff began integrating climate messaging into messaging of related issues such as energy source change, zero waste, sustainability, resilience and community health and vitality. Beyond providing context to city climate and sustainability programs, connecting climate to specific city efforts supports community members in understanding some of the concrete actions that contribute to Boulder's inspired future. For example, the Energy Future Project and Boulder's Climate Commitment, long messaged separately, are now messaged as coordinated efforts tackling common goals. In March, the Boulder Energy Future e-newsletter was renamed the Boulder Climate and Energy e-newsletter and was expanded to include information and events about topics such as climate change, zero waste, water conservation and resilience ([page five](#) of this attachment). A utility bill insert distributed in February 2016 provides another example of integrated messaging ([page seven](#) of this attachment).

### 3. Engage Key Stakeholders

Taking meaningful climate action in Boulder will require broad community support. To this effect, city staff has convened interest-based community groups to discuss the city's proposed climate strategy and has actively built partnerships with a wide variety of organizations for future coordinated action. Since October 2015, city staff has presented to more than 16 community groups, totaling more than 450 people. City staff will continue to convene community groups during quarters two and three of 2016.

The city has established several partnerships to help engage key stakeholders such as youth in innovative climate projects. Some of these projects are highlighted below.

*Boulder County Youth Climate Challenge*

In partnership with Boulder Valley schools, the University of Colorado and the Boulder Climate Culture Collaborative, city staff invited students to provide feedback to the Climate Commitment through the BoCo Youth Climate Challenge. The challenge encouraged students to develop a project that addressed one of three Climate Commitment focus areas: energy, resources or ecosystems (the three focus areas of the Climate Commitment). The winning team was selected during an event at Boulder Earth Week and was awarded \$500.

*Benefits Boulder County*

Building on the success of Solar Benefits Colorado, a group discount program open to several Front Range communities, the City of Boulder, Boulder County and other county municipalities partnered to offer discounts to the public for commercial and residential installed solar, and residential electric vehicles and electric bikes. The program leverages public-private partnerships to increase access to these products and generate awareness about the recent affordability improvements in solar energy and alternative fuel vehicles.

*City employee climate engagement*

At this time, the main goal of these efforts is to raise awareness, literacy and participation around climate change within the city organization. Some of the communication has been broad, including a segment in a recent citywide televised meeting and correspondence from the city manager to employees. Other efforts have been more targeted, including the creation of individual cross-departmental work groups in two areas: mitigation and adaptation. The mitigation teams are setting targets and exploring strategies for achieving even deeper greenhouse gas emissions in city facilities, purchasing practices, fleet and other areas of potential impact. The adaptation teams will be focusing on ensuring city preparedness related to increased weather and other natural events.

*Earth Week 2016*

During winter/spring of 2016, the city worked closely with community climate action initiatives including the Climate Culture Collaborative (C3), which took the lead role in organizing more than 30 Earth Week events profiling climate, energy and sustainability efforts throughout the community. These events leveraged more than \$15,000 in local investments and thousands of hours of community volunteer time. The city co-hosted three events during Earth Week including a sold-out (300 tickets) program at eTown on April 20 that included presentations by BoCo Youth Challenge team finalists and the Executive Director of the National Sierra Club, as well as an awards presentation to local “Earth Champions” who have pioneered climate, energy and sustainability efforts in Boulder. Earth Week created thousands of contact points between the city’s climate, energy and sustainability efforts and local community members.

*Youth Opportunities Advisory Board (YOAB) Video*

In recognition of the important role youth play in Boulder’s Climate Commitment, YOAB worked with city staff and a University of Colorado filmmaker to produce a video that

incorporates interviews with Boulder Valley elementary school students and residents of a local retirement home. The video demonstrates generational differences in how the community's young and old view climate action and stewardship of the earth. Communications staff will present the video to City Council, screen it at various outreach events and share on a variety of social media.

*Establishing a customer key accounts program*

As the city's municipalization project moves forward, city staff has begun meeting with large, industrial electricity customers in Boulder. These meetings give staff an opportunity to update businesses on the progress of municipalization project and learn more about the types of service businesses are accustomed to.

*Continued meetings with working groups and other community groups*

City staff meets with a variety of working groups on a regular basis. These meetings allow staff to learn from the expertise of community members on all matters related to the city's Climate Commitment, including ongoing industry changes, new technology and policy changes happening locally and nationwide.

#### **4. Development of Community Platforms**

The city has identified a need for improved coordination among local climate initiatives and organizations. In 2016, the city established partnerships to develop coordination tools for greater climate impact. Two ongoing efforts are highlighted below. Later this year, the city and C3 intend to launch an online climate blog and social media campaign driven by community-generated content.

*Community Climate Calendar*

With support from the City of Boulder, the Boulder Culture Climate Collaborative created an online calendar to support the publication, coordination of, and engagement in, Earth Week events in Boulder. A full list of Earth Week events, event descriptions and volunteer opportunities can be found at [www.boulder.earth](http://www.boulder.earth). Initially created for Earth Week in April, the calendar serves as a year-round communication tool for local climate events.

*Climate CoLab Contest*

The city partnered with Massachusetts Institute for Technology (MIT) Center for Collective Intelligence, 100 Resilient Cities, and C3 Boulder to pilot a Climate CoLab Contest that used a crowd-sourced solutions platform to solicit proposals from local and global participants regarding how Boulder could build better community engagement and connectivity around climate change. Final proposals will be evaluated and a winner selected in quarter two 2016.

**On-going city-supported climate outreach projects**

KEY									
Y = Yes									
Green = completed									
Yellow = in process									
White = not in process									
EXTERNAL EVENT/EFFORT	TIMEFRAME	IN-PERSON	PRESS RELEASE	TWITTER	FACEBOOK	NEXTDOOR	COMMUNITY NEWSLETTER	CLIMATE NEWS	PLANNING NEWS
Benefits Boulder County for businesses (Solar)	April-July		Y	Y	Y		N	Y	Y
Benefits Boulder County for residents (Solar, EV)	March-June		Y	Y	Y		N	Y	Y
BoCo Youth Climate Challenge	Feb-April?		Y	Y	Y			Y	
BVCP Shaping the Future at the Library (station)	May 11		Y (Planning)	Y	Y				Y
Climate Commitment - Awareness building	March-August		N/A	Y	Y		Y	Y	
Climate Commitment community discussion groups	April 16-29	Y	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Climate Commitment Presentations to community groups	May-June	Y	Y			Y	?		Y
Climate Commitment Survey	April-May		Y	Y	Y		?	Y	Y
Climate Ministry Sustainability Fair (tabling)	April 23 (12-3 p.m.)	Y						Y	N
Compact of Mayors	April 22			Y	Y				
CU Earth Festival (unmanned table)	April 22 (11 a.m.-7p.m.)	Y							
CU Sustainability Summit (Mayor speaking)	April 21 (9-11)	Y							
Earth Hour Cities Challenge	April 7-22			Y					
Earth Week	April 18-23		Y	Y	Y		Y	Y	Y
Fossil Free Your Life (Brett speaking)	April 23 (1-5 p.m.)	Y						Y	
Healthy Community Award from Boulder County	April 18	Y	Y (BoCo)	Y	Y		Y	Y	Y
Joanna Macey Center Event	April 22-24								
Knight Foundation proposal feedback	April-May		Y	Y	Y		?	Y	Y
MIT Climate CoLab Competition	Jan-April		Y	Y	Y			Y	
TogetherWeWill Event	April 20	Y	Y	Y	Y		N	Y	
Wild Earth Kickoff (unmanned table)	April 18 (5-7 p.m.)	Y	N/A	N/A	N/A	N/A	N/A	N/A	N/A
YOAB Video	April to May 10			Y	Y		N	Y	Y

## April 2016 Climate and Energy Newsletter

City of Boulder

# Climate and Energy Newsletter

*Rising to the climate challenge, powering a vibrant future.*



## Energy and Climate Updates

**We want to hear from you!**

Share your perspectives on climate change and action via the [Boulder Climate Survey](#) to win cool prizes and help our community take the next step toward our climate future!

### City partners with Boulder Food Rescue to evaluate food waste in Boulder

The City of Boulder and [Boulder Food Rescue](#), a local nonprofit organization that facilitates perishable food donation, have published a report about food waste in Boulder and its impact on the local food system and carbon emissions. The report reveals a great potential to repurpose food waste through donation and limit carbon emissions. Read the [report](#) and the [press release](#) to learn more.

### Big discounts on electric vehicles and electric bikes in Boulder County

The Benefits Boulder County program has expanded beyond residential solar to include significant discounts on the purchase of electric vehicles (EVs) and electric bikes. These limited time offers are available until June 30, 2016. Benefits Boulder County is a collaboration between the City of Boulder, Boulder County and its municipalities. For more information about EV and electric bike discounts, visit [www.BoulderCountyDeals.org](http://www.BoulderCountyDeals.org). For more information about residential solar discounts, visit [www.solarbenefitsbouldercounty.com](http://www.solarbenefitsbouldercounty.com).

**Come to the [Boulder County Farmer's Market](#) Saturday, April 9 to meet with solar, electric vehicle and electric bike vendors.**



## Events

**What:** [A Wild Beginning to #BoulderEarth Week](#)

**When:** April 18, 5 to 7 p.m.

**Where:** [Etown Hall](#)

**Details:** Discover opportunities to connect with organizations and individuals and elevate the importance of collective action on behalf of our Earth. Sponsored by the City of Boulder, WILD Foundation and C3 Boulder.

**What:** [#TogetherWeWill: A Community Celebration of People and Planet](#)

**When:** April 20, 6 to 9 p.m.

**Where:** [Etown Hall](#)

**Details:** An evening to honor community leaders who are embracing the spirit of collaboration and sustainability. Sponsored by the City of Boulder, C3 Boulder, CU Boulder and the Sierra Club.

**What:** [Sustainability Faire: Reduce, Reuse, Recycle,](#)



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### Check out the city's "Data Democracy and Climate Change Literacy" grant proposal

The city [has submitted](#) a series of grant proposals to the Knight Foundation seeking to extend the role of libraries in the 21st century. In conjunction with the city's [Climate Commitment](#), one proposal will build a multimedia platform to engage the community in climate issues. Read the [proposal](#) and provide feedback through April 10.

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### Don't miss the city's new community newsletter!

Boulder City Council, as part of the 2016 budget, has funded a two-year pilot project that will result in 11 newsletters arriving direct to your mailbox and [online](#). Be sure to read the stories on Boulder's Energy System Transformation and the Universal Zero Waste Ordinance.

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### Have a question? Ask away!

Email us your questions at [EnergyFuture@bouldercolorado.gov](mailto:EnergyFuture@bouldercolorado.gov) with the subject line "Newsletter Question," and we may feature your question and a staff response in the next Climate and Energy Newsletter. (Please let us know if you'd like us to refrain from publishing your name). We're excited to hear from you.

### Repurpose

When: April 23, 12 to 3 p.m.

Where: [Unitarian Universalist Church of Boulder](#)

Details: The faire will feature booths on recycled art, repurposing clothing, electric cars, electric bikes, car-pooling, bus transportation, sustainable investing, food consumption, composting, earth care, wildlands restoration, sustainable energy alternatives and more. Sponsored by the UU Church of Boulder.

### News

[Even before they start breathing, babies can be harmed by air pollution, scientists say](#)

Chelsea Harvey, *Washington Post*

[Zapped by the utility: five reasons raising fixed fees is unfair](#)

John Farrell, *Renewable Energy World*

[China is building a national electricity grid](#)

David Roberts, *Vox*

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February 2016 Utility Bill Insert



Rise to the climate challenge,  
power a vibrant future.

The world is taking climate action and so are we. Nearly 200 countries from across the globe recently met in Paris and agreed to the most comprehensive climate strategy ever made at a global level. Boulder was there, sharing its plans to rise to the climate challenge and power a vibrant future.

Boulder is renewing its commitment to meaningful climate action. We face a great challenge, but also a great opportunity to make Boulder better—to create a healthier, more resilient and prosperous community. We need your help to make it happen.

**What's the plan?**

We are focusing on three key areas of action:

1. Energy: Use energy more wisely and transition to clean, renewable and local power to fuel our lives;
2. Resources: Use other natural resources, such as food and water, more wisely and reduce our waste; and
3. Ecosystems: Restore the health of the urban, farming and natural ecosystems.



**How do I plug in?**

You are a stakeholder in our community's future, and we welcome your input to help define our next climate action steps. Lend your voice to this important community discussion at [BoulderClimate.com](http://BoulderClimate.com).

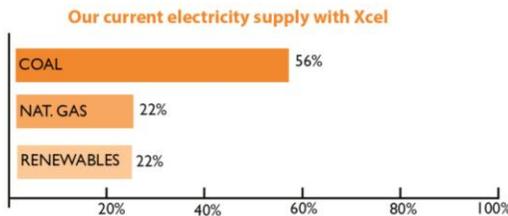
Join us at [BoulderClimate.com](http://BoulderClimate.com)

February 2016

Boulder Energy Future  
Talk about powerful.

Boulder has committed to dramatically reducing our carbon emissions and pursuing local, renewable energy sources that support community health and resilience.

Creating a local electric utility plays a key role in getting us there.



**Our challenge**

Today, Xcel determines where our energy comes from and what energy services we can choose. They also decide when, where and what investments are made to improve our electric system.

Boulder is positioned to transition to a clean energy future with 100 percent renewables, but under this status quo, we will not get there.

**Our opportunity**

The city is exploring creating our own municipal electric utility because doing so **gives us the power** to take charge of our energy future and achieve our energy goals:

- Reduce carbon in our electric supply;
- Retain millions to reinvest in our community;
- Capture the economic opportunity of local and global innovations; and
- Take control of our energy future.

Learn more at [BoulderEnergyFuture.com](http://BoulderEnergyFuture.com)

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Recycle. Compost. Landfill.  
Everywhere you go.

**Ninety percent of what goes into Boulder's landfill is recyclable.**

With your help, Boulder can become a zero waste community, where we reduce our waste and then reuse, recycle and compost most of what we throw away.

**Universal zero waste requirements**

Boulder's new universal zero waste requirements seek to expand recycling and composting options to all Boulder residents, employees and visitors.

- By June 2016, all property owners (including homeowners) must provide adequate trash, recycling and composting service to their tenants and occupants.
- By September 2016, all businesses must separate their waste streams, providing properly placed containers and signs to facilitate the collection of recyclables and compostables.



**Take action**

Learn more about universal zero waste requirements, access free business advising and financial incentives, and find local facilities to help you reuse, recycle and compost more, all at [ZeroWasteBoulder.com](http://ZeroWasteBoulder.com).

Join us at [ZeroWasteBoulder.com](http://ZeroWasteBoulder.com)

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